

# A FIELD GUIDE TO AUTOMATED FOLLOW-UP

Cost-Effective Collection of Performance Information

By Marc Anderberg and Jay Pfeiffer



July, 1998

Commissioned by the U. S. Department of Labor  
Employment and Training Administration





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## TO THE READER:

This *Guide* is based on the experiences of two state agency managers who pioneered the automation of data collection for program follow-up purposes. While neither of us invented the process, we have “pushed the envelope” in using record linkage techniques to serve the information needs of an ever widening variety of customers.

The central follow-up entities serving Florida and Texas provide contrasting developmental histories. They evolved from different mandates and initially were geared toward quite different uses of outcomes data. While they serve very similar stakeholding groups, the two follow-up entities operate within very different external political environments and interact with distinctive individual personalities among key stakeholders. Thus, as managers of two separate entities, the idea of co-authoring this *Guide* initially struck us as a nearly impossible task. However, our divergent backgrounds and experiences turned out to be a blessing in disguise for we quickly concluded that there are no “right answers;” rather, we have come to see the centralization and automation of follow-up efforts as an organic process. Each state must “grow” its own approach. In doing so, the “growing conditions” will vary widely from state to state. Our role in this *Guide* is analogous to that of experienced gardeners discussing the basics of horticulture with novices who are more familiar with their own native soils and political climates.

As managers of existing follow-up entities, we both are asked to render technical assistance to other states. This *Guide* is built around the questions, issues, and conditions encountered in our respective states and through our out-of-state technical assistance and consulting efforts. In comparing notes, we find that our advice to other states is based on a shared vision of an ideal follow-up entity; i.e., what each of us would design “if we had to start from scratch again.” To be sure, differences between our states’ respective follow-up efforts remain but, by and large, those differences are at the margins. Just as the logic of causal inference and statistical processes can be applied to a wide range of research designs, we believe that certain principles apply to all follow-up efforts regardless of their origins, nuances of practices, and differences in the personalities of key players. Where we are in agreement, we have made an effort to explain our common guiding principles and shared vision rather than deliver unexplained dictum. Where differences remain, we have illustrated the conditions under which our divergent practices evolved. Illustrations are offered not for the sake of expressing a preference for one state’s practice over the other’s but rather for the sake of helping sister states determine which mix of options (or syntheses thereof) best suits their particular conditions.

It is not the place of Florida or Texas to prescribe how other states should design and develop their own approaches to program follow-up. We see this *Guide* as a set of recommendations that other states may choose to adopt voluntarily. There are advantages, however, in following in the footsteps of Florida and Texas. Namely, we have tested and worked to perfect a number of instruments and automation tools -- some jointly, some separately -- which other states can adopt and adapt. Should they choose to follow the Florida-Texas model, other states may be able to shorten their developmental time by building upon our experiences. We would note, however, that there

are a number of issues that will be encountered that will be very similar in each state. These include accessing and working with individually-identifiable data that “belong” to somebody else, entering into data sharing agreements, sorting through duplicated records, dealing with the relationships between training and post-training employment, and performance measurement. We hope that people who are new to this type of data collection will find the information provided herein useful as they, too, address these common issues.

Please note that both the Florida and Texas follow-up entities continue to evolve. We remain open to suggestions for ways to improve on our respective practices. Your feedback is invited. Our e-mail addresses are provided below for that purpose. We eventually will mount this *Guide* on the InterNet as an “e-book.” That way, this document itself will be living and organic. We will update it when appropriate: 1) as your feedback identifies conditions and issues we have not anticipated; and 2) as circumstances within our respective states, federal laws and regulations, and/or your suggestions lead to additional improvements in the follow-up process.

Most states that attempt to automate and centralize their follow-up efforts will be working in interagency environments. This will require administrators and policy-makers to view their processes and products on a scale that transcends the organizational interests of the agency that actually houses the follow-up operation. In other words, many of the issues raised in this *Guide* should not be viewed strictly from the perspectives of the state labor, employment security, commerce, social service, or education agencies. The issues raised in this *Guide* are not solely the concern of either state-level administrators or local officials nor do they fall within the exclusive domain of service providers, customers, or taxpayers. Centralization of follow-up represents the ultimate in interagency system building. The venture should be cooperative and collegial.

A similar view should be observed at the federal level. This type of process has implications that include the U.S. Departments of Labor, Education, Health and Human Services, Commerce, Agriculture, Defense and others. Federal (and intergovernmental) efforts to deal with issues such as data sharing, confidentiality, and performance measurement should likewise be cooperative and collegial.

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Mr. Pfeiffer specifically wishes to acknowledge the encouragements and support of a number of Floridians. These individuals have been key participants in developing the FETPIP program, visualizing its ultimate scope, and helping solve barriers that were encountered along the way. The first FETPIP pilot was developed in cooperation with Broward County Schools through their former Vocational Director, Dr. Winnie Dickenson. Ralph Parilla, Chief Executive Officer of Parilla and Associates of Fort Lauderdale, as a private sector representative on the State Job Training Coordinating Council of the mid-1980's, encouraged not only the development of the system but marshaled private sector support for its development. Kathy McLeskey, then Director of the SJTCC worked to assure that the early FETPIP program was funded. Ms. McLeskey is now the Director of the Division of Jobs and Benefits in the Florida Department of Labor and Employment Security and has been instrumental in incorporating FETPIP data throughout that Department. FETPIP's development and implementation could not have occurred without considerable shepherding by Ms. Duane Underwood of the Department of Labor and Employment Security. Likewise, Ken Holmes, who directs the state's Division of Unemployment Compensation, has been a cooperator and supporter of the first magnitude. Ms. Barbara White, of the Florida Senate Staff, has worked to stimulate legislative interest and support for FETPIP since its inception. Jim Culligan, Executive Director of the Florida Council on Vocational Education, worked very hard to garner support for the program in its early stages in the vocational community. He, his staff, and council members have retained a high level of interest and support. The program has had outstanding support from elected officials including former Education Commissioner Betty Castor and current Commissioner Frank T. Brogan.

As important as the contributions of those such as the people named above have been to the growth and success of the FETPIP system in Florida, none are so important as those of the staff. Most members of the staff have been employed by the program since its beginnings in the mid-1980s. They have doggedly designed systems, written computer programs, designed reports, worked with customers, and provided countless instances of support and advice to agencies and organizations throughout the state and in other states. They include Duane Whitfield, Sam Archangeli, Patsy McConnell, Kelley Unglaub, Olivia Ahyoung, Teresa Miller, and Garry Chen.

Mr. Anderberg would particularly like to note the contributions of several Texans. More than a decade ago, Richard Froeschle (Executive Director of the Texas SOICC), wrote the State Master Plan for an Integrated Labor Market Information Delivery System which envisioned automated follow-up as the essential feedback mechanism between program planning and evaluation. Dr. Chris King (Center for the Study of Human Resources, University of Texas at Austin) piloted the use of record linkage techniques in Texas for the purpose of gathering performance data on workforce development programs. Dr. Mike Green of the North Harris/Montgomery County Community College District was instrumental in pioneering the use of record linkages in gathering program performance data to be used in an accreditation and institutional effectiveness self-study process. Dr. John Grable (former president of Brazosport College), Dr. Stan Adelman (Amarillo College), Dr. David Preston (Brazosport College), Dr. Mike Wolf (El Paso Community College/New Mexico State University), Dr. Richard Bailey (San Jacinto Community College District), Dr. Ron Huffstutler (East Texas State University/Texas A&M - Commerce), Mark Kincaid (Leander High School), John P. Syer (Region IV Education Service Center), and Jim Gaston (Texas Department of Commerce/Texas Workforce Commission) helped shape initial development of the Texas follow-up system through their active participation on the steering committee during its pilot period. State Senator Rodney Ellis introduced legislation in Texas to expand the system to serve the needs of all education, training, and workforce development programs in Texas. John Romanek (Texas SOICC LMI Director), Kathy Benson (Texas Higher Education Coordinating Board), John Hahn (retired, Texas Workforce Commission), and SOICC staff members Ruben Garcia, Kathy Scanlon, Randy Easterly, Leasel Smith, and Elizabeth Dimmitt translated conceptual design elements into effective automation tools. Dr. R.D. Bristow, Terry Ramsey, and Arnold Williams of the Texas SOICC staff made significant contributions in conceiving new uses for follow-up data in program planning, evaluation, and career guidance.

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Lastly, we wish to thank our wives for their patience with us as we worked on this *Guide*.

## Disclaimer

The opinions and recommendations expressed in this *Guide* do not necessarily reflect the views of:

- the United States Department of Labor’s Employment and Training Administration (DoL/ETA) from which funding for this project was obtained;
- the co-authors’ respective follow-up entities, the Texas State Occupational Information Coordinating Committee (TSOICC) and the Florida Education and Training Placement Information Program (FETPIP);
- their respective fiscal agents, the Texas Workforce Commission (TWC) and the Florida Department of Education (FL DoE); or
- any policy-making or program oversight bodies associated with the State of Texas or the State of Florida.

The co-authors, Marc Anderberg and Jay Pfeiffer, are solely responsible for all statements and omissions herein.



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## EXECUTIVE SUMMARY

A field guide of this nature does not lend itself well to an executive summary. Automated follow-up is technically complex and politically sensitive. Follow-up involves collecting and analyzing data on the outcomes achieved by specific individuals for the legitimate purposes of planning, evaluation and management for continuous program improvement. At the same time, it necessitates rigorously safeguarding the privacy and confidentiality of individually-identifiable and firm-specific data. Follow-up involves holding administrators and service providers accountable for the results achieved by programs funded wholly or in part with tax dollars. At the same time, it necessitates a sensitivity to differences in rules of eligibility for various programs comprising the employment and training system and differences in the institutionally-specific missions, market niches, mixes of populations served, resources available to, and the labor market conditions faced by the myriad of service providers. Any follow-up entity will serve a wide variety of stakeholders and customers whose needs and desires are not always compatible. Therefore, a lead agency often may find itself caught in the crossfire. To be quite blunt, any state or entity that lacks the political will, resources, and professional expertise to attend to all the details is likely to fail and, thus, should consider carefully before embarking upon any initiative to automate, integrate and centralize follow-up. For those willing to tackle such a monumental undertaking, we provide pragmatic advice throughout this field guide (along with more detailed explanations, illustrative examples, and cross-references to additional references and resources).

- ◆ Clearly define the follow-up entity's domain and mission.
- ◆ Provide resources and authority commensurate with its responsibilities and the scope of its duties and tasks.
- ◆ Abide by the spirit and the letter of applicable data privacy and confidentiality laws and regulations.
- ◆ Give the follow-up entity a distinct identity where its special kind of professional expertise can develop and prevail. Give the lead agency the independence and detachment it needs to operate with integrity.
- ◆ Assemble a professional staff with technical expertise and substantive program content knowledge. Give them the tools they need and attend to their on-going professional development.
- ◆ Put mechanisms in place from the outset that enable the follow-up entity to identify external demands and expectations placed upon it.
- ◆ Adhere to the rigors of empirical research methods while remaining sensitive to the deferent interests and perspectives of stakeholders and customers. Strive continuously improve the entity's reputation for professional expertise, fairness, customer service and integrity. Remain neutral in disputes among stakeholders and different customer groups.
- ◆ Package data, disseminate them and provide technical assistance in ways to maximize appropriate use of follow-up information to drive rational policy-making, program management, and individual choice.
- ◆ Market follow-up aggressively but always be sure to deliver services as promised.
- ◆ Connect with other follow-up entities across the nation to exchange ideas and to solve common problems.
- ◆ Constantly watch the horizon to identify the early warning signals of changing demands and expectations.
- ◆ Give the follow-up entity latitude to experiment and innovate. Monitor the lead agency's performance to determine what works and what doesn't. Keep thorough documentation and build a feedback loop that uses the lead agency's own performance data to drive its maturation and continuous improvement. Infuse quality control into every facet of its operations.



## OVERVIEW:

### How To Read This Document

This comprehensive *Guide* is intended to cover the full range of subjects related to automated, centralized and integrated follow-up from pre-launch through every subsequent phase of organizational maturation to issues lurking just over the horizon. Not all topics will be of equal interest to every reader; rather, relevance will depend on the reader's intended role in his/her state's follow-up initiative. It also will depend on the individual reader's prior knowledge of and experience with comparable efforts in other states. Those who want only a broad understanding may choose to read just the first chapter to become conversant in the key concepts and specialized jargon of follow-up. Those who must make decisions about establishing and funding a new follow-up initiative and its subsequent maintenance funding may choose to read Chapter I (Introduction) and Chapter II (A Systems Approach) then skip ahead to Chapter VII (The Maturation of Follow-Up). Stakeholders interested in designing follow-up research and using resultant data may choose to read only Chapters III and VI. Seasoned veterans of similar performance-based accountability initiatives may want to wade directly into Chapter IV (Process Considerations) and Chapter V (Marketing Follow-Up) or go directly to one or more of the Special Issues and Technical References to see how Florida and Texas might handle situations comparable to those they currently face. Persons recently recruited to a new follow-up entity without prior experience may want to read this *Guide* from cover to cover as well as many of the recommended works cited in the annotated bibliography.

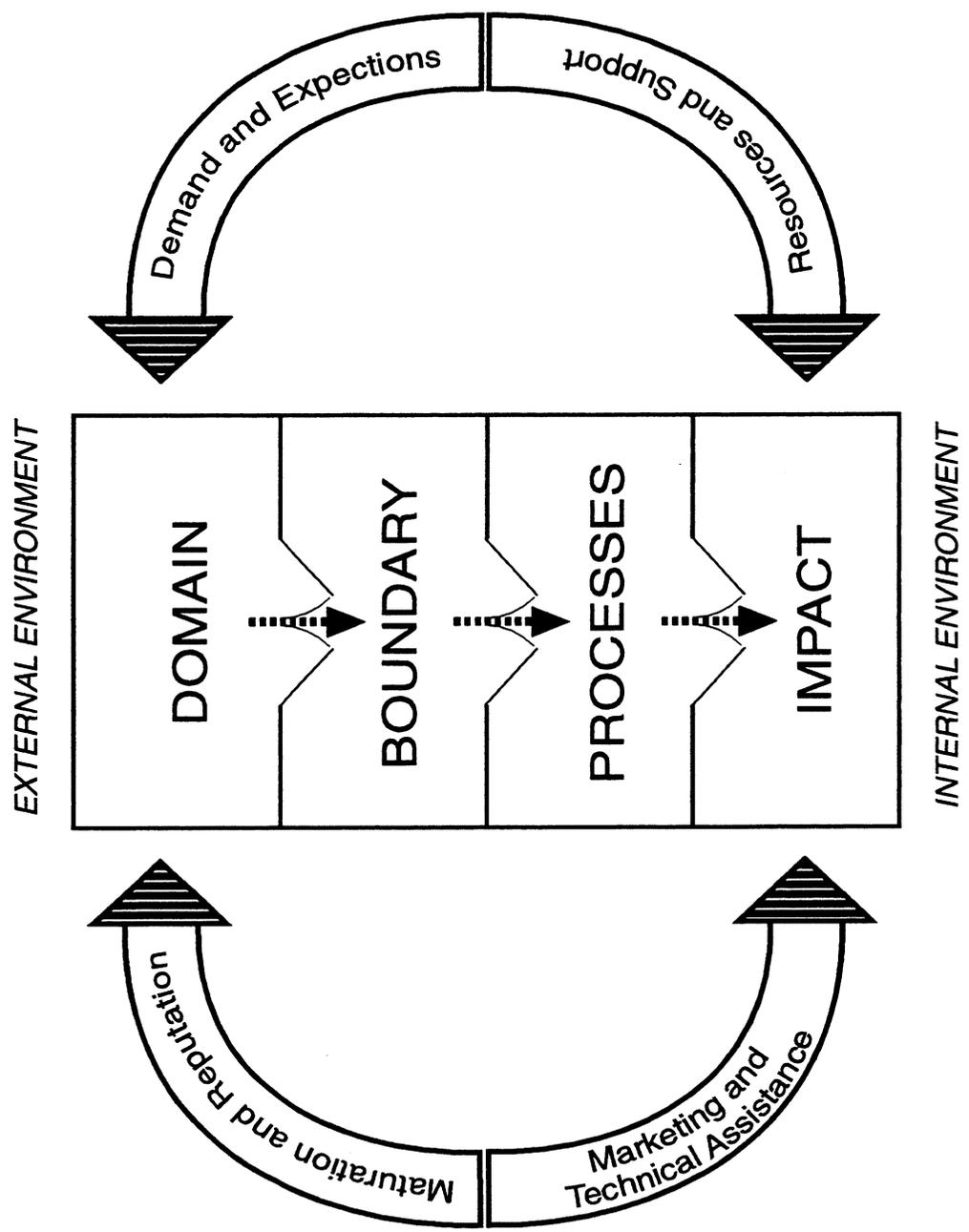
To the extent possible, each chapter was written as a self-contained monograph that can be pulled out and read separately. For example, we restart endnote numbering at 1 with each new chapter. While a reference work may have been cited in a previous chapter, a full citation is provided anew the first time each work is encountered in any chapter. With our apologies, some redundancies between closely related chapters were necessary to ensure that each could virtually stand alone. Several themes thread their way throughout the guide. Our general approach involves introducing themes at a conceptual level to novices and general readership in an early chapter then operationally defining them with greater precision in some middle chapter for the more intensely interested stakeholders. Some of the more controversial themes are embellished more fully in a later chapter or Special Issues/Technical Appendix for practitioners who wrestle with the nuances of every special issue on a daily basis.

In addition to being released in hardcopy, this *Guide* will be mounted on the websites of the Florida and Texas follow-up entities. At first, a rudimentary electronic version will be available for browsing or downloading chapter by chapter. Work is underway, however, to translate this *Guide* into a latest state-of-the-art "e-book." Once the e-book is available, readers will be able to leap from key words in the main text to their linked glossary definitions or from a marker in the text to a linked note at the chapter's end and/or to related citations in the annotated bibliography then back to the main text. Internal linkages in the e-book format will make it easier for readers to follow a particular thread from chapter to chapter on into the Special Issues/Technical Appendices. Where possible, we also will provide links to external resources. For example, where the *Guide* references the Consumer Report System, a reader will be able to link to the Texas SOICC's homepage where the CRS is described in more detail; where the *Guide* refers to a particular "application" in Texas, a reader will be able to link to the follow-up entity's most recent annual report to see some actual results.

Another work in progress is a cookbook version of this *Guide*. The cookbook will be directed solely to practitioners. It will put this *Guide's* main themes in bullet format with key background materials (e.g., relevant federal laws and regulations) cited to enable practitioners to make interpretations on their own without having original source materials "filtered" by the co-authors. Lastly, where possible, the cookbook will reduce practical recommendations to worksheets and checklists that practitioners can use to make sure they have covered all their bases.

The schematic on the next page gives an overview of this *Guide's* layout. It should help readers navigate through this document to get what they need from it without necessarily reading the whole thing.

# CONCEPTUAL SCHEMATIC



The basic outline of this *Guide* arrays the chapters as a series of gateway issues, all of which are affected by political, economic and social conditions of the environment in which a follow-up entity must operate as well as by the changes in the technology available to it. Most issues are addressed in the same sequence in which they will be encountered by other states as they develop follow-up systems of their own. These sequentially-occurring issues are arrayed as stacked boxes with gateways leading from one box to the next. In theory, those in charge of a state's follow-up activity should "close each gate behind them" in sequence as they move from one issue to the next. In reality, many of the issues will be debated simultaneous and changing circumstance occasionally may force stakeholders to revisit some issues even though closure had once been achieved. Some matters, as depicted by the two sets of arrows on either side of the boxes, are never really solved but rather require persistent attention throughout the life span of a follow-up entity.

**Domain** issues concern the concept and purpose of follow-up. What is follow-up? Why do it? How have concepts been borrowed from other arenas in laying the foundation for conducting follow-up on employment and training programs? How does follow-up in the public sector differ from analogous activities in other arenas. Domain issues are addressed primarily in Chapter I. The Glossary and Annotated Bibliography should be of help to readers as they endeavor to resolve domain issues under circumstances unique to their particular state's environment. Chapters on Special Issues (such as the training-relatedness of post-exit employment and others forthcoming) address some of the more controversial domain issues in more detail.

**Boundary** issues serve to define a follow-up entity's roles and responsibilities. Who's in and who's out? Who's in charge? How is the lead agency differentiated from the partner agencies, employment and training program providers and customers it serves? Where should it be housed? Who are its customers and key stakeholders? These boundary issues are addressed primarily in Chapter II.

**Process** issues concern how follow-up is conducted. Chapter IV addresses the major process issues. Many of the forthcoming Special Issues and Technical References will address both domain and procedural issues.

**Impact** issues involve the uses made of follow-up information and the consequences both for the users and the entity that provides the data. While we can't predict what impact each state's follow-up entity will have, the factors most likely to influence impact are addressed in Chapter VI.

The co-authors also address four cross-cutting and persistent issues. The arrows on the left of the schematic represent matters over which a follow-up entity will have some control. While **Marketing and Technical Assistance** are discussed specifically in Chapter V, we do not want to suggest such matters be addressed once and only once then dropped by a follow-up entity. Rather, a lead agency will find that it constantly must explain itself and sell itself. If it properly markets and explains itself (and delivers as promised), a follow-up entity can earn a positive reputation and will mature steadily. While **Maturation and Reputation** are discussed specifically in Chapter VII, these topics permeate every chapter. On the right are matters over which a follow-up entity will have far less control. The idea of responsiveness to **Demands and Expectations** is introduced in Chapter III because those in charge of follow-up will get their "baptism under fire" as they engage in an initial environmental scan. Nonetheless, closure seldom is reached because conditions in the external environment change constantly. A follow-up entity must monitor changing demands and expectations constantly and respond effectively to them. **Resources** and public **Support** determine how much a follow-up entity can do and how effectively it can respond. Resources and support will fluctuate -- hopefully (but not always) in proportion to demands and expectations placed upon a follow-up entity. Resources and support must be monitored constantly and a follow-up entity must make appropriate adjustments to keep them in balance with demands and expectations; thus, such matters are addressed in virtually every chapter of this *Guide*.



# CHAPTER I: INTRODUCTION

## Synopsis

This short introduction will acquaint readers who are new to follow-up with several fundamental concepts. For experienced practitioners, this chapter will lay the foundation of common understanding by explaining how the co-authors operationally define key terms. Although automated follow-up is a relatively new activity, it has its roots in both empirical research and accounting. Many of the terms used to describe automated follow-up activities and services were borrowed from related arenas and have been given slightly different meanings in the current context. Unfortunately, many of the terms and phrases adopted from other arenas have been used casually and promiscuously during the infancy of automated follow-up. Thus, a common taxonomy is offered by the co-authors of this *Guide* in an effort to encourage precision and consistency in the use of these key terms.

## What is follow-up?

Follow-up is the process of gathering data to determine what happened to individuals after they received a service, treatment, or intervention. (Although there are subtle differences between *services*, *treatments*, and *interventions*, the co-authors hereinafter will use the term *services* as a more readable, all-inclusive shorthand.<sup>1</sup>)

## Why conduct follow-up?

The primary purpose of follow-up is to provide timely, valid and reliable data that can be used to describe outcomes accurately as an essential step in a continuous cycle of planning and evaluation to improve services. (What works effectively, for whom and under what circumstances? What services need to be improved? Which should be discontinued?) The same data that are used to drive program planning and evaluation also may be used in compiling performance reports, addressing accountability issues, and helping prospective customers make informed choices.

## Who are the subjects of follow-up?

This *Guide* focuses largely on follow-up conducted on education, training, workforce development and welfare-to-work programs. However, the inherent logic of gathering information about the results experienced by subjects is applicable to virtually any kind of service delivery program. When referring to the subjects of follow-up studies that are limited to recipients of a service, the co-authors will use the term common in that particular milieu. Those who receive services under workforce development programs, for example, are called variously *participants* or *customers*. Those who receive public assistance may be called *customers* or *clients* as are persons who purchase the products and services of business and industry. Education and training providers call the recipients of their services *students* (with or without descriptive adjectives such as *traditional*, *non-traditional*, or *adult*). Often, students are referenced by the type of program they attended such as *continuing ed.*, *vocational*, *academic*, *Tech-Prep*) or generically as *enrollees*. In the health care industry and in some human service organizations, service recipients are known as *patients*; in corrections, as *offenders*, *inmates*, or *convicts*. Under recent initiatives to coordinate the delivery

of a wide variety of employment and training services through *One-Stop* centers, persons seeking services are called “*customers*.” ***Participants*** will be used hereinafter as a shorthand to represent recipients of all types of services.

While being served, participants may be the subject of studies to determine if program access is equitable or to ensure that mandatory protocols are being observed. Such studies can be distinguished from follow-up research because they require a different logic and methodology. Follow-up studies focus on persons no longer receiving services. Some service providers simply attach the adjective “*former*” to terms used to describe individuals while they were receiving services -- as in *former participants* or *former students*. Other service providers reference the condition of the subjects when they ceased receiving services: *successfully terminated* (JTPA); *graduates*, *completers*, *leavers*, *degree-earners*, *drop-outs*, *stop-outs*, or *marketable skills achievers* (education and training), and *parolees* or *ex-offenders* (corrections). However, the terms are so many and varied that it is awkward to list them all when referring to the subjects in integrated follow-up studies involving a wide variety of programs. Herein, persons who have received a service and whose post-program outcomes are studied in an integrated follow-up process will be called ***former participants***.

***When actually discussing services and activities directed toward a specific set of stakeholders, follow-up personnel are advised to be sensitive to the respective customer group and adopt its terminology if possible.***

**A note to readers:** Although the term *participant* is applied most commonly to those who have received services under workforce development programs, our use of this convention isn’t intended to slight other stakeholders that refer to former recipients of their services by other terms. Again, we have adopted a single short-hand convention as inclusive of other similar terms for the sake of brevity and readability.

Follow-up studies may focus on the results experienced or the outcomes achieved by individuals or by a group of persons having some shared characteristic. Where the common attribute of persons subject to a follow-up study is the service they were provided, they are known collectively as a *cohort* or *follow-up cohort*. Each cohort may be defined according to the time when its members began

***Because this Guide focuses on the role of follow-up in program planning, accountability and career guidance, it will not cover individual case studies done for other purposes. Case studies may involve different kinds of activities that also are commonly called “follow-up.” However, follow-up activities for the purpose of determining what happened to specific individuals lie outside the scope of this Guide. When doing a case study on an individual, inferential statistics cannot be used to draw conclusions about the utility and effectiveness of delivering services to a larger population. Rather, case studies are done largely for the purpose of determining what additional services the individual may require, and are governed by different rules and prevailing data collection techniques.***

receiving services (an *in-coming* cohort as in the *first time in college - 1993* or *in-coming freshman* cohorts) or when they ceased receiving the service (an *exit cohort* as in the *graduating class of 1996* or *JTPA Title III terminees from Program Year 1992-93*).

When the common attribute of members in the group being studied is antecedent to or independent of the service received, they may be called *subpopulations*. For example, follow-up studies may be designed to compare outcomes achieved by persons of different race, gender, economic status (as in *economically disadvantaged*), degree of language comprehension (e.g. those who speak English as a Second Language - *ESL* - or who are bilingual), family or marital status (e.g., *displaced homemakers* or *single, teenaged mothers*), or prior educational attainment (e.g., *educationally disadvantaged*).

## **How does follow-up differ from other kinds of studies?**

### ***1) Tracking versus Follow-Up<sup>2</sup>***

Often the terms “*follow-up*” and “*tracking*” are used interchangeably when, in fact, they are two distinctly different endeavors. The co-authors of this *Guide* use the term *tracking* to mean studying the activities of participants **during** the service period. We reserve the term *follow-up* for studies of former participants **after** services have been completed or terminated. Tracking is done to monitor progress from one service level or program activity to another and/or to ensure that service delivery complies with procedural guidelines. Tracking is process-oriented rather than outcomes-oriented. Follow-up, on the other hand, is done to document post-program outcomes.

The distinction between *tracking* and *follow-up* is important because: a) different data collection methods may be better suited to each activity; and b) one kind of entity may be better positioned to do tracking while another is better suited for doing follow-up. Tracking may well be something that service providers can do in-house because all the data elements needed are contained in their own management information systems (MIS) whereas follow-up activities require the services of an outside agency that facilitates linkages between data elements in the service provider’s MIS and outcomes information contained in external databases.

### ***2) Case Study versus Follow-Up***

A case study usually focuses on a specific subject and is conducted to determine what additional services should be provided **to that individual**. In some instances, case studies are conducted to acquaint researchers with a program, its services, and the milieu in which it operates. Such case studies are exploratory insofar as they are designed primarily to generate hypotheses worthy of testing through additional research. Follow-up studies, on the other hand, are conducted

on prior exit cohorts to determine program effectiveness and to facilitate the planning and delivery of services to future cohorts of program participants. (The distinction between studies conducted for the purpose of determining interventions for specific individuals and those designed to improve the delivery of services to all eligible participants is a crucial one. The implications of this crucial distinction are discussed in the data privacy subsection in the chapter on Process Considerations.)

### **What role does follow-up play in performance measurement and program accountability?**

While follow-up studies have been conducted for several years for a variety of purposes, the idea of automating such studies is receiving increased attention largely because of public demands for program accountability. In the past, service providers “accounted” for their activities to ensure stakeholders that funds were being spent legally and that procedural guidelines were followed in the delivery of services. More recently, the concept of accountability has been expanded to include demands that programs (particularly ones funded with tax dollars) should be held responsible for achieving desired and intended (or promised) results. To understand follow-up activities in the context of program accountability, we must classify and draw distinctions carefully between various performance measures.

**Inputs:** Input measures are based on characteristics of subjects antecedent to or at the time they enter a program. Input measures commonly are developed to address issues related to equity of access. That is: are persons with a particular characteristic or attribute served by the provider in roughly the same proportion as they are found in the general population or eligible targeted subpopulations. Input variables also may comprise the starting ingredients which form base-lines against which gains are calculated. For example, data are needed on participants’ pre-enrollment earnings if we are to compute *earning gains* after they exit JTPA Title IIA or Title III programs. We must know the prior educational attainment of Adult Education students if, subsequent to their program exit, we are to calculate their *learning gains*. Similarly, data on participants’ pre-service status (inputs) are needed if we are to measure *decreased welfare dependency* as a desired result of employment and training programs. Inputs also are essential ingredients in any recipe for calculating the value added by a service provider or the return on investments (ROI) in a program. Resources at the disposal of service providers also can be considered inputs. Availability of resources relative to the number of eligible participants has a significant impact on the service that can be rendered.

***For follow-up purposes, information about the characteristics and status of individuals prior to receiving a service are included in the input records (also known as seed records). Such variables help the follow-up entity later in the process to breakdown and describe outcomes by subgroup and to assist other stakeholders in their search for possible explanations of the results they obtained.***

**Processes:** Process measures are designed to describe what services were provided and how they were delivered. To some extent, process measures have, in the past, been taken as empirical indicators of service quality. Classic examples include *per student* or *per participant* expenditures. In education and training circles, the *student-teacher ratio* often is taken as a quality-of-service indicator. Parallel measures can be found in workforce development, human services, corrections and parole, or welfare programs (*caseload*), and health care (*patient-load*).<sup>3</sup>

**Outputs:** Output measures assess the attributes or characteristics of subjects at the point they exit a program or when services are terminated. Output measures, for example, include *graduation rates* or *learning gains* (in education and training), *positive terminations* (in workforce development programs), or various conditional attributes of release (in corrections and health care).

**Results or Outcomes:**<sup>4</sup> Outcome measures identify what happened to subjects **after** services were provided. Outcomes may be conceptualized as the “*impacts*,” “*payoffs*,” or “*returns on the investment made in service delivery*.” Generally speaking, the co-authors use the term *outcomes* when referring to something in which the subject takes a more active role and for which the subject has some degree of responsibility for achieving. *Results*, on the other hand, are experienced more passively. Strictly speaking, we would ask someone, “What *outcome* did you achieve by following the diet your doctor prescribed?” as opposed to, “What were the *results* of your liposuction?”.

By and large, outcomes are the focus of follow-up studies; however, the fine line dividing *outputs* from *outcomes* is not always clear. Grey areas occur where there are one or more steps between service delivery and the attainment of outcomes ultimately desired or intended. Grey area examples include: passing a licensure examination before becoming eligible for employment in a regulated occupation; demonstrating competencies at a level of proficiency required by an officially recognized skill standard; and attaining a Certificate of Initial Mastery (CIM). Licensure, competency assessment, and skills certification may be functions assigned to parties other than the ones which provided services, yet they are not outcomes *per se* in the sense that individuals receiving such post-program credentials use them as their *entre* into the labor market, not as ends in themselves. The simplest way to decide how to treat practices in these grey areas is to determine who has easiest access to the data. If, for example, credentials are awarded by parties independent of the service providers, then they may be studied as *outcomes* by a detached follow-up entity. On the other hand, if such credentials are awarded in-house by service providers, they should be treated like degrees and other outputs; i.e., as something service providers can track for themselves without involving an external follow-up entity.

## How do you determine the boundaries of a follow-up system?

Making the fine distinction between *outputs* and *outcomes* is essential to establishing the boundaries of a follow-up system. These fine distinctions must be kept in mind in order to prevent the central follow-up entity from being overwhelmed with more work than its budget allows. Public officials are rushing to jump on the measures-and-standards bandwagon as did business and industry under the rubrics of *Total Quality Management (TQM)*, the *pursuit of excellence*, and *global competitiveness*.

Public agencies and service providers alike have a rapidly expanding need for statisticians and evaluation specialists. The same kind of expertise follow-up staff members are apt to have in research design, data analysis, statistics, and programming are useful for other, tangentially-related endeavors. Often such professionals are in scarce supply; thus, follow-up staff will be asked constantly for assistance with or opinions about measures related to equity of access, processes, and outputs. In the spirit of collegiality and in the interest of serving mutual customers, follow-up staff inevitably respond to such requests. The problem is that partner agencies sometimes assume (falsely so) that assistance with statistical and research design questions constitutes an offer to conduct all the research and analysis they need.

*The line separating inputs, processes, and outputs from outcomes serves to differentiate follow-up from other related activities. Drawing the line carefully may prove essential to staying on task and within budget.*

While some activities and services needed by partner agencies may be closely related to follow-up, staff constantly must be mindful of the follow-up entity's specific mission and especially its limits. The budget lines under which a follow-up entity operates is mission-specific. The dollars the entity is allocated are determined by the statement of work attached to its grants, contracts, legislative appropriations request (LAR), and/or interagency agreements. It is very tempting (through a sense of professional interest and in the spirit of collegiality) to provide services and engage in activities beyond the scope of the follow-up entity's mission and its budget. An understanding of the difference among various kinds of performance measures will help staff draw the line between offering opinions as a matter of professional courtesy or rendering assistance on tangentially related research design or statistical issues *versus* engaging in activities beyond the scope of the lead agency's mission.

**For the follow-up entity, operations related to linking databases containing seed records in one and outcomes information in others should take precedence over all other activities and services.**

## **What uses typically are made of information gathered through follow-up efforts?**

Outcomes data collected through the follow-up process serve several purposes:

- 1) They are used by service providers in several ways. They help providers explain the benefits of the services they deliver. They also help providers make management decisions about which services to offer, which to discontinue, and/or which ones in their current repertoire should be expanded or improved.
- 2) They may help eligible customers make informed choices. Where alternatives are open to them, customers need (and have a right to know) information about the outcomes achieved by prior exit cohorts in order to determine: a) if they want a service and can benefit from it; and b) how to choose from available alternatives based on reasonable expectations inferred from service providers' performance histories.
- 3) They help stewards of public funds (e.g., local decision-makers, state administrators, legislators, advisory council members, etc.) make more rational, data-driven decisions when delivering services or procuring services on behalf of those eligible to participate in publicly funded programs.
- 4) They help private citizens and third parties -- such as non-profit public interest research groups, community-based organizations (CBOs), academic researchers, and commercial enterprises -- determine their policy stances or to render advice to other stakeholders about programs and service providers.

***Note: Chapter VI of this Guide is devoted to uses of follow-up information.***

## **Who conducts follow-up?**

There are as many answers to this question as there are purposes for follow-up. In fact, the outcomes achieved by a single program's former participants may be studied simultaneously by several parties for quite diverse reasons.

### ***Examples of follow-up conducted by service providers.***

A classic example of follow-up conducted by a service provider is the tracking of customer complaints or merchandise returns and how they were handled in a retail establishment. This kind of follow-up information may be forwarded to a firm's purchasing agents to improve its selection of product lines. The same information may be forwarded to the firm's personnel and training departments to improve customer relations. Auto manufacturers track warranty services performed and feed such follow-up information back to their engineering departments to drive product

redesign or future product lines in order to garner higher customer satisfaction and a larger share of the market. Similarly, postsecondary institutions conduct alumni surveys to determine what happens to their former students after they graduate, transfer, drop-out, or stop-out. Under the Job Training Partnership Act (JTPA), a Private Industry Council (PIC) may ask Service Delivery Area (SDA) staff to contact participants to determine what labor market outcomes they achieved by the 13th week after program exit. Physicians follow-up their patients to determine if specific treatments worked, to see if additional treatments are required, or to determine if adverse side-effects necessitate suspending or modifying a treatment. Parole and probation officers' activities could, in part, be construed as follow-up studies to determine if a correctional facility's rehabilitation efforts reduced recidivism and helped former inmates function in the free world.

***Examples of follow-up studies conducted by stewards of the public trust and the treasury.***

In education and training, follow-up may be conducted on behalf of local service providers by the Central Education Agency as authorized by the State Board of Education, the state's Higher Education Coordinating Board, or a quasi-public accreditation agency. In workforce development programs, a state's JTPA grant administrative agency, the State Job Training Coordinating Council, or Human Resource Investment Council -- on behalf of all SDAs -- may achieve economies of scale by centralizing the required 13th week post-exit follow-up. One might consider statistical morbidity studies and autopsies by hospitals as follow-up on patients treated by physicians and surgeons having privileges at the facility. The Food and Drug Administration and the National Center for Disease Control conduct follow-up studies to compare the effectiveness of various treatments or the quality of services provided by health care practitioners. Follow-up studies may be conducted by a state's Comptroller of Public Accounts, blue-ribbon panels appointed by the governor or a state's Legislative Budget Board (LBB). At the federal level, the General Accounting Office (GAO), or an agency's Office of Inspector General (OIG) may conduct follow-up studies to assess the performance and cost-effectiveness of publicly-funded programs.

***Examples of follow-up conducted by third parties.***

Classic examples of third party follow-up studies would be those conducted by magazines such as *Consumer Reports* to determine customer satisfaction with brand name durable goods. Similarly, the Better Business Bureau tracks complaints about services provided by local firms. In the education, training, and workforce development arena, third parties conducting follow-up may include teachers' unions, independent associations of schools and colleges, academicians pursuing personal research interests, and think tanks.

- Third parties may be in the private sector - both non-profit and for-profit. The Rand Corporation, for example, has conducted follow-up studies on dislocated aerospace workers. Insurance companies and *consortia* thereof are active in follow-up on health care delivery. Others that come to mind are quasi-public entities such as the Education Commission of the States (ECS), the National Governors' Association (NGA), State Higher Education Executive Officers (SHEEO), the Council of Chief State School Officers (CCSSO), and the National Com-

mission for Economic Policy Research. Consulting firms (e.g., Arthur Anderson or Abt and Associates) and individual academicians (e.g., David Stevens, John Baj, Charles Trott, Chris King, and the late Sar Levitan) have devoted much of their efforts to collecting and doing secondary analysis of outcomes data on employment and training programs.

- Third parties may be units within public agencies or public institutions of higher education devoted to research and detached from the administration, management, and financing of services such as the National Center for Research on Vocational Education (NCRVE) at the University of California - Berkeley or the National Center for Education Statistics (NCES) within the U.S. Department of Education's (DoE) Office of Education Research and Improvement.

### ***Follow-up conducted by prospective customers and private citizens.***

Systematic follow-up is a demanding and costly undertaking. More than likely, rigorous follow-up will be beyond the resources of most private individuals. Nonetheless, many citizens put forth an effort to inform themselves before making decisions about program participation, products, and service providers. Individual efforts amount to gathering anecdotal, non-representative information about customer satisfaction and experiences of friends, relatives, and acquaintances who might have purchased the product or service in question. By and large, private citizens must rely on the data and analyses supplied to them by service providers themselves whose presentations may be tainted by self-interest. Most prospective customers understand that follow-up data supplied by impartial and detached stewards of the public trust or third party research entities probably would be more objective and reliable.

***All too often, valid and reliable follow-up information on a particular product, service or program is: a) non-existent; b) nearly impossible for the average citizen to locate and access; and/or c) formatted in ways that defy meaningful and fair comparisons.***

### **Why automate the follow-up process?**

Follow-up traditionally involves locating individuals who have received services. Former participants are asked by telephone or mail survey about their subsequent achievements and experiences. Automated follow-up, on the other hand, relies on the electronic linkage of former participants' records to external databases likely to contain information about the outcomes they subsequently achieved. The external databases are maintained by parties other than those that delivered the service in question to the former participants whose post-program outcomes are under examination. Most often, data in these external management information systems are based on direct observation of individuals or on-going, direct interaction with them.

There are four major problems inherent in the participant-contact approach to follow-up that can be remedied to some extent by automating outcomes data collection:

1) Traditional surveys are relatively expensive.

For example, the 13th week telephone survey of former JTPA participants conducted by Texas A&M University on behalf of SDAs in Texas costs approximately \$13.25 per record. By relying on automated record linkages, the central follow-up entity in Texas could determine the labor market and continuing education outcomes achieved by former JTPA participants for less than \$ .05 per record.

2) It may be difficult to locate participants after they exit a program.

The longer the elapsed time between termination of services or program exit and follow-up, the lower the probability that contact information in former participants' files will be up-to-date. (This is known as the *decay rate* in files or records.) The decay rate for contact information in program files is especially troublesome when successive waves of participant surveys are needed in a longitudinal research design to determine the delayed and/or long-term benefits realized by former participants.

Because automated follow-up relies on electronic record linkages to files that are maintained and continuously updated, the decay rate is minimal relative to the rate of decay for information in former participants' program files. That is because those who supply information for these external databases (e.g., employers, educational institutions, the Armed Services, the United States Postal Service, and the Office of Personnel Management) are less likely than former participants to move or change phone numbers.

3) In most cases, responses to traditional mail and telephone surveys must be given voluntarily. Even if located, former participants may refuse to respond.

Non-responses often are not distributed randomly across all subjects in the cohort being studied. Where response rates are low, response-set biases are highly probable but difficult to pinpoint. Therefore, they may skew results without being amenable to any formula to adjust statistically for known sources of error.

The databases from which automated follow-up entities extract information about former participants' post-program outcomes most often are maintained for the purpose of administering publicly-funded programs (such as Unemployment Insurance benefits).

Submission of data to these linked systems may be required as a matter of law or regulation or as a condition of program participation. Therefore, the linked databases usually contain information on the entire universe of persons who are covered by the program. For example, the missing data rate for the Unemployment Insurance (UI) wage records database (i.e., the primary source tapped by the Texas follow-up entity to document former participants' labor market outcomes) is approximately 3 percent.

- 4) Once former participants are located, their self-reported behaviors most often are taken at face value because members of the cohort are too numerous and too scattered to be observed directly by the follow-up entity.

Seldom are procedures in place for auditing and verifying respondents' self-reported behaviors. Thus, there is no systematic way in traditional follow-up to detect and correct for exaggeration or under-reporting. This raises questions of validity and reliability. On the other hand, data submitted to public administration databases tapped in automated follow-up are subject to audit and verification. Falsification or misrepresentation thereof may be subject to legal sanctions. Under such conditions, it is reasonable to assume that data contained in management information systems for publicly-funded programs are more reliable than survey responses consisting of former participants' self-reported behaviors.

### **Why integrate and consolidate follow-up activities?**

Taxpayers demand accountability for results by those who provide services through publicly funded programs. In the absence of centralized, consolidated and integrated follow-up, outcomes data typically are collected by a variety of state agencies, substate units, and/or by the service providers themselves.

Integration of follow-up activities by a centralized and detached entity may:

- ✓ reduce overall costs through economies of scale;
- ✓ eliminate unnecessary duplication of effort; and
- ✓ standardize operational definitions and methodology to ensure that outcomes data can be compared fairly across programs, substate units, and service providers.

In Texas, for example, there are more than 1,000 independent school districts, 69 community and technical colleges, 35 JTPA service delivery areas, and 10 substate offices responsible for Job Opportunities and Basic Skills (JOBS) programs and Food Stamp Employment and Training (FSE&T) initiatives. Each must report on outcomes achieved by their former participants to one or more state agencies, federal funding sources, policy councils, legislative oversight bodies, and/or accreditation agencies. Prior to creation of a centralized follow-up unit, Texas employers with

locations statewide (such as the state's largest grocery chain) potentially could receive as many as 1,000 follow-up surveys annually by telephone or mail. Such an approach was burdensome to both those conducting the surveys and those asked to respond.

- From the employers' point of view, the myriad of surveys was burdensome. They were scattered across each calendar year without any standardization of format or data elements and definitions. The situation was confusing and made it impossible for employers to automate their responses. Consequently, response rates were consistently low.
- For those conducting the surveys, costs were high -- especially considering the questionable quality of the responses received. The JTPA system in Texas, for example, spends more than \$13.25 per former participant to conduct the 13<sup>th</sup> week post-exit follow-up *via* telephone. It has been impossible to determine the costs of doing traditional alumni surveys on high school or community college students when follow-up was in the hands of the education and training institutions themselves because accurate records were not kept. In Texas high schools, for example, follow-up typically was done by instructional or clerical staff in addition to their other duties with no provisions for time-and-effort accounting. Moreover, data entry, communications or postage costs incurred for these disjointed follow-up efforts could not be disaggregated from general line items in the schools' budgets. Nonetheless, experienced practitioners in Texas estimate that they spent more than \$15.00 per former participant for traditional surveys. Most practitioners felt very lucky if they obtained a 20 to 25 percent response rate.
- From the perspective of those who might need outcomes data to make informed individual career choices, data definitions and collection methods were not standardized and, thus, the data could not be compared in fair and meaningful ways.
- For those needing outcomes information to make policy decisions, the high costs of doing traditional surveys is especially wasteful because practitioners -- understanding the implications of low response rates, response-set biases, and potential for error -- did not take their own data seriously. While forwarding aggregate information *via* compliance reports to state agencies in *pro forma* fashion, experienced practitioners reported that "*no one in his right mind would use unsubstantiated, unrepresentative and potentially biased survey responses from former participants in making program management decisions.*"

Consolidation of follow-up in the hands of a central entity has several advantages.

### *1. Cost-effectiveness*

Significant savings can be realized as economies of scale are achieved. Because the linked databases have been compiled for other purposes, data collection costs can be spread across several partner agencies. Electronic data exchanges can be automated to achieve far lower costs. The relatively high postage or telephone costs and other expenses associated with labor-intensive traditional surveys can be eliminated. Automated follow-up relies instead on a few seconds or

minutes' use of core memory on a mainframe or high powered microcomputer at much lower costs. So long as the input record format, linked files, and output records remain unchanged, programs used to extract, append, and output information can be reused (unlike completed survey instruments). The one-time, up-front costs of writing the requisite record linkage subroutines -- when amortized across their nearly infinite shelf-life -- are insignificant compared to the perpetual costs of production, telephone communications or postage and return-postage, and data entry associated with traditional surveys.

To the extent that employer follow-up surveys are used as a supplement to automated record linkages to acquire additional occupational employment outcomes data, economies of scale are achieved because a single instrument can be sent containing all of one firm's employees in a follow-up cohort regardless of the programs they exited or -- in the case of multiple longitudinal waves being piggybacked in a single study -- regardless of the cohorts' exit period. This saves on the postage and printing or telecommunications costs incurred when each service provider attempts to obtain information one-by-one on the outcomes achieved by each of their former participants.<sup>5</sup>

The high cost of traditional, non-integrated surveys cuts into other research design elements considered to be essential to effective follow-up. When data collection costs are high, those conducting traditional surveys on their own may have to:

- a) do follow-up on a sample for former participants rather than on an entire exit cohort.

This compounds the margin of error in interpreting the results obtained -- especially where response rates to traditional surveys are low and infected with response-set biases, participant self-selection, and problems associated with self-reported outcomes.

- b) employ less than the optimal research design.

Ideally, follow-up studies should use quasi-experimental, longitudinal research designs.

#### Consequences of foregoing the use of a quasi-experimental design.

A primary purpose of conducting follow-up is to determine the degree to which services and activities resulted in former participants achieving post-program outcomes defined in the public interest as desirable. The rules of statistics and the logic of causality require research designed to: a) rule out the possibility that the results obtained could have been achieved in the absence of the services provided; and/or b) statistically control for the independent and interactive effects of other possible explanatory variables.

In the social sciences, quasi-experimental designs are best suited for these purposes because they use the statistical equivalents of the experimental and control groups. Quasi-experimental designs, however, can only approximate the rigor of classic experiments in the physical sciences<sup>6</sup> by comparing pre-service/post-exit measures on the key dependent variables. The following example illustrates our point. Assume that a community college wants to determine the effects enhancements of its curriculum under the federal Tech Prep initiative have on the employability and earnings of its students. Because funds for administrative overhead are limited, the college's institutional researcher conducts an alumni survey only on the former Tech Prep students. Outcomes data gathered through such a narrowly focused alumni survey show that 70 percent of its Tech Prep program completers are employed in training-related occupations and their annualized earnings average \$22,000. In the absence of either a control group or statistical comparisons of pre-enrollment to post-exit employment and earnings data, it is nearly impossible to interpret these survey data.

A 70 percent post-exit employment rate may be considered a success for the college's Tech Prep program if completers of the same institution's more traditional vocational and academic programs have post-exit training-related employment rates of 60 percent and 55 percent and average annualized earnings of \$18,000 and \$15,750 respectively.

Assessment of the various programs' performance would be quite different if post-exit training-related employment rates and/or earnings for traditional vocational and academic program completers were higher than those achieved by the former Tech Prep students. So, too, would interpretations be quite different if, by comparing post-exit outcomes to pre-enrollment employment and earnings data, the college's institutional researcher discovered that of those former students employed in training-related jobs after graduation, 90 percent had held the same jobs at the same rate of pay prior to enrolling in a Tech Prep program.

Meaningful analysis necessitates comparisons. Comparisons are necessary to put raw outcomes data in perspective. If the cost of collecting data through traditional surveys is so high that the service provider foregoes obtaining information about its participants' pre-service status and characteristics or decides not to gather the same data on comparison groups to establish a baseline, then useful and actionable interpretations of outcomes data cannot be made.

#### Consequences of foregoing a longitudinal research design.

Desired or intended outcomes often are not achieved immediately after participants exit a program. For example, this is especially true in the case of secondary vocational training. Employers tend to prefer older job applicants with some prior work experience over recent high school graduates regardless of education and training.<sup>7</sup> A school district with a limited research budget finds the costs of administering a traditional survey are so high that it can only afford to do a one-shot study six months after the senior cohort graduated (i.e., while there is some reasonable expectation that contact information in the former students' files

are still current<sup>8</sup>). Under such conditions, the school district decides to forego doing longitudinal research. One might conclude falsely that the programs under review have failed if administrators gathered no data at a point in time when they reasonably could expect their former students to be enjoying the delayed benefits of education and training. In the absence of longitudinal data, administrators would not have the kind of information they need to make rational decisions about program continuation or termination, curriculum revision, or appropriate and effective modes of instructional delivery.

## *2. Standardization and Comparability*

A central entity can help ensure that identical operational definitions and data collection methods are used in conducting follow-up on former participants from a wide variety of education, training, workforce development, and welfare-to-work programs. In doing so, the central entity helps create an information-rich environment in which fair comparisons can be made among service providers and across programs or service delivery areas and labor markets.

## *3. Detachment, Neutrality, and Objectivity*

Agencies and service providers, like individuals, tend to be self-interested. This tendency can contaminate in-house follow-up. Service providers and/or program administrators who do their own follow-up may be tempted to define variables and performance measure formulae in ways that put a positive spin on their success ratings. They also might be tempted to selectively present only positive findings. Enrollments, and therefore, revenue generation or cash flow may depend on the effectiveness of their marketing/recruitment/public relations efforts, the amount of favorable publicity they generate, and their ability to maintain a positive image in the community.

A central follow-up entity, on the other hand, can provide the detachment, neutrality, and objectivity necessary to level the playing field. The degree to which this happens will depend largely upon where each state elects to house its central follow-up entity. Preferably, follow-up should be conducted by an independent entity; i.e., one not housed within an agency which has operational responsibility for delivery of the services in question. For example, the follow-up entity could be: a) a stand-alone office that reports to the governor, to a policy advisory council (such as the State Job Training Coordinating Council, Human Resource Investment Council, or the State Council on Vocational Education), to a legislative budget board, or to the Comptroller of Public Accounts; or b) a division within the State Occupational Information Coordinating Committee.

For fiscal management purposes, a state may elect to house the central follow-up entity within an agency which also is responsible for strategic planning and fiscally managing programs subject to follow-up (e.g., the state's central public education agency, its higher education coordinating board, or the state employment security agency). The central follow-up entity's detachment, neutrality, and objectivity may be questioned if it reports ultimately to a division director who is responsible for programs whose outcomes might fall below performance standards and expectations. If the follow-up entity must be housed within an agency that also plans and finances

any program being studied, detachment can be maximized by making the unit part of a separate Research and Analysis, Program Evaluation, or Management Information System division -- as opposed to a division with program management responsibilities.

#### *4. Resources, Capacity and Expertise*

Even where service providers appreciate fully the need for sound follow-up data, their hands may be tied by the high cost of conducting their own studies through traditional methods. When participant services compete with research (an administrative function) for limited dollars in a finite budget, direct services inevitably win. Service rather than research is at the heart of the provider's organizational mission; direct service is more integral to the professional ethos of its staff. That is especially true of employment and training programs because their expenditures for administrative purposes (such as research, analysis and program evaluation) are limited by statute and regulation. Consequently, when left to their own devices, service providers are inclined to allocate resources to conduct follow-up in-house on a minimal basis; i.e., only as necessary to meet compliance reporting requirements. When conducted in-house, follow-up activities may be assigned episodically to staff whose primary duties and expertise lie elsewhere. Under-funded and not given anyone's full attention, *ad hoc* follow-up can become a *pro forma* exercise when done in-house by service providers themselves.

A central entity is more likely to have sufficient resources and the expertise to give follow-up the full attention it deserves. Because it can use more cost-effective record linkages techniques, a central follow-up entity can gather baseline data on comparison groups, pre-service data for comparative purposes, and longitudinal data to document long-term results. Because research rather than direct participant service is at the core of its mission, a central follow-up entity will invest in the statistical tools necessary for robust data analysis. Trained in the rigor and rational skepticism of scientific method, those who staff a central follow-up entity will be on guard against false assumptions, self-fulfilling prophecies, and self-interested conclusions. They will remain alert to plausible alternative explanations. If alternative explanations are suggested, a central follow-up entity is more likely to have knowledge of and access to other sources of data on exogenous variables (e.g., census data and labor market information) and the expertise to combine other kinds of information with outcomes data to test plausible hypotheses.

Lastly, the mission of a central follow-up entity can be defined to include disseminating outcomes data and promoting their use in consumer choice and policy-making. Understanding that those who must rely on follow-up data are not necessarily trained in the rigors of scientific research and statistics, a central follow-up entity is more likely than an *ad hoc* in-house unit to set aside dollars to fund technical assistance efforts and the development of user-friendly presentation formats.

A centralized and detached follow-up entity, for example, would be likely to secure and devote funds to: a) automate delivery mechanisms to give stakeholders better access to outcomes data; and b) package follow-up information for easier interpretation and understanding by a wide variety of stakeholders.

The mission of a central follow-up entity is not merely to collect and disseminate outcomes data. Its mission should be to facilitate -- even promote -- the use of those data to drive informed decision-making at all levels. At first, service providers or individual agencies accustomed to doing their own follow-up through traditional methods will be skeptical about implementation of centralized and integrated follow-up which relies primarily on “new fangled” electronic record linkages. However, as stakeholders are relieved of a costly burden and as the central entity establishes a reputation for objectivity, professionalism, expertise and service, follow-up data can become more than something to be gathered in perfunctory fashion for compliance reporting purposes -- only to be quickly shelved and forgotten. The ultimate benefit of implementing centralized and integrated follow-up is that stakeholders will place more confidence in and develop a better understanding of outcomes data. Having more confidence in the data, stakeholders actually will begin to use them in strategic planning, program management, performance evaluation, continuous program improvement, and informed choice in individual decision-making.

***The bottom line is that confidence and understanding increase the likelihood that stakeholders will use outcomes data to drive individual choices and policy decisions.***

### **What is a follow-up system?**

Because they are relatively innovative and high tech, automated record linkages will be perceived by stakeholders and the general public alike as the distinguishing feature or defining characteristic of the new approach to follow-up outlined in this *Guide*. Follow-up, however, is much more than a data collection technique and should be treated as a set of interrelated parts. In the systems approach, the central follow-up entity should have these characteristics:

#### *1) Identity*

The central follow-up entity should be a clearly identifiable unit or agency. Its mission, goals and objectives should be defined clearly. Its mission should give it a unique identity -- distinct from disparate predecessors that used traditional follow-up methods and separate from any parent entity that houses it or serves as its fiscal agent. Its lines of authority and responsibility should be differentiated clearly from other entities engaged in policy-making, administering programs, providing services, and analyzing or disseminating more general labor market information.<sup>9</sup> That is, the boundaries between and relationships with other entities ought to be understood and respected by stakeholders and customers.<sup>10</sup>

## 2) *Organization and Continuity*

Centralizing and automating follow-up in most states will necessitate major changes. Efforts may be resisted by some stakeholders who are more familiar and comfortable with traditional methods and skeptical about the efficacy of automated record linkage techniques. Others, long accustomed to conducting follow-up for themselves, may object philosophically to relinquishing the data collection function to a centralized entity over which they have little or no control. If centralized and automated follow-up is to succeed, it must have a champion. The central follow-up entity's first director probably will be an aggressive, forceful agent of change. Inevitably, then, the organization will bear the stamp of his/her personality and idiosyncracies. However, a genuine follow-up *system* eventually must have a life beyond the tenure of its first director. If the central follow-up entity is to become more than the bailiwick or personal fiefdom of its first leader, it must achieve continuity. Its activities and services must be institutionalized. That is, the entity must develop standard operating procedures.

- ☞ The central follow-up entity should have formal guidelines governing interactions with partner agencies on such matters as negotiating and renewing data exchange agreements and mutual data security provisions. Even if the original parties to automated and centralized follow-up are the kind of *movers and shakers* who can “*get things done with a phone call*” or “*merely on a handshake*,” system-building necessitates thorough documentation, formalized agreements, and the institutionalization of arrangements, procedures, and “*mutual understandings*.”
- ☞ After an initial period of experimentation and pilot testing, the format of input records, enhanced output files, and basic reports should stabilize. That way, software programs to automate record linkages can be reused year after year without substantial revisions. Subroutines to analyze the data should be written and standard report formats should be established in ways that answer anticipated and perennial questions about the performance of partner agencies' programs.
- ☞ A follow-up entity should establish protocols for addressing special requests (i.e., requests for activities and services over and above those rendered year-in and year-out under the terms of its annual contract and interagency agreements). These protocols should include decision rules for prioritizing special requests for technical assistance, answering *ad hoc* questions, and doing specialized/limited purpose studies. Standard procedures also should include rules for calculating fees to be charged to recover the cost of services and activities over and above those enumerated in the entity's annual statement of work; i.e., for recovering costs not anticipated in its budget at the beginning of its fiscal year.

- ☞ The follow-up entity should have a long-range strategic plan. The plan, at a minimum, should cover strategies for:
  - ✓ monitoring feedback from its customers in order to drive continuous improvement in the follow-up system itself;
  - ✓ improving the quality and coverage of the outcomes data it gathers;
  - ✓ expanding services to existing customers;
  - ✓ extending services to other stakeholding groups that could benefit from rigorous follow-up on their former participants;
  - ✓ constantly striving to reduce the costs per record for collecting outcomes data;
  - ✓ packaging and delivering outcomes data in user-friendly formats to all interested stakeholders; and
  - ✓ promoting the use of outcomes data to drive policy-making and individual choice.

### 3) *Resources*

The central follow-up entity should have the resources necessary to fulfill its mission, goals, objectives, and -- above all -- its promises to stakeholders to deliver specific services. Centralized and automated follow-up should achieve cost-savings in the long run. Nonetheless, all stakeholders must realize that there is a cost of doing business. Many of the costs will be front-end loaded; i.e., a substantial investment may be required during the initial implementation and growth phases before a follow-up system can establish a “maintenance-of-effort” budget.

#### ☞ *Tools and Equipment*

Micro-computers, access to a mainframe computer, and state-of-the-art communications are essential to establish efficient electronic file linkages and for the intense number crunching necessary to transform raw outcomes data into useful information. File transfer rates as well as central processor speed and capacity are of paramount importance.<sup>11</sup>

***While the cost of computer hardware and software continues to decrease as capacity increases, automated follow-up is not something that can be done effectively “on the cheap.”***

### ☞ *Programming and Application Software Development*

To the extent that automated follow-up is unprecedented in a particular state, staff with the central entity and/or partner agencies will have to write record linkage routines to:

- compare Social Security numbers across files; and
- append outcomes data from target databases to appropriate seed records.

In addition, much of the follow-up entity's data analysis and report generation can be automated from the outset where:

- outcomes-based performance standards have been set;
- the outcomes data are used to compile required compliance reports; and
- consensus has been achieved on the packaging of follow-up information to meet the needs of key customer groups.

While much of a follow-up entity's automation routines can be canned and reused, initial application software development will require up-front funding.

States which adopt the Florida/Texas model of automated follow-up (as explained throughout this *Guide*) may reduce some of these up-front costs by borrowing and adapting automation tools that have already been developed rather than writing their own from scratch.

### ☞ *Professional Staff*

The central follow-up entity's professional staff collectively should have expertise in research methods, database management, statistics and data analysis, professional and technical writing, and presentation graphics. At least one staff member should have the ability to do basic trouble-shooting on the hardware, software and operating systems used by the follow-up entity. Above all else, the lead agency's staff collectively should have substantive knowledge of the participating programs, the partner agencies that administer those programs, the principal service providers, and their primary customer groups.<sup>12</sup>

***Such a combination of talent, knowledge, and ability is rare and an able staff will command wages commensurate with supply and demand.***

## ☞ *Consultation and Networking*

States currently attempting to implement centralized, integrated, and automated follow-up have the advantage of learning from pioneering states. While each state must grow its own follow-up entity tailored to its special circumstances, it may avoid unnecessary duplication of effort and wasteful trial and error by employing the consulting services of experienced practitioners. Moreover, since many of the same issues and demands are driving implementation of automated follow-up nationwide, states can also benefit from collaboration in adopting and adapting best practices developed elsewhere. To understand the common driving forces, to keep abreast of changes in them, and to monitor the success of other states' responses, the central follow-up entity in each state will have to invest time and resources in networking with its counterparts across the nation.

***The bottom line is that a follow-up entity's funding stream should be reliable, permanent, and insulated from encroachment by other entities. The central follow-up entity should have its own budget or at least a separate line item in the operating budget of its parent agency or fiscal agent.)***

### **What are the attributes of an effective follow-up entity?**

While an entire chapter in this *Guide* is devoted to suggestions for measuring the performance of follow-up entities, we will mention the criteria briefly in this introductory chapter in order to impress upon the reader the scope and magnitude of effort required for effective implementation.

#### *Breadth of Coverage*

How many and what portion of the related programs and services are served by the state's centralized and integrated follow-up entity? To what extent has the systems approach resulted in the standardization of outcomes-based performance measures and data collection methods across the related programs and services?

#### *Depth of Coverage*

How close does the automated follow-up effort come to capturing data on the full range of desirable outcomes identified for each program it serves? How close does the follow-up effort come to documenting the outcomes achieved by 100% of the subjects in each cohort studied?

### *Degree of Automation*

To what extent have operations been automated? Are traditional methods still required to collect some key outcomes data? To what extent have data coding decisions been automated and manual data entry eliminated? To what extent can participating agency and service providers' required performance reports be compiled automatically by the follow-up entity? Can previously written subroutines be pulled from the follow-up entity's application software library to meet not only the customers' perennial data needs but also their *ad hoc* questions? Has the distribution of or access to outcomes-based performance information been automated for all types of customers?

### *Utilization*

Do stakeholders use outcomes-based information supplied by the central follow-up entity in policy-making and program management or to drive personal choices?

### *Customer Satisfaction*

Are the central follow-up entity's customers pleased with the services provided? Has the central follow-up entity established a reputation for professionalism, integrity and objectivity, dependability, expertise and customer service? Is there a process in place for constantly monitoring customer feedback and for using that information to drive continuous improvement in the follow-up entity's own operations?

### *Flexibility and Adaptability*

Is the central follow-up entity constantly scanning the horizon to anticipate changing conditions that will affect the demands and expectations it must meet? Has it accumulated sufficient authority and latitude to make necessary modifications in its own services and activities to respond quickly and effectively to changing demands and expectations?

### *Institutionalization*

Have operations moved beyond the pilot and experimental stage? Have standard operating procedures been established? Can the entity continue to operate effectively after the departure of its original champion(s) and leader(s)? Are its boundaries defined and respected? Has the entity been accepted by major stakeholding groups? Does it enjoy widespread recognition and popular support? Is its funding adequate? Is its source of funds stable and permanent?

These criteria will be explained in more detail in Chapter VII, “Does Your System Measure Up?”. The purpose of this brief introduction is to impress upon the reader that implementation of centralized and automated follow-up is not an insignificant undertaking. Each state should anticipate encountering significant barriers and obstacles.

**Step 1: each state must seriously consider whether or not it is sufficiently committed to not just toy and dabble with the idea of centralized and automated follow-up but to embrace and nurture it.**

## ENDNOTES

- <sup>1</sup> While “services,” “treatments” and “interventions” are nearly synonymous, there are subtle nuances in the terms as commonly used. A *service*, by and large, is widely offered to all qualified persons, something that individuals receive voluntarily, and over which they have some degree of choice. Education and training, for example, would be considered services because individuals are free to decline them and because they may choose among a wide range of alternatives offered by a large number of competing providers. At the other end of the spectrum are *interventions* where there are few options, few providers, and the persons who receive them may be defined very narrowly. Choices of *interventions* may be made by someone other than the recipient -- to the point where the recipient may not even have the right to decline. Incarceration, for example, would be considered an *intervention*. *Treatments* fall somewhere between *services* and *interventions*. Both the range of options and eligibility may be restricted. Choice may be limited to accepting or rejecting the actions recommended according to the expertise of the provider or a third party. Choice may be limited to selection among alternative providers all of whom offer roughly the same course of action. We commonly refer to *treatments* in the delivery of health care. Follow-up can be conducted to determine the outcomes and results of courses of action regardless of the constraints on choice, eligibility, and the number of providers.

The distinctions between *services*, *treatments*, and *interventions* may determine the uses made of outcomes data gathered through follow-up activities. A primary reason for conducting follow-up of education and training services, for example, is to improve the availability and quality of data that prospective students rely on when making informed career choices and selecting education and training options. Informed choice, however, is not a consideration in interventions imposed on convicted felons -- although follow-up data might help prison administrators determine what courses of action are most likely to reduce recidivism.

- <sup>2</sup> The co-authors use the term *tracking* in the common sense or as the dictionary might define it. Unfortunately, the term “*tracks*” once was used in education and training to describe the difference in services provided to *advanced, gifted and talented, average, physically challenged, and learning disabled* children or to differentiate secondary students who were *baccalaureate-bound* or *college-bound* from those being prepared through vocational training for immediate labor market entry. An understandable fear arose among parents, community groups, and within the education and training community that children were placed in “*tracks*” according to their race, economic status, gender, or on the basis of culturally-biased diagnostic instruments rather than according to their individual aptitudes and interests. Moreover, labels sometimes were attached to persons early in their schooling according to the *tracks* to which they were assigned. Some feared that, once children were labeled, they would not be allowed to move from one *track* to another. Placement in less prestigious *tracks* came to be associated with lowered expectations rather than adjusting the modality of instruction according to each child’s individual needs and learning style. Labels could become self-fulfilling prophecies

where, locked into a *track* with lowered expectations, children might fall behind and stay behind peers in their age cohort. While the co-authors understand how the term *tracking* took on pejorative connotations as it was linked to labeling and lowered expectations, we use the term to mean nothing more than following students during their education and training -- as opposed to “*follow-up*” which we reserve for the study of students and participants after they exit. The former is done to monitor progress from one instructional service or learning activity to another; the latter is done to identify results and outcomes achieved.

- <sup>3</sup> Education and training programs, by and large, have concentrated on process measures on the assumption that they indicate the quality of service delivery. The new paradigm of accountability primarily uses outcomes as indicators of program quality while treating assumptions made heretofore about connections between processes and desired outcomes as testable hypotheses. Conventional wisdom says that the smaller the class size or student-to-teacher ratio, the more likely it is that instructional delivery will achieve desired results. The “proof,” however, from a follow-up and accountability perspective, “is in the pudding.” Do those educated and trained in smaller classes actually achieve better results in terms of job placement rate, training-related placements, post-exit earnings, or long-term earnings gains and employment security? The ethos of follow-up demands hard data on outcomes in order to answer such questions. Process variables, in the accountability paradigm, may be used to help explain variance in outcomes achieved but are not treated as outcomes *per se*.
- <sup>4</sup> The co-authors consider the terms “*results*” and “*outcomes*” nearly interchangeable. Unfortunately, the term outcomes has been saddled with pejorative connotations. The Goals 2000 Educate America Act of 1994 listed a set of desired “outcomes” that were not accepted universally. Moreover, Goals 2000 recommended levels of federal involvement in education and training which some factions decried as micro-management and infringements upon local decision-making prerogatives. While we do not necessarily share the same opinion about the Goals 2000 Act or the criticisms leveled at it, the co-authors of this *Guide* hope to avoid being pulled unnecessarily into the political fray. Herein, we use *results* and *outcomes* in the common sense or according to traditional dictionary definitions to mean something more benign than opponents of Goals 2000 might presuppose.
- <sup>5</sup> Employer follow-up surveys can be eliminated if the data items sought therein are included in a compulsory enhanced quarterly report by employers to the Unemployment Insurance division of a state’s employment security agency.
- <sup>6</sup> See Hubert M. Blalock, Jr., *Causal Inferences in Nonexperimental Research* (New York City, NY: W.W. Norton, 1961); Louis D. Hayes and Ronald Hedlund (ed.), *The Conduct of Political Inquiry* (Englewood Cliffs, NJ: Prentice Hall, 1970) - especially Barry Anderson’s article entitled “*The Social Science Experiment*” on pages 127 through 132; and Dickenson McGaw

and George Watson *Political and Social Inquiry* (New York City, NY: John Wiley & Sons, Inc., 1976) at page 24.

- <sup>7</sup> See Marc Anderberg and R.D. Bristow, “*Career Majors in Texas Public Education*,” (Austin, TX; Texas State Occupational Information Coordinating Committee, 1996) for a review of the literature on the delayed benefits of secondary vocational education, the phenomenon of “*milling around*” in the labor market by recent high school graduates, and employers’ use of age (instead of credentials) as an indicator of maturity and work-readiness.
- <sup>8</sup> Contact information tends to decay rapidly especially among traditional high school and community colleges students (18-22) because they are more geographically mobile immediately after graduation than the rest of the population. This drives up the cost of each successive wave of traditional longitudinal survey research. Because automated follow-up relies on linkages to public administration databases rather than locating individual former participants in the cohorts studied, the decay rate of contact information is irrelevant. Success in obtaining outcomes data in wave after wave of longitudinal research thus depends not on keeping former participants’ contact information up-to-date but, rather, on the exhaustiveness of coverage by linked databases taken collectively.
- <sup>9</sup> See Richard Froeschle, Creating an Information-Based, Market-Driven Education and Workforce Development System: the Role of Labor Market and Follow-Up Information, Volume 1, Number 2 in the *Beyond the Numbers Occasional Paper Series* (Austin, TX: Texas State Occupational Information Coordinating Committee, July 1996).
- <sup>10</sup> See Marc Anderberg and Richard Froeschle, Roles and Responsibilities in a Performance Measurement System: Description, Prescription, and Policy-Making, Volume 1, Number 4 in the *Beyond the Numbers Occasional Paper Series* (Austin, TX: Texas State Occupational Information Coordinating Committee, April 1997).
- <sup>11</sup> The size of the devices needed for on-line and archival storage will depend on:
  - 1) the number of programs subject to follow-up;
  - 2) the number of former participants in those programs’ exit cohorts;
  - 3) the amount of information collected on each subject in those exit cohorts;
  - 4) the frequency and intervals at which longitudinal studies are conducted; and
  - 5) any applicable file backup, retention, and destruction procedures.

Software requirements also will vary from one state’s central follow-up entity to another (largely dependent upon the professional staff’s preferences) but most often will include:

- 1) word processor and/or desktop publishing;
- 2) database manager, data encryption software, query and report generator;
- 3) statistical package and/or spreadsheet; and
- 4) modem, local area network, and/or wide area network communications driver(s).

Other frequently used options might include project management, budget tracking, and presentation graphics software. Peripheral devices should include a high speed laser printer (and optional color-jet printer depending on the demand for presentations graphics). In addition to customary office furniture, facsimile machine and photocopier, a follow-up entity will need lockable media-storage units and an optional document shredder.

- <sup>12</sup> If an integrated approach is established from the outset to conduct follow-up on multiple programs and if staff size is limited, it may be impossible to assemble a team that collectively has intimate knowledge of all the programs, administrative agencies, and service providers. Under such circumstances, it is especially crucial to recruit staff members with sufficient backgrounds in some of the programs and demonstrated capacity to learn about the others quickly. For sample follow-up staff job postings and a general outline of the kinds of background information prospective recruits should have (or should be able to master quickly), contact Marc Anderberg at the physical address, telephone number or e-mail address in the Open Letter to the Reader (page ii of this *Guide*).

In assembling a knowledgeable staff, the follow-up entity must avoid recruiting individuals who are excessively protective of program turf and prerogatives or who are perceived as intensely partisan. As we will discuss in later chapters, the follow-up entity may well emerge as an agent of change as its data are used to drive program improvements and informed choice among customers. To be effective, staff will have to establish a collective reputation for professional detachment and objectivity. Thus, the operations and MIS units of the programs under study probably will be the best training ground for anyone applying to work for the central follow-up entity. To some extent, the need for a knowledgeable and expert staff may clash with the need to be perceived as objective and neutral. It will be the task of the follow-up entity's leadership then to help staff overcome any prior loyalties by infusing the whole operation with an ethos of dedication to sound research and professional detachment.

## NOTES

## CHAPTER II: A SYSTEMS APPROACH TO FOLLOW-UP

### Synopsis

The purpose of this chapter is to explain how follow-up fits into the big picture. To do so, the co-authors differentiate the collection and analysis of outcomes data from several other activities and services. To understand where follow-up fits, it also is important to understand what should not be expected of the lead agency. This kind of differentiation is necessary when initially implementing follow-up and defining the central entity's boundaries. By taking a systems approach to follow-up, stakeholders will be alert not only to the potential range of the central entity's functions but also to its limitations.

### Brief Introduction to Systems Theory<sup>1</sup>

In Chapter I we suggest that virtually all efforts to deliver services can be evaluated most effectively on the basis of relevant outcomes achieved by former program participants or customers. In this chapter and all subsequent ones, the co-authors focus more narrowly on follow-up for education, training, workforce development and welfare-to-work programs. Thus, the balance of this *Guide* will concentrate on follow-up as an integral part of an overall employment and training system. But first, we provide a brief introduction to Systems Theory as an analytic framework that should help explain how follow-up activities fit into the big picture of employment and training.

*We have narrowed the focus of this **Guide** primarily because our professional and personal experiences (and, thus, our insights) are limited largely to employment and training programs. This is not to say that the themes and observations herein are irrelevant to follow-up on publicly-funded programs in health care, rehabilitation and corrections, etc. or on private sector follow-up designed to improve product engineering, service delivery and customer satisfaction, etc.*

Systems Theory is a way of organizing information to help explain and predict organizational behavior. Systems Theory uses basic constructs of structure and function to illuminate relationships and processes in the social sciences. This approach breaks down complex human systems into smaller elements that are easier to observe, then explains them in terms drawn from more mathematically precise or mechanistic physical sciences.

- ***Basic terminology of Systems Theory***

All systems have *boundaries*. Everything outside a system's boundaries is called its *environment*. Many aspects of a system's external environment also may have order and purpose; they, too, may be conceptualized as separate systems. In defining a particular system, it is necessary to show how its boundaries separate it from the environment and differentiate it from other, closely related systems.

Several units inside a system may have distinct identities of their own. They may have well-ordered relationships, clearly delineated lines of authority, well-established decision rules and routine operating procedures. They may be highly visible to people in the system's external environment. Just as an understanding of a system's boundaries is important, it also is critical to identify subsystems, their roles within the larger system and how they differ from other subsystems.

Boundaries are not impermeable. Every system -- every subsystem -- is susceptible to influences from its external environment. *Stress* and *disturbances* enter from the environment and must be processed.<sup>2</sup> Four analytic constructs are used to explain how complex and purposeful interactions take place among actors in a system or between those actors and people in the external environment. The first analytic construct of Systems Theory is *inputs*. Inputs consist of *demands* and *supports* (or expectations and resources respectively).<sup>3</sup> The second concept is *conversion*. This construct deals with the way actors inside the system receive inputs, interpret them, interact with each other to evaluate inputs and weigh their alternatives. *Outputs* are the resultant decisions, behaviors or services (i.e., the outwardly observable actions of a system). The fourth construct is *feedback* which deals with the reactions of people in the external environment to consequences and impacts wrought by a system's outputs. Feedback is especially crucial in Systems Theory because -- along with new disturbances in the environment -- external reactions to a system's outputs alter the relative balance of demands and supports. Feedback, in turn, becomes another kind of input that requires a system to respond. The way it reacts to stress, disturbances and feedback shapes a system's nature and the probability that it will achieve its purpose.

### **The Employment and Training System<sup>4</sup>**

The first order of business in centralizing follow-up is to decide who's in and who's out. Answers to several filtering questions will help each state set criteria for deciding which specific programs should be served by its central follow-up entity. Which programs can be served together logically and which cannot? Which programs share a common mission? Which promise or are intended to produce similar outcomes? Which are expected to respond to the same kinds of stress and disturbances emanating from the external environment? Which coordinate their responses to mutually perceived external demands? Which programs currently exchange participant information or demonstrate effective collaboration in other ways? Which programs are required by law or regulation to show evidence of articulation? Which share resources or are tied together in a common funding stream? Which are linked closely together -- even informally -- in the public's mind?

- ***Logical considerations***

Answers will vary from one state to another. However, Florida and Texas conduct follow-up on virtually the same set of programs. That is because efforts are underway in both Florida and Texas as well as in other states to create a seamless employment and training system. All states are being encouraged to do so through federal initiatives. Recent amendments in federal legislation, for example, now bring workforce development programs funded under the Job Training Partner-

ship Act (JTPA) and programs funded under the Carl D. Perkins Vocational and Applied Technology Education Act much closer together. Federal and state legislative initiatives to create consolidated Human Resource Investment Councils and to integrate service delivery at the local level through *One-Stop* centers bring additional programs into the logical mix: Employment Services, Job Corps, Food Stamp Employment and Training (FSE&T), Adult Education, Literacy and programs funded under the Job Opportunities and Basic Services Act (JOBS). Both Texas and Florida also include inmate training in their centralized follow-up efforts.

Programs that any state chooses to serve through centralized and integrated follow-up should share a common mission -- though they may differ according to specific goals, objectives, strategies, funding streams and target populations. The mix of state and federal programs listed above seems to meet this minimal criteria for inclusion. Taken together, they constitute an employment and training system. Insofar as they share a common mission and deliver logically related services, the programs listed above can be distinguished readily from other clusters of programs such as health care delivery, transportation, public safety and national security. The boundaries of this collection of programs are defined clearly by statutes and regulations. There is a large degree of consistency from one state to the next in the connectivity among the programs listed above. Their interrelationships are set forth in conforming amendments and cross-references, legislatively or administratively-mandated collaboration and articulation, and common funding streams.<sup>5</sup> In some states, turfism may cause a few stakeholders to quibble about what should be covered by centralized follow-up, but -- by and large -- the programs listed above are perceived by taxpayers, elected public officials and prospective customers as logically related.

- ***Practical considerations***

We have presented this brief overview because the boundary or domain issue must be settled in order to reduce a follow-up entity's duties and tasks to manageable proportions.<sup>6</sup> While it might be desirable in theory to establish core performance measures and a common data collection methodology across all publicly-funded programs, there are practical limits on how far the principle of integration can be stretched. We strongly suggest starting small then cautiously and deliberately expanding a central entity's customer base and breadth of services. Grand schemes for all-inclusive follow-up should be tabled -- at least during the first few years of operation -- to avoid unnecessary confusion. Integrating and automating follow-up for a handful of employment and training programs will be a huge undertaking without trying to make the central entity all things to all people. Focus first on a logically related set of programs and serve them well.

The long-term effectiveness of a central follow-up entity depends in large part on establishing a solid reputation for customer service. An entity that is limited to doing follow-up for closely related programs is more likely to have the sharpness of focus required when reputation-building. A follow-up entity that fails to establish a solid reputation from the outset will find itself concerned constantly with its own survival. If that occurs, questions of expansion become moot. On the other hand, if it does its job well from the outset, a central follow-up entity inevitably will find

other partner agencies knocking on its door. Once a solid reputation has been established for serving the major employment and training programs, the management team can revisit the boundary and domain issues and consider expanding the lead agency's services and activities.

By taking a patient and cautious approach, the central follow-up entity will be in a better position to control the terms and conditions of its own growth. In this *Guide*, the co-authors call this slow and deliberate approach “*system building*.”

- ***Subsystems within the larger employment and training system***

The most conspicuous feature of the employment and training system is the effort to impart knowledge, skills and abilities required in the workplace (i.e., the *education and training delivery subsystem*). This particular service delivery subsystem can be divided further according to various concepts. For example, distinctions often are made:

between public sector service providers and private for-profit service providers;

between *first chance* and *second chance* programs;

by mode of delivery (e.g., classroom versus on-the-job training); and

by level of service (e.g., secondary versus postsecondary).

The second prominent element of the employment and training system is the *labor exchange subsystem*. This includes job-development activities by partner entities to get employers to post job openings with the state's employment security agency (SESA) or through publicly supported real-time forums such as *America's Job Bank* and to encourage job-seekers to use a SESA's services such as individual job-matching and referral as well as publicly-supported electronic resume repositories such as the *America's Talent Bank*. Labor exchange activities also may include job-search training for groups or on an individual basis.

Third is the *transition support subsystem* which includes efforts to help students and program participants make a successful transition into the world of work or from one job to another. Transition support includes temporary income maintenance through Unemployment Insurance (UI) and ancillary services such as life-skills training (e.g., training to prepare and stick to a household budget), substance abuse counseling, uniform and/or tools-of-the-trade purchases, child care assistance and transportation vouchers or tokens. Most of these transition support services can be provided to dislocated workers, displaced homemakers, former welfare recipients, ex-offenders and first-time labor force entrants to help them as they look for work. With the exception of UI benefits, these services also might be provided to customers for a specified period after they find work. Such supportive services often can help those who are employed keep their jobs long enough to achieve financial independence under a *Work First* model while they are weaned gradually from welfare dependency.

Education and training delivery, labor exchange and transition support are only the tip of the iceberg -- activities at the core of the employment and training system that are highly visible to people in the external environment. This system also includes other activities that may be less obvious to external observers. On the front end, policy-makers engage in *conversion* as they translate demands and supports into action plans and resource allocation decisions (herein, the *planning subsystem*). Planning activities may be nearly invisible to casual observers outside the employment and training system. Another subsystem consists of arrangements for holding service providers accountable for their performance. This *accountability subsystem* also may be relatively invisible to casual observers. Lastly, there are mechanisms for communicating information about the employment and training system to people in the external environment. These mechanisms are called the *feedback loop* or *information delivery subsystem*. A citizen will pay more or less attention to this information as his/her need for employment and training services wanes and waxes under a life-long learning model and as his/her economic security fluctuates in an increasingly volatile labor market.

***The employment and training system writ large is comprised of several distinct but overlapping subsystems: planning, education and training service delivery, labor exchange, transition support, accountability, and feedback or information delivery.***

A state's central follow-up entity probably will have no direct involvement in the three aspects of the employment and training system that are most conspicuous to external observers. Follow-up staff do not actually deliver education and training services nor do they provide transition support for participants moving into the world of work. Seldom will they meet customers of the SESA's labor exchange services face-to-face. The central entity will work at arm's length from actual customers as it gathers data about each of these functions in order to explain results achieved by participants who flow through the system. On the other hand, the lead agency's follow-up efforts will be integral to any state's accountability subsystem and -- to a lesser extent -- to the information delivery and planning subsystems.

### **The Integral Role of a Central Follow-Up Entity in the Accountability Subsystem<sup>7</sup>**

*Program accountability* is deeply rooted in and analogous to general accounting. In fact, the oldest and most rudimentary form of follow-up is the standard audit. In the private sector, an auditor's first task is to determine if a firm's financial transactions were legal and recorded properly. To remain viable, however, any business must do more than meet its legal requirements and keep accurate books. Therefore, audits in the private sector also are done to assess a company's overall productivity, its management's effectiveness, how much profit was made and what the shareholders are owed in return for their investments.

There are definite parallels between follow-up for publicly-funded programs and conventional audit practices in the private sector; there also are notable differences. Administrators of publicly-funded programs are required to keep financial records and participant files. Both sets of documents are subject to audit. Just as in the private sector, publicly-funded programs are audited to detect fiscal improprieties and monitored for technical compliance with applicable laws and regulations.<sup>8</sup> However, if public review is limited to issues of fiscal management and technical compliance, an employment and training program could fail to meet its objectives yet survive an audit so long as proper procedures were followed.<sup>9</sup> An old adage in the social science says, “What you measure is what you get.” If all you measure is accuracy and technical compliance, you may get tidy bookkeeping; you don’t necessarily get results. The problem is that publicly-funded programs are not designed to produce profits -- the yardstick by which efficiency and effectiveness are measured in the private sector. In the absence of profits, former participants’ outcomes may be construed as the currency of publicly-funded programs. Outcomes rather than profitability are the subject of performance-based audits -- the yardstick of program accountability in the employment and training system.

***Just as in the private sector, “accountability” must mean more than technical and legal compliance. “Accountability” also stands for efficiency and effectiveness.***

- ***Déjà vu***

In a sense, program administrators and follow-up staff are retracing ground that already has been covered. During the 1960s and 1970s, the Johnson Administration gave federal grants-in-aid to state and local governments to conduct a *War on Poverty* and President Nixon promoted revenue sharing through block grants as part of the *New Federalism*. *Déjà vu!* Block grant proposals were introduced in 1995-1996 by Representative William Goodling and Senator Nancy Kassenbaum for funding workforce development and related educational programs. Although the Goodling/Kassenbaum proposal did not pass, various educational and workforce development reauthorization proposals pending before the 105th Congress again envision program consolidation and funding through block grants. (See, for example H.R. 1835, the *Employment, Training and Literacy Enhancement Act of 1997*.) These proposed changes in intergovernmental fiscal arrangements and resurrection of the block grant concept have caused public servants and citizens once again to rethink the way federally-funded/state-administered programs are reviewed.

A look backward at the seminal developments in program accountability at the federal level in the 1970s can shed light on where follow-up at the state level might be headed. In particular, it is useful to examine changes in the role the General Accounting Office (GAO) assumed regarding program accountability in the early 1970s. By reviewing the GAO’s evolution, one can get a feel for the connection between closely related elements of accountability. On that basis, a state can develop criteria for drawing the boundaries of a central follow-up entity that can respond effectively to external demands while earning the support of citizens and service providers alike.

The GAO was created by the Budget and Accounting Act of 1921. Its primary function is to authenticate financial claims and demands made on or by the federal government as a necessary step in the “settling of accounts.” That is, the GAO verifies accounts and authorizes disbursements from the United States Treasury. The GAO gradually assumed increased responsibility -- particularly with passage of the Legislative Reorganization Act of 1946 -- for examining government procurement practices. Such an expansion made sense because so much more was at stake. The federal government had become one of the private sector’s biggest customers during World War II. As federal expenditures continued to grow in the post-war era, so did the opportunities and temptations for misappropriation. Therefore, the GAO performed spot audits of specific programs under suspicion at the request of Congress as a whole or at the request of Congressional subcommittees. These spot audits were seen as a means of detecting and preventing embezzlement and theft.

As grants-in-aid and revenue sharing came in vogue, Congress passed another Legislative Reorganization Act. Comptroller General Elmer Staats interpreted the 1970 Act as a call for the GAO to do “more than certify the completeness and adequacy of financial statements” submitted on federally-funded programs. Staats asserted that accountability requires a review and analysis of the results achieved by government-sponsored programs relative to their costs. During Staats’s tenure as Comptroller General, the scope of GAO reviews included:

- ☞ *fiscal accountability* which is concerned with fiscal integrity, disclosure and compliance with applicable laws and regulations;
- ☞ *managerial accountability* which deals with the economical and efficient use of personnel and resources; and
- ☞ *program accountability* which is concerned with the results or benefits being achieved and whether programs are meeting their intended objectives with due regard to costs.<sup>10</sup>

Moving from top to bottom in that list, each aspect of accountability in the public sector represents an incremental expansion of the audit function -- albeit that each is analogous to some aspect of the auditor’s role in the private sector. Each is a logical extension of the one preceding it. There is only a fine line between performing an audit to detect fraud (per *fiscal* accountability) and an effort to detect waste and inefficiency (per *managerial* accountability) and from there to a cost-benefit analysis of the results achieved (per *program* accountability).

Expansion of the GAO’s role in the 1970s was not without controversy. Each step carried the GAO’s activities further from a narrow definition of the audit function and beyond the typical auditor’s technical expertise in accountancy. Each step expanded the criteria for determining what kinds of data, documents and observations are relevant. Ironically, the materials considered relevant became more ambiguous with each step. Fiscal audits, for example, typically deal with the simple arithmetic of ledgers, the fixed and widely accepted practices of accountancy and the



The boundary issue posed for the GAO by Sharkansky in the early 1970s was never resolved formally through clarifying legislation or case law. Rather, a combination of factors led the Comptroller General to focus more on fiscal and managerial audits than on program accountability.<sup>12</sup> Successors to Comptroller General Staats continued to interpret the GAO's mission broadly to include *program* accountability but they engaged in performance audits far less frequently -- usually only at the specific request of Congress, a Congressional committee or an individual member of Congress.

Several trends and initiatives in the late 1980s and the 1990s have revived national interest in program accountability *per se*.<sup>13</sup> Taxpayers increasingly are concerned about getting their money's worth from employment and training programs.<sup>14</sup> Once again, the GAO is in the thick of things as it issues episodic but widely read reports on inefficient program management and the ineffectiveness of some in meeting their performance objectives.<sup>15</sup> Nonetheless, the GAO is not in a position to satisfy redoubled public demands that programs be held accountable. It lacks the resources to investigate every federally-funded program in sufficient depth to do much beyond assuring their fiscal integrity. At the same time, the public has grown skeptical about the capacity and objectivity of service providers to police themselves -- despite rhetoric to the contrary advocating a return to local control and site-based decision-making.<sup>16</sup>

Given renewed public demand for program accountability, the central questions as we approach the 21<sup>st</sup> Century are: 1) Who should audit program performance? 2) How often should performance audits be done? and 3) How should performance audits be conducted? Questions 2 and 3 are relatively easy to answer and are addressed in other chapters of this *Guide*. It will suffice at this point to say that program performance should be monitored as often as resources permit but no more often than the longest data collection cycle among the participating agencies' management information systems. (We call this the principle of the "*slowest common denominator*."<sup>17</sup>) Secondly, the process should be valid, reliable and cost-effective.

The hardest of the three questions by far is: "Who should audit program performance?". There probably is no single correct answer. In a federal system predicated on the principle of checks and balances, it is inevitable that several entities will presume they have the authority to review program performance.<sup>18</sup> While the GAO, the Office of Management and Budget (OMB) and the Inspectors General for various cabinet-level departments are likely to keep federal fingers in performance monitoring, state officials probably will have to play a larger role in program accountability.<sup>19</sup> In recent years, states have been granted more latitude to experiment and innovate to determine how to serve a wide variety of employment and training program customers better. (As David Osborne noted, states have become laboratories of democracy.<sup>20</sup>) With greater latitude for planning and innovation extended to the states comes greater responsibility for documenting what they accomplished in programs where federal dollars flowed through their hands.

Several entities in each state already have authority to do episodic performance audits parallel to those done by the GAO: a State Comptroller of Public Accounts; an audit division under the State Treasurer; a legislative budget board (LBB); audit and/or management information

system divisions of the respective partner agencies engaged in employment and training, etc. Their overlapping jurisdictions and the episodic nature of their reviews may result in unnecessary duplication of effort while failing to ensure that no employment and training program falls through the gaps.<sup>21</sup> Thus, unresolved boundary issues posed by Sharkansky for the GAO at the federal level in the 1970s must now be addressed by states interested in implementing integrated and centralized follow-up.

- ***Criteria drawn from the GAO experience***

The co-authors of this *Guide* share the opinion that a central follow-up entity should be created in each state. That entity should be responsible for gathering outcomes data for all employment and training programs that are funded to any extent with tax dollars (including non-public institutions and private service providers whose tuition charges and fees may be covered by federally-guaranteed student loans or state-issued vouchers). States are advised to review Sharkansky's analysis of the politics of accountability when deciding what kind of entity is best suited to monitor program performance and where that entity should be housed. Arguments for a separate, centralized follow-up entity based on efficiency, objectivity, detachment and cost-effectiveness are addressed elsewhere in this *Guide*. In this section, we focus on relevance-of-expertise as the determining factor in deciding where to house follow-up and what functions it should perform.

- ***Avoid pure accounting functions***

Of the nine GAO activities identified by Sharkansky (on page 36), the first four are clearly in the accountant's realm of expertise: verifying financial reports; approving accounting procedures; identifying expenditures that exceed or lie outside authorizations; and preventing or recovering payments made for illegal purchases.

At the state level, these functions are in the domain of a Comptroller, a Treasurer, the LBB and/or partner agencies' fiscal audit divisions. While follow-up may be housed within any of these entities along side accountants and lawyers, the GAO experience indicates that research done under the rubric of *program accountability* requires different kinds of expertise: economists, statisticians, political scientists, computer programmers, systems analysts and substantive content-area specialists.<sup>22</sup>

***Housing the central follow-up entity apart from entities that normally engage in fiscal and managerial audits does not mean that these functions have nothing in common. For example, the follow-up entity often will be called upon to help combine its outcomes data with the financial data acquired by other entities in order to address common concerns regarding returns on the investment of tax dollars in employment and training programs. Just as the accountants working for other entities may not have the expertise to gather outcomes data, follow-up staff may not have the expertise to decipher a complicated cost-allocation formula.***

The lead agency also may require a wholly different kind of ethos; that is, a follow-up entity needs to be perceived as a partner in continuous program improvement. That necessary posture might be undermined if the entity chosen to house follow-up is stereotyped with the “*I gotcha*” mentality commonly associated with those who do audits to detect fraud or to uncover legal activities. Our analogy to the GAO experience is worth mining further for additional gems of insight into the spirit or outlook a state’s central follow-up entity should adopt. According to a comprehensive review of the GAO, “The alleged emphasis on [identifying deficiencies] was for many years the underlying criticism directed at the GAO’s reviews. . . it had been felt that the degree to which staff members were able to come up with agency shortcomings had a significant bearing upon their advancement in the organization. . . [No matter how] sincere GAO executives might have been in their intention to de-emphasize the faultfinding approach, the stress on [uncovering deficiencies] was deeply inbred and resistant to significant change.”<sup>22</sup> States are advised to consider the reputation of existing entities engaged in related audit-like functions before housing follow-up activities with them. The follow-up entity needs to view partner agency or service provider inadequacies in perspective and avoid *deficiency findings* as its *raison d’ être*. The central entity should -- in research terms -- entertain the null hypothesis that any given program is working as intended until overwhelming evidence is amassed to the contrary. Staff should not turn a blind eye to any faults they uncover through follow-up nor should they assume a posture of complacency. Rather, they should assume that even the best performing program can be improved continuously if only management decisions are driven by valid and reliable outcomes data.

The presumption held by follow-up staff ought to be that local providers are driven by a *bona fide* desire to serve employment and training customers well. If substandard program performance is uncovered through analysis of outcomes data, follow-up staff should help partner agencies and service providers search for explanations in contextual variables (such as labor market conditions in the service provider’s locale and the mix of population served) or other extenuating circumstances that might explain why a program did not meet its performance standards. On the assumption that poorly performing programs can be improved and salvaged, follow-up staff should believe that the best ways they can help their partners is by: a) giving early warnings of potential problems; and b) sharing information about the best practices of programs that exceed standards.

***“Faultfinding” may be a necessary component of efforts to hold programs accountable for results. Not all poorly performing programs can or should be saved. But these activities are contrary to the spirit of helpfulness that should permeate the follow-up entity. The co-authors believe that the proper spirit of follow-up is so fundamentally different that the follow-up entity ought to be housed somewhere apart from those who engage primarily in faultfinding activities and separately from those whose primary interest is in closing or sanctioning poorly performing programs. States probably will take a two-pronged approach to program accountability (i.e., what might be described in pop culture terms as the “good cop/bad cop” approach). Of course, the co-authors of this Guide believe that a follow-up entity ought to be cast in the “good cop” role.***

### ☞ *Avoid overtly political activities*

Activities at the other end of Sharkansky's scale (i.e., initial program planning and defining the overall direction policy should take) require a special expertise that is sensitive to the needs of citizens, public opinion and the interplay of partisan politics. Responsibility for functions on the political end of Sharkansky's scale should remain in the hands of elected officials who are answerable directly to the voters. **Unless specifically asked for their opinions**, follow-up staff should not encroach on the domain and prerogatives of legislators and elected officers or policy-advisory councils in the executive branch of state government.

- *Drawing lines between collecting data, analyzing data and redressing program deficiencies*

The primary function of a central follow-up entity is to document the outcomes achieved by persons served through employment and training programs. Collection of outcomes data falls squarely within the fifth function of accountability on Sharkansky's scale (i.e., "assessing the accomplishment of administrative goals"). Outcomes are the name of the game; thus, follow-up is integral to efforts to hold service providers accountable for program performance.

This fifth function of accountability in Sharkansky's scale implies a broader range of activities than merely collecting outcomes data. Before service providers can be held accountable, they must be made aware of the outcomes their customers are expected to achieve. That means someone has to set and disseminate information about performance standards. Next, outcomes data must be compared to performance standards to determine if a program's former participants did achieve desired results. This is called "*program evaluation*." Last, but certainly not least, accountability implies that mechanisms are in place to redress every detected failure or substandard performance. For example, the fourth function of accountability identified by Sharkansky (i.e., preventing or recovering payments for disallowed costs) is the means of redressing illegal procurement found during a *fiscal* audit. Corrective action plans, sanctions (such as forced reorganization) and closure are some of the common means of redress in *program* accountability. They are the functional equivalents of restitution in *fiscal* accountability.

Each state must decide what services (if any) the central follow-up entity should provide beyond data collection. Should it merely collect data then pass them to other entities to use in their program evaluations? Each state also must decide what authority the follow-up entity should have for redressing program shortcomings and failures. That is, how deeply involved should the central follow-up entity be (if at all) in setting performance standards for the programs it studies? What role should the lead agency have (if any) for closing programs, imposing sanctions, devising corrective action plans and/or determining how to reward programs with bonus and incentive dollars? Lastly, follow-up will be caught up in an even larger question. Some will ask if it is even possible to structure a follow-up entity (or any entity at the state level) with the political will and/or political clout to confront well-entrenched local service providers and actually deactivate their programs or cut their funding if they perform poorly?

A state might limit its central follow-up entity's activities to data collection and release of non-evaluative/non-judgmental, descriptive reports. That is, the central follow-up entity's role in the accountability subsystem might culminate in generating descriptive statistics without rendering evaluative judgments about program outcomes. In Texas, for example, the follow-up entity gathers outcomes data then describes what happened to former students and program participants only in terms of post-exit employment rates, average earnings, transfer rates into postsecondary education and training, etc. -- without indicating whether or not any given program met applicable performance standards. The central follow-up entity in Texas refrains from classifying outcomes as "successful" or "unsuccessful" (e.g., former program participants are listed only as "located" or "not located" via automated record linkages).

Evaluations, *per se*, in Texas are the responsibility of various policy-advisory councils, the Legislative Budget Board, partner state agencies and the State Comptroller. Those other entities have the authority in Texas -- both *de jure* and *de facto* -- as well as the political will and clout to redress problems detected through program follow-up. Those entities set and enforce standards, allocate resources, award bonus and incentive dollars, devise corrective action plans and sanctions, reorganize or deactivate poorly performing programs. The central follow-up entity in Texas lacks authority in all of these areas. It merely provides the data that drive policy without getting drawn into the politics of decision-making.<sup>24</sup>

Florida's central entity, on the other hand, may be thrust further into the arena where poor program performance is redressed. The Florida legislature recently passed an act that ties vocational education and training funds directly to service provider performance.<sup>25</sup> Under such legislation, Florida's lead agency will be asked to engage in activities comparable to the seventh accountability function identified by Sharkansy (i.e., "advising policy-makers about program accomplishments as part of their concern with reauthorization or reappropriations for existing programs"). That makes follow-up in Florida more of a high-stakes game than it currently is in Texas.

- ***Anticipate unintended consequences***

As performance-based funding is implemented in Florida and other states, some programs that prospered under enrollment-driven funding formulae may find their dollars reduced significantly.<sup>26</sup> On the other hand, programs that perform well despite being under-budgeted may realize dramatic funding increases under a revised formula. While the intent of performance-based funding is to hold vocational education and training providers accountable for serving the career development needs of student and adult learners, service providers are apt to perceive themselves either as "winners" or "losers" under any new formula for allocating dollars. (To paraphrase an old axiom from the social sciences, "It's a matter of whose ox is being gored.") Some service providers will respond by discontinuing poorly performing programs voluntarily. Others may take corrective action on their own to improve program performance. However, every state that switches from enrollment-driven to performance-based funding should expect that service providers who perceive themselves on the losing end may search for a convenient scapegoat.

The question eventual boils down to this: “Who will take the heat?”. Legislators commonly pack their bags and leave town after each session. Administrators and executive officers in charge of allocating vocational dollars can assert correctly that their hands are tied by an allocation formula set by the legislature. By default and because of its visibility, an entity that gathers outcomes data (namely the lead follow-up agency) may be the lightning rod for protests against changes wrought by the adoption of performance-based funding. The amount of heat a follow-up entity is likely to take depends on how its role in the accountability subsystem is defined. (See Table II.)

**Table II**  
**The Connection Between a Follow-Up Entity’s Role in the Accountability Subsystem and the Likely Reactions of Service Providers**

<b>Alternative Scenarios</b>	<b>Likely Service Provider Reaction</b>
<i><b>Scenario #1:</b></i> The follow-up entity is limited to publishing descriptive statistics without issuing evaluative findings or judgments while partner agencies and other stakeholding groups actually evaluate programs, allocate resources and terminate or sanction poorly performing programs (acting wholly or in part on the basis of outcomes data provided by the follow-up entity).	If a program’s performance descriptions are disputed, the service provider is likely to engage in supplemental follow-up to fill gaps in the data collected by the central entity. The service provider would then introduce evidence from its own supplemental follow-up to entities which actually evaluate programs, allocate resources and close or sanction programs.
<i><b>Scenario #2:</b></i> The follow-up entity is responsible for not only describing program outcomes but also for evaluating programs and publishing findings regarding program performance relative to applicable standards.	Service providers are apt to lobby the central follow-up entity to change its evaluations of poorly performing/substandard programs based on outcomes data it gathered through supplemental follow-up.
<i><b>Scenario #3:</b></i> The follow-up entity participates <u>directly</u> with partner agencies in allocating funds on the basis of the outcomes data it collects and analyzes.	Service providers whose poorly performing programs face budget cuts or termination may use administrative processes to dispute the central entity’s data collection and analysis methods.
<i><b>Scenario #4:</b></i> The follow-up entity participates <u>directly</u> with partner agencies in closing or imposing sanctions against poorly performing or substandard programs.	The central follow-up entity may have to justify its data collection procedures and analytic methods as well as its involvement in and authority for policy-making should a service provider elect to litigate over issues of program closure and/or sanctions.

In sum, other states may choose to give their central follow-up entities varying degrees of responsibility in the accountability subsystem for interpreting follow-up data and acting on their analysis to redress poorly performing programs. In part, this decision may depend on whether or not the lead follow-up agency or some other entity (if any) in the state has sufficient political will and clout to put real teeth into the principle of program accountability. In part, this decision may depend on the expertise of the individuals who initially staff the central follow-up entity. Follow-up staff undoubtedly will have the knowledge, skills and ability to go beyond descriptive statistical analysis. They may be fully qualified to render evaluative judgments if given standards by partner agencies to apply to the results they uncover. As policy-makers contemplate the reauthorization and reappropriation of existing programs, they may have sufficient regard for the expertise and reputation of follow-up staff to ask them to rank-order service providers or classify specific programs as meeting, exceeding or failing applicable performance standards.

We strongly recommend, however, that the follow-up entity should not be responsible for directly redressing problems through enforcing standards, allocating resources, devising corrective action plans or sanctioning poorly performing programs. The lead agency should not even be involved directly in awarding bonus and incentive dollars because to do so may cause hard feelings among those who were not rewarded. Such activities might put the follow-up entity in an adversarial role *vis a vis* the partner agencies and service providers on whom it depends for former participants' seed records. In short, a follow-up entity can be insulated from combative relationships with partners agencies and service providers if its role in the accountability subsystem is limited (as in either Scenario #1 or Scenario #2) to handing off outcomes information to other parties who, in turn, allocate resources or impose sanctions.

- ***Additional responsibilities in the accountability subsystem that may be assigned to the central follow-up entity by default***

On page 40 of this *Guide*, we advise follow-up staff against encroaching on the prerogatives of elected officials and policy-advisory councils. A central follow-up entity should not get involved in initial program planning, setting program performance standards and determining the overall direction policy should take. Nonetheless, a central follow-up entity may be drawn by default into grey areas between searching for legislative intent and policy-making. In particular, the lead agency may be called upon to “operationally define program goals for the purposes of systems analysis and assessment of accomplishments” (i.e., the sixth function of accountability identified by Sharkansky -- p. 36). While it is within the purview of elected officials and advisory councils to decide conceptually what should be measured, politicians and blue-ribbon panels are prone to describe desired outcomes in sweeping and catchy terms that “play well in Peoria.” They may express their intentions broadly and in non-technical terms that the average voter can understand and appreciate. Meanwhile, they may leave it to others to sweat the details -- such as actually deciding how to measure performance.

We underlined the word “*operationally*” in the paragraph above to emphasize the narrow latitude that legitimately might be given to a central follow-up entity. This usage connotes that the lead agency will take its cues from high level policy-makers regarding what to measure. However, it assumes that authority inevitably will be delegated to follow-up staff expressly or implicitly -- by necessity or by default -- to determine precisely: what indicators are most valid and reliable; what units of analysis will balance usefulness and cost-effectiveness; what sources can be tapped efficiently for relevant data; and what timeframe will prove most practical. As the litany above indicates, operationalizing broad expectations is a technical function that follow-up staff may be better suited to do because of their training in empirical research methods and their intimate knowledge of the contents of partner agencies’ management information systems.

As a state sets up its central follow-up entity, it will see wide variance in the degree to which desired outcomes have been defined operationally for its employment and training programs. A state’s JTPA program, for example, probably will have well-defined performance measures and a well-developed traditional survey method for collecting outcomes data. That is because the U.S. Secretary of Labor is required by statute and regulation to specify the minimum performance measures each state must address in its annual Standard Program Information Report (*SPIR*) as a condition of receiving funds under Titles IIA and III.<sup>27</sup> Operational definitions of performance measures used by community and technical colleges also may be specified fully because public postsecondary institutions are required to report student outcomes under Perkins and Student Right-to-Know legislation as well as under guidelines issued by regional accreditation boards.

On the other hand, a central follow-up entity may need to take a proactive role in operationally defining the way desired outcomes will be measured for some of the programs it studies. Heretofore in Texas, for example, performance measures for Adult Education have been overly broad and ill-defined.<sup>28</sup> Under a legislative mandate to conduct follow-up on behalf of Adult Education in Program Year 1995-1996, the Texas SOICC had to act on its own to interpret what outcomes adult learners are expected to achieve. The officially announced objectives of Adult Education in Texas offer little guidance. See, for example, the language below taken directly from the state’s master plan for Adult Education:

☞ **Outcome:** *Adult learners [should be able to] demonstrate increased proficiency in the academic skills needed to enter the workforce and/or progress in the high performance workplace of the 21<sup>st</sup> Century.*

**Measure:** *Assessment demonstrates student progress toward collaboratively defined workforce proficiencies.*

☞ **Outcome:** *Adult learners [should be able to] demonstrate improved capacity to participate responsibly and productively as lifelong learners.*

**Measure:** *Assessment demonstrates student progress toward collaboratively defined real world competencies.*

Nowhere in any official publication could Texas's central follow-up entity find operational definitions for several key terms such as "*high performance workplace*" or "*real world competencies*." Nor has anyone at the state level decided precisely who should be involved in "*collaboratively defining*" these terms. Although research has been funded by the National Skills Standards Board (NSSB) and the Texas Skills Standards Board, these efforts have not yet resulted in a definitive list of "*academic skills needed to enter the workforce*." Follow-up staff could not find an authoritative list of "*workforce proficiencies*."

In the absence of clear operational definitions, Texas's lead agency gathered the same kind of outcomes data for Adult Education as it did for the other programs it studied. Although staff could not determine if former Adult Education students were employed in "*high performance workplaces*," standard record linkage techniques could be used to determine if they were employed and how much they earned per quarter. These data could be treated as crude indicators that adult learners had acquired suitable "*workforce proficiencies*" and necessary "*academic skills to enter the workforce*" without staff getting caught up in constructing and validating skill-assessment instruments. Staff also avoided the fruitless and thankless task of determining what might constitute "*responsible and productive*" participation in lifelong learning. Standard record linkages already at the central follow-up entity's disposal also could be used to determine which former Adult Education students passed the GED exam and subsequently sought additional education and training at public postsecondary institutions.

The Texas experience is not unique. Although the National Literacy Act of 1991 (NLA) requires states to submit a detailed plan -- including what it intends to use as Indicators of Program Quality for evaluating adult education programs, this authorizing legislation does not provide any precise criteria to federal officials for determining the adequacy of a state's proposed *quality indicators*. Thus, desired outcomes for Adult Education across the nation seldom are defined operationally. The ambiguous descriptions of desired outcomes and ill-defined measures for Adult Education in Texas were sufficient to survive scrutiny by the U.S. Department of Education.

Prominent groups of practitioners -- including the Institute for the Study of Adult Literacy at Penn State University and the National Institute for Literacy (NIFL) -- admit that there are problems with the operational definitions of desired Adult Education outcomes. In the words of Andy Hartman, Executive Director of the NIFL, "A system that cannot assess its own progress cannot improve itself and we cannot measure progress without first agreeing on what we are trying to achieve."<sup>29</sup> But at this point, stakeholders in the Adult Education community are still studying the problem. A National Adult Literacy Survey (the NALS) and several parallel state surveys have been conducted to establish benchmarks and to stimulate "coherent discussion of appropriate assessment strategies." As of this writing, however, Adult Education stakeholders have not achieved consensus. At best, definitive steps are promised in the near future. For example, the NIFL's timetable indicates that in the summer of 1997 it will begin "develop[ing] performance indicators that translate . . . into a clear set of results for adult literacy."

Legislators appear to be impatient with on-going studies and pleas that they not micro-

manage Adult Education.<sup>30</sup> Congress is unlikely to wait patiently for the Adult Education community to complete on-going studies. On behalf of the voters and taxpayers, they demand immediate accountability and seem inclined to base judgments on the best available evidence. If the bill proposed by Representatives McKeon and Kildee to reauthorize Adult Education is passed by the 105<sup>th</sup> Congress, language therein will endorse a pragmatic approach much like that taken by Texas's central follow-up entity. House Resolution 1385 would require Adult Education programs to document "placement or retention in or completion of postsecondary education, training or employment" as core performance indicators. Thus, while practitioners continue to study the situation, construct and validate tools to assess relevant learning gains, and strive for collegial consensus, state follow-up entities across the nation may be given the green light by Congress to look at labor market outcomes and pursuit of postsecondary education and training as crude indicators of preparedness achieved by former Adult Education students.

While it would be preferable for partner agencies to hand over clear definitions of desired outcomes and well-developed performance measures to guide a central follow-up entity's collection of outcomes data, it appears that staff may have to supply operational definitions in the interim for some programs they are required to follow. While we have used examples from Adult Education to illustrate our point, be advised that other programs participating in centralized follow-up also may lack adequate operational definitions of their desired outcomes.

This is especially likely to be the case for any program in the first few years after the implementation of systemic reform such as welfare-to-work, school-to-work, etc.<sup>31</sup> No matter how well-meaning its authors, nearly every piece of reform-minded legislation:

- a) documents poor results achieved by old ways of delivering a service; then
- b) rallies the troops to innovate and experiment;
- c) demands swift results -- all without fully specifying desired outcomes; and
- d) leaves it to entities downstream to figure out how to achieve results.

Most reforms must go through several reiterations before arguments can be settled regarding what reasonably can be expected and how those expectations can be quantified.<sup>32</sup> The more sweeping the reform, the longer it takes for the dust to settle.

It is inevitable that each state's lead agency will be handed the task of conducting follow-up on well-meaning programs before they are fully fleshed out. Follow-up staff, therefore, must walk a fine line between "discovering legislative intent" and making policy in a vacuum. Hopefully, decisive action by Congress, state legislatures, partner agencies and service providers will relieve follow-up entities of the need to operationally define key terms before they can get down to business. But until others take decisive action, follow-up entities will probably continue to perform this essential function by default.

## Subsystem Interactions and Constraints

Subsystems within the employment and training system are interdependent. Decisions made in one realm constrict the parameters for decision-making and action in every connected subsystem. A state will design its central follow-up entity first and foremost as an instrument of program accountability but the boundaries and limits it draws around the lead agency's primary role will constrain its options in other domains. For example, a central follow-up entity's ability to contribute to the strategic planning process and to deliver information to people in the external environment through the feedback loop will be affected by the role it is assigned in the accountability subsystem. Keep the idea of interactions and constraints in mind as we describe the additional functions a lead agency might fulfill in the subsystems listed below. Be advised that some options for participating in strategic planning and information delivery may be eliminated by virtue of more fundamental decisions made regarding a central entity's role in program accountability.

### Follow-Up as Part of the Information Delivery Subsystem or Feedback Loop<sup>33</sup>

People in the employment and training system's external environment (taxpayers, potential customers, prospective students, economic development specialists, etc.) need to be informed. Before they can react rationally to the employment and training system, they must know what happened as a result of decisions that were made and the services that were delivered to prior cohorts.

To meet the information needs of its citizens and policy-makers, each state must decide for itself how much responsibility to give the central entity for disseminating outcomes data:

- under what authority
- how authoritatively
- to whom
- in what format(s) and
- through what channel(s).

In defining the follow-up entity's role in information delivery, each state must take into consideration the needs of its target audience(s) as well as the nature of its competition.

- ***Implications of official recognition (or lack of official recognition)***

In Florida, the central entity publishes reports and makes them public. In fact, Florida law stipulates that while education and training providers have the option of publishing results from their own supplemental follow-up, they must reference the FETPIP's reports as official and authoritative along side their own unofficial studies. In short, the legislature intentionally thrust Florida's follow-up entity into a prominent role in the information delivery subsystem by giving it a preemptive status.

In Texas, follow-up reports issued by the central entity have not yet been declared “official” by the state legislature. Its reports have priority status with regard to other parties who release information that competes for public attention. For now, each entity that provides employment and training services in Texas is allowed to generate its own performance reports based on outcomes data gathered by the central follow-up entity in combination (at the service provider’s discretion) with any **auditable and verifiable** data gathered *via* its own supplemental follow-up. Service providers also are allowed to make claims about their program performance in separate marketing materials without reference to any data whatsoever from Texas’s central follow-up entity. In fact, where neither the results of automated follow-up nor their own supplemental follow-up indicate a high probability of successful outcomes, some service providers in Texas still base their recruitment literature on anecdotal information about the stellar (but non-representative) achievements of individual former participants.

*Whereas Florida law stipulates that its central follow-up entity’s data are official and definitive, Texas permits service providers to mix data gathered by the follow-up entity with the results of their own supplemental data collection efforts. The key in Texas is that data gathered through supplemental follow-up efforts are subject to audit and verification before they can be mixed with the lead agency’s data. This seemingly subtle difference has vast implications for the roles of the two states’ central follow-up entities regarding information delivery.*

- ***Other ways of ensuring that outcomes data are used to facilitate informed choice in policy-making and individual decision-making***

Because it has no legislatively-created advantage in competing for public attention, Texas’s central follow-up entity takes a different approach than does Florida’s lead agency. Given that it is older and its role in information delivery is defined by explicit legislative mandate, Florida’s central follow-up entity produces highly standardized reports. Texas, on the other hand, continues to experiment with a variety of report formats in an effort to determine which will be most effective in getting stakeholders to use outcomes data **voluntarily** to drive policy-making and personal choices. As the Texas follow-up entity matures and as employment and training professionals come to appreciate the value of valid and reliable outcomes data, the weight and importance accorded its reports grows by custom and usage. Nonetheless, service providers in Texas, for now, are not required to go public with the information gathered on their behalf and delivered to them by the state’s central follow-up entity.

This does not mean that reports by Texas’s central follow-up entity are ignored in official circles. Without the express backing of its legislature, the central follow-up entity in Texas must rely on other ways to ensure that valuable follow-up information gets into the hands of policymakers and individuals making personal choices. Taking a direct route, the lead agency publishes and distributes a limited number of copies of its annual reports that describe program outcomes in very broad terms. Distribution of these final reports is limited largely to service providers,

legislators, policy-advisory councils and partner agencies at the state and substate level. Printed copies of the central follow-up entity's annual reports are made available to the public through the Texas State Library System and the national archives maintained by the Ohio State University's Education Department (called ERIC).

In addition to direct deliveries to policy-makers and service providers and general public release of its reports, Texas's central follow-up entity is developing an automated Consumer Report System (CRS). The CRS will deliver service providers' performance history data directly to prospective customers in user-friendly formats to facilitate fair and meaningful comparisons and to promote informed choice. The first version of the CRS was developed for stand-alone computers and local area networks and is being installed in *One-Stop* centers across the state. A second version will be developed for the InterNet to make outcomes-based performance data more universally available.

Thus, service providers in Texas are not totally at liberty to publish whatever they please about their own outcomes-based performance. Knowing that the lead agency disseminates outcomes data and service provider performance information widely -- especially to prospective students and adult learners, service providers understand that their own reports would be challenged publicly if the information they release differs significantly from the results of automated follow-up. Knowing that informed consumers may vote with their feet, service providers try diligently to correct problems uncovered *via* follow-up even though findings reported by Texas's central entity compete with the service providers' own reports for public attention without the advantage of being labeled "official."

- ***Implications of targeting different audiences through the information delivery subsystem***

The primary audience of the Texas follow-up entity's information delivery efforts differ from those primarily targeted by Florida's lead agency. Policy-makers constitute the primary target audience for reports generated by Florida's lead agency. The Texas follow-up entity's primary target audience consists of prospective students and adult learners, dislocated workers and welfare-to-work program participants. While Florida's policy-makers are presumed capable of interpreting information in statistical and tabular formats, the primary target audiences for follow-up information in Texas are less likely to be statistically literate or to have a sophisticated understanding of the broader issues that can be addressed with follow-up data. Moreover, the primary audience in Texas will access follow-up information directly *via* the Inter-Net or in self-directed mode in a *One-Stop* center's resource room. Therefore, a great deal of attention is paid in Texas to developing multiple presentation formats to address a few simple, commonly asked questions in ways that are suited to a wide variety of learning styles and lower levels of statistical literacy. By contrast, the role of Florida's lead agency in information delivery is more focused on developing a wide variety of very sophisticated and in-depth statistical applications to answer the kinds of questions policy-makers are more likely to ask.

This is not to say that Florida ignores the needs of prospective students, welfare-to-work clients and workforce development program participants nor does Texas ignore the needs of state and substate planners, program administrators or service providers. Rather the Texas and Florida state legislatures have dictated that their respective follow-up entities use different strategies to ensure that outcomes data are used to drive rational decision-making. These differences in information delivery roles are accentuated by the fact that Florida's central follow-up entity is housed in that state's Department of Education while Texas's follow-up unit is operated by the State Occupational Information Coordinating Committee. The former has well-established channels for communicating information to policy-makers and service providers; the later is more deeply involved in disseminating information directly to prospective students, workforce development program participants, welfare-to-work clients and intermediaries in counseling and case management.

Any other state that adopts a centralized and automated approach to follow-up probably will emphasize delivery of information to a specific customer group from the outset. If states follow our suggestion (p. 31), each new central follow-up entity will not attempt to be all things to all people. Rather, each will have a particular focus or emphasis that is determined largely according to: a) which group of stakeholders was first to promote or provide start-up dollars for centralized and automated follow-up; b) where the central follow-up entity is first housed;<sup>34</sup> and c) the degree to which the reports it issues are accorded official legislative recognition. After an initial start-up period, a state's central entity gradually will diversify the audience(s) it targets for information delivery. Meanwhile, it probably will continue to improve the sophistication of its reports and vehicles for delivering follow-up information to its first group of customers. In short, what the state's central entity chooses or is required to do first probably will remain its forte and the hallmark of its public perception until it has matured fully as an institution. For several years, then, the central entity may be perceived by people in the external environment as concentrating its efforts to deliver follow-up information to one particular type of customer -- even as management and staff make conscientious attempts to serve other customer groups equally well.

Judging only on the basis of the way outcomes data are packaged and delivered, an outside observer would assume that there are vast differences between the central follow-up entities in Florida and Texas. In truth, these differences are rather trivial -- simply matters of emphasis. Both entities were conceived to play virtually the same role in their respective state's accountability subsystems. Therefore, on a day-to-day basis, the two entities function in remarkably similar ways. Any major differences will be found only at the margins where the two entities are involved to varying degrees in their respective state's planning and information delivery subsystems -- secondary functions which, by and large, are derivative and incidental to their common primary function.

The co-authors of this *Guide* see diversity of emphases among all follow-up entities as advantageous. In effect, it creates an informal division of labor. Each state's lead agency can concentrate its development efforts along the lines of its forte and, thereby, establish a best practice model that it can share with other states. The various lead agencies should enter into voluntary

reciprocal arrangements. So long as their respective states' lead agencies share ideas with each other, states are spared from reinventing the wheel and duplicating the efforts of other states working to establish best practices in their particular niches.

Florida, for example, generously shared its policy-maker oriented applications with Texas; Texas eagerly adopted and adapted many of them. Texas will reciprocate by making the shell of its customer-oriented CRS available to Florida and other states. Meanwhile, Oregon's Shared Information System (SIS) is developing a "mobility continuum"<sup>35</sup> to identify the relative contributions of each service in the mix provided to welfare clients with multiple barriers that qualify them for participation in several employment and training programs. Florida and Texas anxiously await the chance to feast on the fruits of Oregon's efforts.

### **The Role of Follow-Up in the Planning Subsystem<sup>36</sup>**

Data on program performance and former program participants' outcomes may be of great value to planners in the employment and training system -- for both long-range, strategic purposes and for effectively targeting delivery of services to eligible participants in the near-term. Participation in the planning process by follow-up staff again will depend on: a) where the central entity is housed; b) previous decisions about the central entity's other roles in the accountability and information delivery subsystems; and c) the degree to which a state's strategic and operational planning guidelines are data-driven.

- ***Data-driven planning***

Planning means formulating a course of action in an orderly fashion to achieve desired outcomes at some point in the future. The conversion process in the employment and training system consists of two types of planning. *Operational planning* means deciding how to deliver services to eligible customer groups in the near future. *Strategic planning* involves anticipating who will need services and what kind of services they will need in the long run. These two types of planning also are distinguished according to latitude given planners and the scope of the issues they address.

The *near future* horizon for operational planning usually is construed to mean "during the current program or fiscal year" or "only so far into the future as funds have, in theory, been authorized -- even if those funds have not yet be appropriated." Since many federal programs are budgeted on a biennial cycle, operational plans may set a course of action for two years in advance. Plans for the second year of the biennium may consist of a straight-line extension of the first year's plan with contingency statements primarily hedged on the anticipation that funding will be provided at the current or promised level.

Operational planners work within established parameters of: 1) existing eligibility criteria that define which customers must be served; 2) the current repertoire of services; and 3) known

budgetary constraints. Operational planning focuses on: “who can we afford to provide what services, when?”.

Strategic planning usually looks beyond the period for which funds already have been budgeted. *Moreover*, strategic planners are not necessarily constrained by existing parameters. They may anticipate changes in eligibility criteria and concomitant changes in customers’ needs and expectations. The existing repertoire of services might not address the needs of new customers or the changing needs of existing customers; therefore, strategic planners are given more latitude to think about adding, deleting and revising the services to be offered. To some extent, they also are free to think about ideal courses of action as if money is no object, calculate the likely costs then back into a proposed budget.

Strategic planning also embraces broader issues. How can capacity be built to serve more customers? How can current requirements be waived or revised so we can experiment with innovative suggestions for providing customers better services? How can our services be coordinated with the services of partner agencies so we can avoid duplication of effort while ensuring that none of our mutual customers fall through the cracks?

Whether for strategic or operational purposes, planning a course of action for the future must be done in an orderly fashion. Unfortunately, much of what purports to be planning consists of speculation and conjecture -- known euphemistically as “scientific wild ass guessing” (SWAG). In other cases, well-entrenched service providers muscle their way through the planning process to ensure that funds continue to flow to them without being tied directly to any definitive course of action -- much less to prescribed outcomes or rigorous performance measurement. In still other cases, plans amount to wishful thinking. Some employment and training professionals, for example, have issued high-sounding and well-meaning “plans” akin to the tag line in a popular movie, *The Field of Dreams*: build a highly skilled workforce and they will come; i.e., employers will create new high-wage jobs to utilize the knowledge, skills and abilities you impart. The problem is that wishful thinking rests on untested assumptions and “plans” based thereon often express desired outcomes without providing a coherent course of action to achieve them.

Given that all data - by their very nature - describe past events or conditions, how can they be used to drive plans for any point in the future, near-term or long-range? The use of hard data allows us to proceed in an orderly fashion, to engage in educated guessing. Historic data in time-series are used to identify broad trends and to build empirical models inductively that explain what happened in the past. A planner devising a course of action for the future can begin by extrapolating from current trends. (“*All other things being equal, here is what is most likely to happen.*”) Our models tell us deductively where to look for change factors<sup>37</sup> and interaction effects among multiple trends. For example, we can plot the aging of the Baby-Boomers and we know where most members of that generation are employed currently. Then we can use extrapolations of about retirements and worker mortality to make reasonable forecasts about the different impacts these factors will have on various sectors of the economy and in specific occupational clusters. Laying these data-driven analyses along side trend lines that extrapolate occupationally-specific

demand growth and turnover rates into the future, we can refine our forecasts about the labor market's need for replacement workers as well as net changes in occupational employment. Lastly, we can simulate alternative futures by inserting hypothetical data on change factors into *what/if* adjustments to forecasts derived from our original empirical models. By combining these data-driven techniques, our educated guesses usually can be expressed in terms of defensible forecasts at an acceptable level of confidence (i.e., within a reasonable margin of error).<sup>38</sup>

The difference between planning as educated guessing and SWAG-style planning is that a conscientious effort is made in the former to: 1) identify one's underlying assumptions; 2) specify the confidence interval or error term; and 3) continuously improve one's model to reduce the error term and increase everyone's confidence in the resultant forecasts. Any improvement in our knowledge and understanding of past events, present conditions and change factors should result in a proportionate reduction of error in our forecasting and planning models. The accuracy of our knowledge and the depth of our understanding hinge on data issues. Accuracy can be increased in part by imposing tighter quality controls on the variables being collected pursuant to the model currently in use. Our depth of understanding can be enhanced by testing the underlying assumptions and subsequently refining our models to include variables that prove to be more pertinent<sup>40</sup> or by using more discriminating units of measure for some of the variables.<sup>41</sup>

- ***Effectively targeting the delivery of services***

Planners are required to use labor market information (LMI) in targeting the delivery of federally-funded/state-administered employment and training services in each substate region for optimal effect. The object is to create a better match between the supply of appropriately trained workers and occupational employment demand. In the 1960s, the Manpower Development and Training Act (MDTA) called for the use of "*information regarding reasonable prospects of employment in the community and elsewhere. . . in providing vocational guidance and counseling to students and prospective students in determining the occupations for which persons are to be trained.*" As MDTA was replaced in turn by CETA and JTPA, similar requirements have been carried over from one program to the next. Now, according to §141(d)(1) of the Job Training Partnership Act,

*"Training provided with funds made available under this Act shall be only for occupations for which there is a demand in the area served or in another area to which the participant is willing to relocate, and consideration in the selection of training programs may be given to training in occupations determined to be in sectors of the economy which have a high potential for sustained economic growth."*

Provisions in §125(b)(1) of that Act imply that education and training programs funded with Perkins dollars should be responsive to the same occupational employment demand projections that are done for JTPA planning purposes. Even in programs where participants receive no education and training services (e.g., in the labor exchange operated by a state's employment security agency), sound forecasts of labor market demands help job-developers determine which

employer profile and in which sectors of the economy are employers most likely to have job openings. To that end, §125(b)(1) of the Act requires that the JTPA system and programs operated with Wagner-Pyser funds should work from the same labor market forecasts.

To help states meet their requirements for targeting the delivery of JTPA, Perkins and Wagner-Pyser services effectively, federal funds are allocated each year for: collecting relevant data; infusing those data into forecasting and planning models; conducting research and pilot projects designed to improve those models; automating and distributing the forecasting model; and rendering technical assistance to states to encourage them, to the extent possible, to standardize their efforts to estimate future training supply and occupational employment demand. Many of the core data elements used in a standardized approach to labor market forecasting are collected through joint federal-state initiatives overseen by the Bureau of Labor Statistics under authority delegated to it by the Secretary of Labor pursuant to §462(a) and §462(c)(3) of the JTPA.

The core data elements have been organized by the NOICC into a common file structure called the Occupational Labor Market Information Database (OLMID).<sup>42</sup> The NOICC-SOICC network distributes components of that database to the states along with an application layer (the Micro-OIS) designed for use by program administrators and planners. Some states have refined the Micro-OIS application layer and have added data elements to a new ALMIS-D to improve their forecasting and planning capabilities. Other states have developed their own automated LMI tools.

Whether using the Micro-OIS, a derivative of the Micro-OIS or comparable tools of their own, most states work from a common model for forecasting labor market demands and planning the delivery of employment and training services.<sup>43 44</sup> The model uses a logical succession of filters to target areas of occupational employment demand that should be addressed according to current employment and training system guidelines. First, using time-series data on multiple indicators, the approach rank-orders segments of the economy according to their probability of exhibiting sustained demand growth. The next filter is applied to each industry that is likely to meet or exceed an employment demand growth threshold set by the user according to planning guidelines. In the second filter, an industry-to-occupation crosswalk (the SIC-to-OES matrix) is used to identify staffing-patterns in these growth industries. Occupations with significant employment in growth industries are passed through the next filter. In the third stage, occupations are ranked according to prevailing statewide wages and other characteristics.<sup>45</sup> The model filters out those occupations which are unlikely to pay enough to allow caretakers to support their families at or above a particular level of economic security identified by the user according to the guidelines for the particular program being planned.<sup>46</sup> Next, the model eliminates occupations for which education and training requirements exceed the upper threshold of the program being planned.<sup>47</sup> Jobs which can be performed on the basis of a simple demonstration or less than one month of specific vocational preparation also are eliminated on the assumption that clients can obtain employment in low-skill occupations without receiving education and training at public expense.<sup>48</sup> Lastly, the model uses the State Training Inventory (STI) to identify which institutions in a particular planning region purport to offer education and training related to the occupations that make it to the target list.

Follow-up data can be used to improve this basic labor market forecasting and planning model chiefly because the unit of analysis therein is the individual rather than county, region or state. Moreover, follow-up efforts focus on recent exit cohorts from specific employment and training programs rather than on the universe of workers or job-seekers.

- ☞ In forecasting which segments of the economy will exhibit sustained employment demand growth, the most commonly used planning model does not differentiate between the industrial employment of senior incumbent workers and those who recently exited education and training programs. While that lack of differentiation may be acceptable for forecasting labor market activities in general, a model intended for use in targeting the delivery of education and training services ought to include data on and assign more weight to labor market experiences of individuals who exited the pipeline recently. Their experiences are more relevant to the outcomes likely to be achieved by subsequent exit cohorts than are experiences of senior incumbent workers. The point is that curriculum development (or revision) must respond to current and future employment demands as indicated by the job placements of recent exit cohorts rather than to circumstances that prevailed at a time further in the past when senior incumbent workers first obtained employment or conditions they faced over the years as they advanced up an industry career ladder. Follow-up data on the industry of placement for recent exit cohorts can be used as an additional variable in the forecasting model and can be assigned more or less weight depending on the mission and eligible customer base of the program being planned.
- ☞ The SIC-to-OES staffing-pattern matrix also is based on state-level data which combines the experiences of senior incumbent workers and those who recently exited the education and training pipeline. The staffing-pattern of new hires across all industries may look quite different. Moreover, staffing-patterns in any given segment of the economy may be subject to regional variation. To the extent that a particular planning effort is intended as a guide for targeting the training of entry-level or first-time job-seekers in a specific region, the distribution of job placements by SIC code for a recent cohort of that region's program exiters may paint a more realistic portrait of potential outcomes.
- ☞ Conditions of occupational employment experienced by recently hired persons may differ significantly from those experienced by senior incumbent workers. Without benefit of prolonged experience on the job and/or accrued earnings gains, their wages may fall short of prevailing wages. Moreover, prevailing wages for any given occupation may vary widely from one substate region to the next. Among senior incumbent workers, historic patterns of biases in female and minority hiring may still be evident in aggregate statistics despite legislation, case law and incentives to eliminate such biases in recent years. More detailed knowledge of the experiences of recent exit cohorts is essential if the planning model is used to drive regional curriculum development and

informed choice in career decision-making where individuals may be as concerned with the substate location of and regional variance in occupational employment opportunities.

☞ A State Training Inventory that merely lists the fields of study offered institution-by-institution cannot tell planners where they can get the most bang for the buck as they try to determine where eligible clients should be referred for education and training services. Follow-up data on placement rates, earnings-at-placement and the training-relatedness of placements -- if organized by service provider and field of study -- can increase the utility of the STI and, in turn, can improve operational planning.<sup>50</sup>

- ***Improving strategic planning***

Whereas an operational planner must focus on devising a course of action that will meet today's performance requirements, a strategic planner may question if existing standards are unattainable or too low to prod program improvement. Data provided by a central follow-up entity on the actual outcomes achieved by recent cohorts of program completers and leavers can serve as benchmarks for realistic expectations. If the central entity uses a longitudinal design, follow-up data also can be used to keep planners from misjudging program results in the short run by focusing more attention on likely delayed and long-range benefits of the services rendered. Strategic planning models can be built to take follow-up data into account in: a) setting and periodically revising performance standards; b) adjusting standards to regional realities; and c) establishing general guidelines for procuring education and training services on behalf of clients through performance-based contracts.

Whereas an operational planner plots the delivery of a particular existing service, strategic planners look at the bigger picture. What is the appropriate mix of services? Are current service locations optimally distributed to avoid both unnecessary duplication of effort and geographic gaps in reasonable access? Are any labor market needs left unaddressed by the current total mix of services?

☞ Where follow-up for all employment and training is integrated and where common definitions and data collection methods are used, fair comparisons can be made across programs and providers. For example, results achieved by the lowest-cost service (i.e., labor exchange) can be treated as a baseline. All other things being equal, what was the value added by more expensive services such as vocational training or transition support? Such information is vital to efforts by strategic planners to determine the optimal mix of services. This will become an increasingly important consideration if categorical grants that fund specific services are replaced by block grants with latitude given to each state in deciding how to allocate those funds most effectively across the entire gamut of services.



Follow-up studies can gather information on the service delivery location and subsequent job placements by worksite location. Comparisons of these two geographic variables provide valuable information about the mobility of recent program completers and leavers as they search for work. Is training provided close to where the related jobs are? Proximity between the two is important if education and training providers are expected to collaborate with employers to keep the curriculum responsive to the needs of the latter. Proximity also is important if students are expected to incorporate related work-based experiences into their education and training. Conversely, analysis of geographic mobility is important to strategic planners if relocation assistance is to be part of state-provided transition support. This information also is important to economic development specialists. Evidence of industries importing workers trained elsewhere can alert planners to missed opportunities to serve their own students and adult learners. In industries where availability of a trained workforce is a key to site-selection for business start-up or expansion, current importation of workers also may alert entrepreneurs to limitations on their potential for further economic development. Lastly, an excessive exodus of program completers may have a bearing on support for local decision-makers and service providers (and, perhaps, the employment and training system as a whole). Residents of a taxing district, for example, might resent having their dollars spent by a local community college to train students and adult learners for jobs in some other region. They may want to see their tax dollars working closer to home -- benefits to their statewide economy notwithstanding.



In gathering information on the employment of former program participants, a central follow-up entity inevitably will come across jobs that do not fit into any existing occupational taxonomy.<sup>51</sup> After eliminating misspellings, abbreviations and acronyms, or firm-specific idiosyncratic titles applied to conventional occupations, some job titles may, in fact, represent emerging employment opportunities. These residual titles can be used in data-driven curriculum development to ensure that sufficient numbers of skilled workers are trained by the time demand in an emerging occupation reaches critical mass. In this way, follow-up can provide early warning -- as a barometer of changes wrought by the deployment of new technologies, shifting consumer tastes, recent decisions in labor law and/or widespread adoption of the human resource management theory *d' jour*.

## ENDNOTES

- <sup>1</sup> By way of analogy, the human body could be considered a system. An individual body is composed of *subsystems* that overlap (e.g., the cardiopulmonary subsystem and the respiratory subsystem, etc.). The body works as a system to respond to inputs from its environment. When the nervous subsystem senses a decrease in a room's temperature (a *stress* or *disturbance*) and sends a message to the digestive subsystem to help maintain normal body temperature by burning calories (a *conversion process*) contained in the food (a *support*) that has been consumed. It sends another message to the skeletal-muscular subsystem to walk to the thermostat and turn up the heat (an *output*). The furnace reacts by heating the room thus affecting the body's external environment, perhaps altering the person's comfort level again to the point where additional response may be required (i.e., *feedback*).

See D.F. Aberle, et. al., "The Functional Prerequisites of a Society" in *Ethics* Vol. 60 (1950) pp. 100-111; Talcott Parsons, *Structure and Process in Modern Science* (Glencoe, IL: The Free Press, 1950); Robert K. Merton, *Social Theory and Social Structure* (Glencoe, IL: The Free Press, 1957); David Easton, "An Approach to the Analysis of Political Systems" in *World Politics* Vol. 9 (1957) pp. 383-400; also see Easton's *A Framework for the Analysis of Political Systems* (Englewood Cliffs, NJ: Prentice Hall, 1965); William C. Mitchell, "The Polity and Society: a Structural-Functional Approach," in the *Midwest Journal of Political Science* Vol. 2 (1958) pp. 403-420. These materials are summarized effectively in the Introduction to Thomas Jahnike and Sheldon Goldman, *The Federal Courts as a Political System* (New York City, NY: Harper and Row, 1971).

- <sup>2</sup> Ignoring stress and disturbances emanating from the external environment certainly is an option, but not a particularly viable one according to Systems Theory.
- <sup>3</sup> Some *supports* can strengthen a system's capacity to respond to demands (e.g., fiscal resources, the skills of professionals recruited to serve in the system and diffuse popular opinion). However, *supports* - according to Systems Theory - can be absent, withdrawn or even *negative* (as in adverse public opinion). While the concept of *negative supports* sounds contradictory, it is useful in understanding forces which diminish a system's capacity to respond to its environment.
- <sup>4</sup> The co-authors construe "employment and training" broadly to include "first chance programs (i.e., public education/K-12, plus postsecondary education and training) and second chance programs (such as JTPA, JOBS, Adult Education and Literacy, prison-based education and training and Food Stamp E&T as well as the job-search and job-matching activities of the Employment Service division of each state's employment security agency).
- <sup>5</sup> Some of the programs may be known by state-specific acronyms. In Louisiana, for example, programs funded under the Job Opportunities and Basic Services Act once were known as "Project Independence." Recently, Louisiana renamed them as the **F**amily **I**ndependence and

*Work* (or *FIND Work*) program. This *Guide*, however, is not intended to inventory state acronyms. As follow-up is centralized in each state, its design team is advised to trace the flow of dollars to their source in order to distill program intent from the original authorizing legislation or appropriations bills and the minutes of related Congressional hearings. Regardless of unique acronyms, each state should be able to spot which of its programs fit logically into the employment and training system as described in this chapter.

- <sup>6</sup> The co-authors envision two possible approaches to follow-up. The first scenario described herein is the least likely and is offered as a *straw man*. In the first approach, a single, centralized follow-up entity would be created with broad responsibilities across programs that may or may not share roughly the same mission. In this scenario, one central follow-up entity would be responsible globally for facilitating record linkages as a means of gathering outcomes data. The entity probably would be comprised of several subdivisions or silos with each focusing on its own set of very closely related programs.

The other scenario would unite public education (K-12), postsecondary education and training, workforce development, the Employment Service and welfare-to-work programs into a common follow-up system. This more limited combination of programs in a single follow-up system seems logical because they share a common mission (i.e., to provide education and training, remediation, and retraining in a nearly seamless fashion under a *Lifelong Learning* model). Administrators and practitioners from these programs are accustomed to interacting with one another. Moreover, federal laws and regulations require articulation among these programs. (Indeed, federal funds are set aside expressly for their articulation.) While other types of programs could benefit from using comparable record linkage techniques, they might be better served by different follow-up entities. For example, a state's commission for the deaf, its commission for the visually impaired, its rehabilitation department and its mental health and mental retardation agency might be served jointly by a follow-up entity other than the one that serves employment and training programs. Corrections, probation and parole might be served by another follow-up entity; public health and vital statistics by another; and public safety (e.g., state and local law enforcement agencies, fire departments, emergency medical service providers and disaster relief agencies) by yet another.

The boundary issue can be confusing because various programs' services and activities often overlap. Education and training services, for example, are offered to eligible participants through a state's schools for the deaf and visually impaired, the prison system and the rehabilitation department as well as through the public schools and postsecondary institutions. While it is not our place to specify the scope of another state's follow-up efforts, we recommend that each should define its central entity's boundaries and domain clearly to ensure that its duties and tasks are confined to manageable proportions.

Adding to the confusion over the boundary issue is the distinction between public and private-for-profit service providers (not to mention the fact that a myriad of employment and training services are provided through joint public/private ventures or by quasi-public entities and non-

profit community-based organizations that occupy the grey area between the public and private sectors). In drawing the boundaries of the central follow-up entity's operations, each state must decide if it has the authority to compel participation by private-for-profit service providers, the capacity to entice their voluntary participation or the resources to serve them in either case.

- <sup>7</sup> This analogy showing the parallels to bookkeeping and audit practices in the private sector draws heavily on several articles in Bruce Smith (ed.), *The New Political Economy: The Public Use of the Private Sector* (New York City, NY: John Wiley and Sons, 1975): Ira Sharkansky, "The Politics of Auditing" pp. 278-318; Elmer B. Staats, "New Problems of Accountability for Federal Programs" pp. 46-67; Michael D. Reagan "Accountability and Independence in Federal Grants-in Aid" pp. 181-211; and Joseph Pois, "Trends in General Accounting Office Audits" pp. 245-318.
- <sup>8</sup> Intake information is reviewed, for example, to determine if every participant who received services truly had been eligible. Other common questions include: Were services procured competitively and without conflict of interest? Was the rate-of-expenditure paced properly during each phase of the program year. Did expenditures in any category, particularly for administration, exceed the budgeted line-item? Have backup documents been submitted in support of every voucher? Was all travel necessary, duly authorized and reimbursed at or below permissible government rates? None of these questions, however, relates directly to program performance.
- <sup>9</sup> This presumes that a program's goals and objective are defined clearly in the first place. In many instances, even this most basic presumption is false.
- <sup>10</sup> Paraphrasing Staats in Bruce L.R. Smith, *op. cit.* at pp. 63-64 (emphasis added).
- <sup>11</sup> Paraphrasing Sharkansky in Bruce L.R. Smith, *op. cit.* at p. 284.
- <sup>12</sup> First and foremost, funds and staff were stretched to their limits in meeting the GAO's longest standing and least disputed obligation to do *fiscal* audits of and settle accounts for all federally-funded programs at regular intervals. *Managerial* accountability and (to an even greater extent) *program* accountability required the Comptroller General to hire other kinds of experts (E.g., economists, statisticians, systems analysts and subject matter specialists) rather than accountants and lawyers. Funds for such experts usually were made available to the GAO on an *ad hoc* basis whenever Congress made special requests for performance audits.

Secondly, by the mid-1970s there were more than enough financial scandals and instances of waste to preoccupy the GAO. Vice President Agnew, for example, resigned and was indicted for fiscal improprieties that occurred when he was governor of Maryland. At the same time, rumors of \$400 toilet seats and \$1,000 crescent wrenches brought the Pentagon's procurement practices under close scrutiny. As one former Comptroller General once wrote, under the crush of issues clamoring for their attention, it is easier for the general public to understand a count

of paper clips than the performance objectives of complex programs jointly operated under federal and state initiatives. Having exhausted its attention span by demanding investigations of fraud and waste, the general public had little energy left to pressure their Congressional representatives to get the GAO to investigate program effectiveness.

Thirdly, much of the burden for performance monitoring has been shifted to program administrators in the field through regulations that specify the collection of outcomes data in the respective management information systems and inclusion of such items in annual compliance reports. See, for example, the annual Standard Program Information Reports (SPIR) required by the Secretary of Labor for JTPA programs.

Fourthly, other entities stepped into the void to do performance audits as GAO concentrated more on *fiscal* and *managerial* accountability. The Office of Management and Budget (OMB) operates at the request of the executive branch while the Inspectors General do performance audits at the request of their respective cabinet secretaries. State comptrollers, legislative budget boards and state agency audit divisions, etc. have become more active in monitoring program performance. Service providers also attempted to police themselves either on their own or through professional association and accrediting board standards.

- <sup>13</sup> Part of the movements for both budget tightening and welfare reform is the insistence that employment and training programs accomplish more with less. The public is relatively unmoved by “good intentions” and inclined now to apply the bottom-line mentality of the marketplace to employment and training programs. See, for example, David Osbourne and Tom Gaebler, *Reinventing Government* (Reading, MA: Addison-Wesley, 1992) especially chapters 5 and 10.
- <sup>14</sup> Increasing demands for accountability in employment and training programs in the 1990s will be discussed in greater detail in the next chapter.
- <sup>15</sup> For a recent example of a managerial audit by the Comptroller General, see “*Multiple Employment Training Programs*” (Washington, DC: General Accounting Office, 1994); for a recent example of a performance audit, see “*Proprietary Schools: Millions Spent to Train Students for Oversupplied Occupations*” (Washington, DC: General Accounting Office, 1997).
- <sup>16</sup> The Pew Higher Education Roundtable (Robert Zemsky, Senior Editor), “*To Dance with Change*,” Vol. 5, Number 3, Section A of *Policy Perspectives* (April 1994) and the charge given to the National Postsecondary Education Collaborative by the National Center for Education Statistics, 1996. See also Marc Anderberg and R.D. Bristow, “*Career Majors in Texas Public Education*” (Austin, TX: Texas State Occupational Information Coordinating Committee, 1996) pp. 11-13.
- <sup>17</sup> For example, if the UI wage records are the primary source of labor market outcomes data and if employers submit reports on covered workers on a quarterly basis, then it does no good to schedule follow-up on any shorter interval -- even if, hypothetically, the central entity is asked

to study self-paced, modularized short-course training programs that batch process their reports on completers and leavers once a month or on a weekly basis.

- <sup>18</sup> See the chapters by Michael D. Reagen and Joseph Pois in Bruce R.L. Smith, *op. cit.* and the chapter by Harvey C. Mansfield entitled, “*Independence and Accountability for Federal Contractors and Grantees*,” pp. 319-335.
- <sup>19</sup> Rather than looking at sloppy record-keeping and management practices that leave too much room for error and the *potential* for misappropriation, Inspectors General typically look at overtly illegal activities such as fraud. See, for example, the summary of recent studies in “*OIG Proposals: 1998 Reauthorization of the Higher Education Act*” (Washington, DC: United States Department of Education, Office of Inspector General, 1997). On the other hand, the Office of Management and Budget usually looks at broader issues such as revision of classification systems or procurement guidelines across the board in order to reduce duplication of effort, achieve more consistency among like programs and gain tighter control over all programs.
- <sup>20</sup> David Osbourne, *Laboratories of Democracy* (Boston, MA: Harvard Business School Press, 1990) especially Chapter 10.
- <sup>21</sup> In many cases, state agencies that funnel federal employment and training dollars to local entities accept service providers’ evaluations of their own performance; e.g., Adult Education in Texas. A unit within the responsible state agency may verify service providers’ self-evaluations or perform on-site monitoring on an *ad hoc* basis (where misappropriation is suspected) or on a random/rotating basis (getting around to review each service delivery site once during some predetermined -- but rather lengthy -- interval). A state’s legislative budget board may want common data elements reported on several programs at regular intervals but, more often than not, they look at gross indicators such as number of participants served. They tend to concentrate on processes and outputs rather than on outcomes. State Comptrollers General may do performance audits of specific programs on an *ad hoc* basis. The point is that few states continuously review all employment and training programs using common operational definitions of the outcome variables and a uniform data collection methodology.
- <sup>22</sup> Comptroller Staats, for example, discovered that his staffing-pattern needs changed as the GAO assumed a greater role in program accountability. He had to hire economists, computer specialists, systems analysts and substantive area experts, etc.
- <sup>23</sup> Joseph Pois, *op. cit.* at pp. 263-264 (*passim*).
- <sup>24</sup> For a more detailed description of the boundaries of Texas’s central follow-up entity, see Marc Anderberg and Richard Froeschle, “*Roles and Responsibilities in a Performance Measurement System: Description, Prescription and Policy-Making*” Vol. 1, Number 4 of the *Beyond the Numbers Occasional Paper Series* (Austin, TX: Texas SOICC, June 1997).

- <sup>25</sup> Senate Bill 1688 (Florida State Legislature, 1997).
- <sup>26</sup> Service providers can borrow the difference between their annual allocation under the new rule and their prior year's funding level on the proviso that they earn back the loaned amount by improving their outcomes-based performance. This provision may postpone but will not eliminate adverse reactions by service providers who ultimately lose funding and perceive themselves to be on the losing end.
- <sup>27</sup> Directives from the U.S. Secretary of Labor regarding JTPA reporting procedures are known as Training and Employment Information Notices or *TEINs*. These notices are used to flesh out the details of requirements the Secretary is authorized to impose on state grant recipients either by statute or regulation.
- <sup>28</sup> For a more detailed analysis of Texas's performance measures for Adult Education and the degree to which they have been operationally defined, see Marc Anderberg, "*Final Report on Automated Student and Adult Learner Follow-Up for Program Year 1995-1996*" (Austin, TX: State Occupational Information Coordinating Committee, 1997) at pp. 8-12.
- <sup>29</sup> Andy Hartman, "*Equipped for the Future*," *NIFL News* Vol. 4, Number 2 (Spring 1997) p.2.
- <sup>30</sup> Staff report, "*Voc Ed Directors Watch Governors' Authority*," *Vocational Training News* Vol. 28, No. 18 (May 1, 1997).
- <sup>31</sup> In Texas, service providers first perceived the Tech Prep initiative as a means of attracting students to vocational and technical education. There was a rush to recruit large numbers of students for Tech Prep before genuine changes were made in the curriculum. Early in the implementation of School-to-Work programs in Texas, this rush to recruit appears to be happening again. See Marc Anderberg, "*Waiting for Data to Ripen: The Case of Premature Expectations for Tech Prep Programs*" (unpublished presentation to the National Tech Prep Network Conference in Nashville, TN, October 3, 1997; forthcoming as a monograph in the Texas State Occupational Information Coordinating Committee's *Beyond the Numbers Occasional Paper Series*. See also Anderberg *op. cit.* (*Final Report, 1997*) at pages 103-109.
- <sup>32</sup> Per conversations and e-mail exchanges between Marc Anderberg and William Morrill, former Assistant Secretary of Education, now President of MathTech, Inc. and consultant to Mathematics on the national evaluations of both Tech Prep and School-to-Work. See also, William A. Morrill, "*UI Wage Data Workshop*" (unpublished minutes of the September 3, 1997 meeting sponsored by MathTech, Inc. of Princeton, NJ.).
- <sup>33</sup> For an expanded discussion of follow-up as integral to the feedback loop, see Marc Anderberg, "*Automated Student and Adult Learner Follow-Up: Final Report for Program Year 1992-1993*" (Austin, TX: Texas SOICC, August 1993) pp. 13-18; Richard Froeschle, "*Creating an Information-Based, Market-Driven Education and Workforce Development System: The Role*

of Labor Market and Follow-Up Information” Vol 1., Number 2 of the *Beyond the Numbers Occasional Paper Series* (Austin, TX: Texas SOICC, July 1996) ; and Richard Froeschle and Marc Anderberg, “*The Anatomy of an LMI System for the 21<sup>st</sup> Century: The Role and Practices for Transactional Analysis and Descriptive Statistics in a Comprehensive LMI System*” (Washington, DC: Employment and Training Administration, forthcoming).

- <sup>34</sup> In Florida, the State Legislature took the initiative in promoting automated and centralized follow-up largely to improve program planning and administration. In Texas, on the other hand, automated follow-up initially was used by a consortium of public community and technical colleges as a way of documenting the successful outcomes achieved by their former students. Because start-up dollars in Texas came from the state’s federal vocational and technical education grant, a large part of the initial focus was on the post-exit achievements of *special populations* per reporting requirements under the Perkins Act. Community and technical college administrators realized that well-documented successful outcomes could be used in the recruitment process. From the outset, there was a more natural affinity in Texas between follow-up and career development based on informed choice -- particularly for *special populations*. These differences in emphasis among progenitors of the two systems are reinforced by the respective states’ choices regarding where their central follow-up entities are housed. Florida’s central follow-up entity is housed in that state’s Department of Education, an agency geared primarily toward strategic planning and program evaluation. Texas’s central follow-up entity is operated by the State Occupational Information Coordinating Committee which has a long history of delivering labor market information to support career counseling and operational planning.

The impetus for automating and centralizing follow-up may come from quite disparate sources. That makes other scenarios equally probable in other states. For example, the impetus might come from your State Job Training Coordinating Council. If that is the case, the follow-up entity might be housed in the agency that administers the state’s JTPA grants. Information delivery by the central follow-up entity initially might be more focused on generating compliance reports to be forwarded to federal agencies. Information delivery to substate planners, service providers, and/or prospective students and workforce development program participants might occur as a belated afterthought. States whose automated follow-up begins with a particularly narrow focus will mature and they probably will turn to other state’s for advice or models on best practices in order to backfill the other kinds of functions their fellow lead agencies perform.

- <sup>35</sup> Per conversation and e-mail exchanges between the co-authors of this *Guide* and Tom Lynch of Oregon’s Shared Information System. For a description of Oregon’s integrated follow-up efforts, see Tom Lynch, et. al., “*SIS: Shared Information System*” (Salem, OR: Oregon Employment Department, January 1997).
- <sup>36</sup> The same sources listed in endnote 33 also contain more detailed analyses of the role outcomes data can and should play in the planning process.

<sup>37</sup> In Systems Theory, these change factors would include known or anticipated sources of input (stress, disturbances demands and supports - i.e., expectations and resources) and feedback.

<sup>38</sup> Unfortunately, some para-professionals without training in statistics, econometrics or model-building are hired as planners. They assume extrapolation consists of forecasting that circumstances in one year will be identical to or a linear (straight-line) extension of conditions in the preceding year. As a colleague of the co-authors once noted, “The tools most frequently used by some planners are the photocopier, a bottle of white-out and a typewriter. They reproduce last year’s plan, white-out references to last year’s dates, then type in new dates corresponding to the upcoming program year.” When using the term *extrapolation* herein, the co-authors of this *Guide* are referring to a much more rigorous process of projecting trends into the future and building confidence intervals around them by adjusting for the effects that known change factors are likely to produce.

What is at stake here is best expressed in the phrases “reasonable margin of error” and “defensibility of the model.” While we all may claim 20/20 hindsight, no one can guarantee the accuracy of their forecasts for future events. In fact, the longer a forecast’s timeframe, the more complex the events being predicted and the more multivariate the causal factors, the lower the probability of generating an accurate forecast. Nonetheless, taxpayers are being asked to invest heavily in planned employment and training activities that are supposed to yield future returns. Politicians are staking their reputations on the success of the plans they bless. Service providers’ livelihoods are at stake. Individual customers and clients entrust their future economic security in large part to the judgments of planners. Short of guaranteeing accuracy, what can planners do to make a convincing and defensible case for others to buy into their plans?

Given what is at stake, SWAG planning or planners’ lazy reliance on photocopiers and white-out are, in the co-authors’ opinions, irresponsible. Bending to the will of entrenched vendors may serve the providers well but that approach to planning does not serve the best interests of the taxpayers or customers of the employment and training system.

<sup>40</sup> New variables, for example can be added one at a time through step-wise regression until the process arrives at the least-squares (or best-fitting) solution; i.e., the regression equation having the highest degree of predictive validity when used *ex post facto* to forecast events known to have occurred.

<sup>41</sup> Assume you are a realtor who wants to estimate how much a family will spend to buy a house. You could use knowledge of the family’s income in making the forecast. Your forecast is likely to be more precise if you use an interval scale (actual income in dollars) to measure the family’s income rather than a nominal scale (yes, they have an income/no, they don’t) or an ordinal scale (above average income/below average income or high/medium/low income). The more discerning the scale used to measure the relevant independent variables in your forecasting model the greater their capacity to explain variance in the dependent variable. This handy rule-of-thumb is used later in this chapter to explain how the Zip code of a former stu-

dent's worksite (obtained through an employer follow-up survey) provides a deeper understanding of geographic mobility among job-seekers than does the nominal variable, "found to be working in Texas (yes/no)."

- <sup>42</sup> Plans are underway to supercede the OLMID with a new occupation-oriented database structure, the America's Labor Market Information System-Database (ALMIS-D), with links to a skills-based structure in machine-readable form (called the O\*NET) that is destined to replace hardcopies of the *Dictionary of Occupational Titles* (DOT).
- <sup>43</sup> This widely used model is best described in a regional planning context by W.L. McKee and N.L. Harrell, *Targeting Your Labor Market - First Edition* (Austin, TX: Texas State Occupational Information Coordinating Committee, 1989) Chapters 7 and 8. The planning model described in theory in that workbook is virtually identical to the guidelines issued by the State of Texas for planning JTPA Title IIA and Title III services as well as for regional planning by Quality Workforce Planning Committees and their successors under the Tech Prep and School-to-Work initiatives. See Mark Butler and Marc Anderberg, *Regional Quality Workforce Planning Directors' Handbook* (Austin, TX: Texas Education Agency, 1992). Building on the OLMID, the Texas SOICC added data elements and developed its own interface (together known as the SOCRATES system). SOCRATES takes a user through the logical process described by the authors cited in this note. More technical details on how the automated model works, its assumptions, its data sources and limitations are provided in John Romanek (ed.), *The SOCRATES System: Technical Reference/User Documentation/Training Manual* (Austin, TX: Texas State Occupational Information Coordinating Committee, 1991).
- <sup>44</sup> The Texas Higher Education Coordinating Board (THECB) requires proof of sufficient occupational employment demand to justify requests for state or federal dollars to fund new post-secondary vocational/technical or Tech Prep program offerings. The THECB does not require Texas's public postsecondary institutions to use the standard planning model to generate supporting occupational employment demand forecasts. However, the THECB does accept forecasts generated by the standard model as *prima facie* evidence of demand. In practice, any postsecondary institution that submits any other kind of evidence in support of a request for program start-up dollars faces a more difficult burden of proof.

The Texas State Board of Education (SBOE) periodically issues a statewide list of priority demand occupations. Although local education agencies (K-12) in Texas have sufficient autonomy to ignore the statewide priority list, most independent school districts use it voluntarily as a guide when planning their vocational and technical program offerings. In devising the priority list, the SBOE begins with a list of demand occupations generated by the standard planning model then narrows that list to a subset for which entry-level employment can be obtained on the basis of appropriate training at the secondary level. The final priority list may contain occupations that were not identified through the use of the standard planning model.

Here again, forecasts generated by the standard model constitute *prima facie* evidence of sufficient demand. Those using different kinds of evidence to justify the inclusion of other occupations on the priority list face a more difficult burden of proof.

As a result of coordination and collaboration driven by both federal and state mandates, planning for services in Texas funded with JTPA, Carl Perkins and Wagner-Pyser dollars is driven across the board by the same forecasting model. While illustrations herein rely on co-author Anderberg's experiences as a regional Quality Workforce Planning director, the state's JTPA LMI analyst and labor market economist for the SOICC, the Texas experience is not unique. The same federal mandates and initiatives will require comparable reliance on a common forecasting model among each of the partner agencies in any state's employment and training system. In all probability, each state also will engage in coordinated education and training program planning under parallel mandates contained in its own Human Resource Investment legislation or under an executive order by its governor.

- <sup>45</sup> Statewide data do not differentiate between the prevailing occupational wages paid to senior incumbent workers and those paid to new-hires. Moreover, statewide prevailing wage data do not take regional differences into account.
- <sup>46</sup> The JTPA system, for example, sets a minimum pay threshold. Other workforce development and welfare-to-work programs may skip this step because, under *Work First* reforms, clients are expected to take immediate responsibility for at least some portion of their own economic security with provisions for getting the education and training they need during the course of their remaining years of eligibility to move from a low-wage entry-level job to one that will pay them enough to give them financial independence.
- <sup>47</sup> Workforce development programs typically provide eligible participants funding for education and training up to and including the Associate degree level. Thus, the user can set parameters in the model to exclude occupations that require a baccalaureate, post-baccalaureate or professional degree or more than two years of specific vocational preparation. This filter is based on the Specific Vocational Preparation Time (SVPT) established for occupations in the *Dictionary of Occupational Titles* which are then crosswalked to equivalent occupational titles in the OES taxonomy.
- <sup>48</sup> Under recent welfare reforms, this filter can be skipped for programs that do not provide public assistance to cover education and training or which provide education and training assistance only after the client has obtained work first. The basic assumption of the *Work First* model is that the needs of many customers can be met through the labor exchange function without providing them more time-consuming (and expensive) education and training services and that some clients may not have the capacity to benefit from education and training services even if offered to them.

- <sup>49</sup> These observations originally were made in Anderberg, *op. cit.* (1993) pp. 13-26 and were re-stated in condensed format in Appendix C by William D. Witter, *Targeting Your Labor Market: Second Edition* (Austin, TX: State Occupational Information Coordinating Committee, 1995).
- <sup>50</sup> Training-relatedness, procurement of education and training services, and the benefits of longitudinal research alluded to in this section are discussed in more detail elsewhere in this *Guide*.
- <sup>51</sup> Use of follow-up data in identifying emerging occupations is discussed in more detail in the chapter in this *Guide* on “*Process Considerations*” and in Terry Ramsey (ed.), *Emerging and Evolving Occupations in Texas* (Austin, TX: Texas State Occupational Information Coordinating Committee, 1996) -- especially the *Technical Reference Appendix* by Terry Ramsey, Duane Whitfield, Jay Pfeiffer and Marc Anderberg.

## CHAPTER III: SCANNING THE ENVIRONMENT

### Synopsis

*Before collecting a single data item, each state's central follow-up entity needs to scan the environment in which it will operate. This process is essential to understanding: 1) the external demands and expectations placed on the employment and training programs being studied; 2) how those external demands and expectations will shape the central follow-up entity's day-to-day operations; and 3) what data elements its customers consider decision-critical.*

*To give this Guide a useful shelf-life, the co-authors focus on the process of environmental scanning and illustrate the approach with examples of demands and expectations current at the time this chapter was written. The process is more important than the examples because issues, key stakeholders and interactions among them will vary from one state to another. Moreover, the environment in any given state is apt to change frequently. At best, the co-authors can only identify broad current trends. We suggest that other states use the themes identified in our examples as points-of-departure when they begin to scan their own unique environments. Because any environmental scan will be time-bound, this process should be repeated at regular intervals in every state to ensure that its central follow-up entity can continue responding effectively to changes in its environment.*

### Overview

Chapter I was intended to impress upon stakeholders that implementing centralized, integrated and automated follow-up requires a significant commitment. Assuming stakeholders are undaunted by such a momentous undertaking, key state officials must decide where the central follow-up entity should be housed and what role it will play in accountability, planning and information delivery (as outlined in Chapter II). Having set the central follow-up entity's boundaries and defined its mission broadly, top level policy-makers probably will bow out and delegate authority to a design team for developing more detailed goals and objectives as well as strategies to meet them. A state's design team probably will include the central entity's manager, its staff and a steering committee. The purpose of this chapter is to help shorten the design team's learning curve during the crucial start-up phase.

The learning curve might be shortened a wee bit by taking an inventory of similar initiatives in other states or by compiling a full history of follow-up activities across the nation. The intent of this Guide, however, is not to catalog the current status of follow-up efforts in every state. Inventories usually are out of date before they can be printed and distributed. Nor is this Guide intended to be a history lesson full of important inauguration dates and significant battles. With apologies to our predecessors and colleagues, this Guide cannot do justice to every pioneer, explorer or inventor.<sup>1</sup>

Inventories and histories of follow-up efforts across the nation have already been done. While they contain useful information, there is no one-size-fits-all solution. Follow-up entities are organic. Each state must grow its own. The environment to which each follow-up entity must

respond will vary from one state to another. In most states, much of the spade work has been done already; many of the seeds have been planted. The rate at which each follow-up entity grows and matures will depend on its ability to adapt to its state's own unique environment. When first launching an integrated, centralized and automated follow-up, each state must look within to learn from its own history of related initiatives pursued previously on a smaller scale using traditional methods.

Each state must ask several questions for itself. Which partner agencies, practitioners or researchers within the state have the knowledge and experience to save the design team from unnecessary trial and error? Which employment and training programs within its own boundaries already collect outcomes data? How do they collect it? What do they do with those data? What lessons can be learned from prior follow-up initiatives? Which (if any) bore fruit? Do partner agency administrators and service providers already understand the benefits of participating in an integrated and centralized follow-up effort? As creation of a central follow-up entity was debated, which stakeholders supported the idea? Which opposed it? Do the various stakeholding groups recognize who among them may have already devised a best practice for post-program follow-up and outcomes-based performance evaluation?

From the follow-up entity's perspective, an environmental scan is necessary to determine the following:

- Who are its customers?
- What do they want to know about program performance?  
More importantly, what do they need to know?
- Why do they need to know?
- How can their information needs be filled?  
How much will it cost?
- How will they react to the outcomes data collected?  
More specifically, what will they do with the data?

If a lead agency is to succeed, there must be a modicum of agreement by partner agencies and service providers on answers to the questions above. Consensus is necessary to establish order where information anarchy may exist. How do you get stakeholders to agree to use the lead agency as their common data broker? How can they overcome pre-existing definitional and methodological differences? How can they agree upon rules for data quality control, data analysis, report formats and data uses?

Answers to these questions uncovered in one state may not fit conditions in any other state. This *Guide* is not the place to answer such questions for every state. Herein the co-authors take a

*process approach* to give this *Guide* a longer shelf-life.<sup>2</sup> Examples in this chapter were taken largely from Texas, Florida and the co-authors' frequent participation in national forums. Several broad themes current at the time this chapter was written can be identified but they may not necessarily remain true as this *Guide* nears the end of its useful shelf-life. The co-authors' observations herein are both time- and place-bound. While these illustrations may be used as points-of-departure, each state must grow its own follow-up system according to its unique political climate and conditions. While other states may draw on the prior experiences of Florida and Texas, each should engage anew in the environmental scanning process for itself before embarking on automating and centralizing its follow-up activities. Also be advised that any state's initial environmental scan will be time-bound. Because the viability of the follow-up entity will depend on its capacity to respond to changes in its environment, we strongly recommend that the scanning process (outlined below) be repeated at regular intervals in every state.

## **The Process**

In order to devise specific goals and objectives, strategies and operating procedures, a design team must scan both the federal environment and the situation in its own state. Scanning the environment is essential to assess the need for, receptivity to, and possible resistance against automated follow-up. Scanning the environment should alert a design team to probable obstacles. It should identify resources likely to be available to the central follow-up entity as it attempts to overcome those obstacles. Last, but most important, an environmental scan should help determine what data elements are decision-critical for policy-makers, program managers, service providers and individual customers as they make important choices.

According to Glover and Holmes, "The role of environmental assessment is to identify factors relevant to the mission; to assess favorable and unfavorable impacts of events, conditions and trends on priorities; to develop scenarios; and to devise strategies for creating viable futures."<sup>3</sup>

If an environmental scan is not exhaustive, decision-critical factors will be overlooked. Unless sharply focused, efforts to scan the environment will be inefficient. Because the environment in which its employment and training system operates is multifaceted and subject to rapid change, any team designing follow-up studies may fall victim to the kitchen sink syndrome. A natural temptation is to toss every conceivable item into the data bucket on the outside chance that it might be relevant to somebody at some time down the road. However, there is a difference between data and dross (or excess baggage). Excess data may be worse than having no data at all because useful kernels of information get lost amidst too much chaff. The trick, then, is to structure an environmental scan in a way to ensure that: a) the process is exhaustive yet efficient; and b) the data elements to be collected by the follow-up entity are comprehensive yet parsimonious.

***The effectiveness of a follow-up entity is determined by the usefulness -- not the volume -- of the data it collects.***

There are several ways to go about scanning the environment: 1) hire an outside consultant from a state that has already implemented automated follow-up; 2) assign the task to follow-up entity staff; 3) conduct public hearings across the state; and 4) use a focus group process. States are well advised to use a combination of these approaches because each has strengths and weaknesses.

### *Outside Consultant*

A consultant from a state that has already implemented integrated, centralized and automated follow-up probably can scan the environment very efficiently. Having worked through the start-up process in another state, an experienced practitioner should be able to sort the wheat from the chaff quickly. An outside consultant's greatest strength should be a working knowledge of issues that cut across state lines such as: 1) applicable federal laws and regulations as well as pending federal legislation; 2) nation-wide trends in and public opinion about employment and training programs; 3) the technology involved in automating follow-up; and 4) national databases likely to contain useful outcomes information. An experienced practitioner also should be able to help a state's fledgling follow-up entity establish connections quickly with comparable entities in other states, with professional associations that have a stake in continuous improvement of employment and training programs, and with administrators of national databases. Lastly, a consultant may be able to hand over model language for new state laws and regulations, templates for critical documents, sample file structures, and report formats to spare other states from the need to reinvent the wheel.

Implementation of centralized and automated follow-up is an opportunity for a state to establish a new paradigm of accountability and program improvement -- something beyond doing business as usual. Being an outsider, has an advantage in this regard; namely, an external consultant probably will have no standing relationship with key players from another state's partner agencies nor any self-interested involvement with another state's service providers. The consultant's detachment and independence can help a design team engage in out-of-the-box thinking. Unaffected by in-state rivalries and power relationships, an out-of-state consultant probably can see through bureaucratic folklore, turf rhetoric and the vested interests of key stakeholders without letting anyone pull rank.

An out-of-state consultant's chief disadvantage will be lack of familiarity with: a) the particulars of another state's laws; b) the idiosyncracies, predilections and power relationships among another state's key players; and c) the day-to-day operations of the management information systems used by another state's partner agencies.

This approach will cost more than assigning the task to follow-up staff. It will cost less than using focus groups or conducting statewide hearings.

### ***Staff Investigation***

Of the four approaches to environmental scanning listed above, a staff-led investigation will cost the least.

Ultimately, the effectiveness and efficiency of a staff investigation will depend on the research skills and depth of experience of individuals assigned this task. If recruited in-state, staff may understand applicable state laws. They may have ready access to information resources and to key stakeholders. They may be familiar with the contents and daily operations of partner agencies' management information systems. They may have a feel for interagency rivalries, state-wide public opinion, and variations therein from one substate culture or labor market to another.

In-house staff's strengths also may be their primary weaknesses. If recently recruited from a partner agency or from the ranks of service providers, staff may lack the necessary detachment to be effective. They may be locked into an existing paradigm. They may be susceptible to having rank pulled on them. Such weaknesses usually are overcome as a follow-up entity matures, establishes its own identity and develops a reputation for independence and professional detachment. During the design phase, however, these weaknesses might stand in the way of the follow-up entity getting off to a good start.

Volumes of information are available on follow-up (both relevant and irrelevant). The task of wading through all the published information, at best, may require six solid months -- time that a fledgling follow-up entity under pressure to act promptly can ill-afford to spend. Moreover, it will be difficult for staff members assigned this task to sort out what is relevant and what is not if: a) they are unfamiliar with the concepts of accountability and evaluation research; b) they lack content knowledge of the programs to be studied; c) they are too deeply immersed in an existing paradigm; or d) they are too easily swayed or intimidated by powerful in-state stakeholders.

### ***Statewide Public Hearings***

While statewide hearings are good for public relations, they tend to be unwieldy and ill-suited for working out technical details of research design and operating procedures. The logistics of conducting statewide hearings make them expensive, particularly in any state with several diverse substate cultures and labor markets. Useful input may get lost in the shuffle as experts and important stakeholders share the floor with laypersons who may show up to vent about irrelevant pet issues. Some stakeholders whose input is vital might not show up if they believe the hearings will be chaotic, excessively time-consuming, or easily sidetracked with irrelevant issues.

If held at all, public hearings probably should be conducted at a later stage in the start-up phase -- well after the design team has developed a fairly comprehensive and detailed, yet tentative plan. If given something concrete to stimulate focused reactions, hearings can serve as a sounding board where public sentiments can be tested before forging ahead with plans -- a good way to avoid being blind-sided later by negative reactions.

## *Focus Groups*

A focus group is a panel of experts convened for a structured discussion of issues. Usually a neutral facilitator serves to: a) keep discussion focused; b) enforce rules governing discussion format; c) record information and opinions; and d) identify areas of consensus and lingering disagreement. If the discussion involves a narrow range of issues, the number of experts is small and/or the experts already are close to consensus, a focus group may need to meet only one time. Where several issues are on the table and/or the experts initially are far from consensus, a focus group's discussion may go through several iterations. One-time-only focus groups usually are convened at a specific time and place. Where several iterations are necessary to achieve consensus, virtual focus groups can be convened at a distance -- with their exchanges of information and opinions facilitated in real time over a wide area network, through interactive desktop conferencing, or via the overland mail. (A specific process for conducting multiple-iteration focus group discussions, the *Delphi Technique*, is described in greater detail below.)

It will probably cost more to convene a focus group than to have follow-up staff conduct all necessary environmental scanning on their own and/or bringing in an outside consultant. It probably will cost less than convening a series of statewide hearings while providing far more useful information about the environment.

Cost considerations aside, this approach warrants further discussion because there are several important direct and indirect benefits to using a focus group. First and foremost, a fledgling follow-up entity can benefit directly by pulling together the expertise of experienced practitioners. Each newly formed follow-up entity will discover quickly that it does not operate in a vacuum. Albeit that prior evaluation efforts may not have been integrated, centralized or extensively automated, employment and training programs as well as local providers' services in every state will have been studied by partner agencies, interest groups, journalists and academicians. There is no need to reinvent the wheel. Those already involved in program planning, delivery and evaluation most likely will have done at least some kind of informal environmental scans of their own on some portion of the employment and training system's external environment. Collectively, they can guide the follow-up entity and help it get off to a running start.

Indirect benefits of the focus group approach include:

- a) establishing the credibility of the follow-up entity thus fostering buy-in among partner agencies and service providers whose expertise and opinions are sought;
- b) socializing stakeholders into a new, common paradigm;
- c) securing commitments from them to use outcomes appropriately in program planning, management and evaluation; and
- d) moving them to improve their own programs even before outcomes data are collected.

## *Direct Benefits*

The basic question in environmental scanning is: What data are worth gathering? To warrant the expense of collection, data must be relevant to the goals and objectives of a state's employment and training system. If consensus on goals and objectives predates implementation of integrated and centralized follow-up, a compilation based on staff research would suffice. Most often, however, a compendium of existing knowledge will not suffice. Gaps in the experts' knowledge will have to be filled; conflicting opinions will have to be resolved.

Until thrust under the umbrella of integrated follow-up, entities that theoretically are partners in a seamless employment and training system may operate under conditions some have called information anarchy. In all probability, they find themselves using different assumptions and relying on different versions of the facts in planning separate and unarticulated programs. Thus, they frequently work at cross-purposes -- unnecessarily duplicating each others' efforts while watching large numbers of potential customers fall through the cracks. As they launch integrated and centralized follow-up, states need a new synthesis rather than a mere compilation of existing knowledge and opinions. Structured discussions by groups of experts, as the name suggest, literally may bring things into focus.

All too often we presume that employment and training programs in operation prior to implementation of integrated and centralized follow-up were planned rationally and that all the details of their evaluations have been carefully conceived. In reality, most programs tend to unfold in ways that were not anticipated and their results don't necessarily square with expressed or implied goals and objectives. Bringing a focus group together in midstream can provoke useful self-examination and change -- especially when participating experts plucked from relatively closed circles of colleagues and subordinates are asked to come consensus with others from widely disparate milieus.

If asked publicly to explain a program's niche or the part a particular service provider plays in the larger employment and training system, stakeholders may have to dredge up their implicit assumptions -- perhaps even challenge their own assumptions -- in order to separate clear and objective goals from marketing hyperbole and hollow rhetoric. This is no small order where:

- program goals and objectives have been based on untested or false assumptions or where current performance standards were set too high or too low in the absence of real data;
- program goals and objectives were left vague intentionally during the legislative process in order to win support from broad but diverse coalitions;
- program goals and objectives are unclear because they are written in rhetorical marketing terms, bureaucratic jargon or legalese with little foresight regarding the eventual need to engage in quantitative evaluation to determine what works and what does not;

- program goals and objectives have been interpreted differently as they are filtered through multiple layers of governance before they are applied in the field where services are delivered;
- *de facto* and officially proclaimed goals and objectives diverge over time as programs mature through the accumulation of incremental shifts;
- stakeholders have come to ignore goals and objectives because: a) performance standards historically have been set at unrealistic levels; b) there are no sanctions or penalties tied to poor performance; and/or c) no bonuses or incentives are tied to superior performance;
- officially proclaimed goals and objectives obviously have been manipulated as programs are co-opted by self-interested service providers;
- the goals and objectives of one program conflict with those embodied in other programs;
- these same activities have been conducted since time immemorial and are deeply entrenched in the current system; *viz.* business as usual.

Well run focus groups are particularly useful for establishing clarity in the face of such information chaos.<sup>4</sup> An experienced facilitator can confine input to individual discussants' realms of expertise, prevent irrelevant issues from sidetracking discussants, and depoliticize contentious issues. The group can push to formulate or crystallize underlying assumptions and to quantifying expert opinion. They can be asked to extrapolate trends under various *what-if* scenarios. While it may take several discussion iterations, focus groups usually can arrive at an acceptable, working consensus.

### *Indirect Benefits*

#### ✓ Establishing the Credibility of the Follow-Up Team

When conducting pre-launch focus group studies of the environment, a follow-up entity will get widespread exposure. The way staff members handle themselves during an initial showcase opportunity will affect the way they are viewed when the time comes for others to use outcomes data and to rely on the lead agency's analysis.

There are two primary impediments to garnering a favorable initial reception from stakeholders and decision-makers: a) being perceived as the enemy; or b) being perceived as the *weak sister*.<sup>15</sup> Of these two possible perception problems, an adversarial image can be replaced with one of professional empathy as follow-up staff interact with stakeholders in focus group sessions to scan the environment. A weak sister image may take more time to cure as the follow-up entity gradually develops a reputation for integrity, diligence, thoroughness and excellence. Giant strides, however, can be taken during initial focus group sessions to combat any preconceived ideas among stakeholders that follow-up staff can be brow-beaten, deceived or co-opted.

## Partners not enemies

A fledgling follow-up entity is apt to be suspect among existing stakeholders who are uncertain about its motives and the probable consequences of its actions. As one experienced evaluation researcher put it, “The core reason for resistance is fear of evaluation. The common assumption that program evaluations are carried out solely to place good/bad stamps on programs creates fear, which leads to resistance, which, in turn, can render program evaluation ineffective.”<sup>6</sup> Such suspicions are only natural because integrated and centralized follow-up cuts across traditional boundaries; it has the potential to disrupt long-standing comfortable relationships among stakeholders. Stakeholders are likely to be especially suspicious if the follow-up entity is created at a time when dwindling resources, declining public esteem, and more intense competition are already eroding relationships among them. Deep suspicion may be especially likely among stakeholding groups that opposed the creation of a central follow-up entity when the issue was first debated.<sup>7</sup>

By inviting stakeholder input through a focus group on the design and operations of centralized and integrated follow-up, the lead agency gives them a sense of ownership. It signals the fact that follow-up activities are not part of a covert operation to undermine programs or service providers. It is an invitation to a data dialogue rather than a partisan or adversarial process. If staff have done their homework well, they can demonstrate their grasp of stakeholders’ concerns and a respect for the stakeholders’ expertise. They can establish common bonds with stakeholders through professional empathy. Focus group sessions also are opportunities for staff to carve out their own area of special expertise and gain reciprocal respect from other stakeholders.

Discussants should come away from focus group sessions with a sense of partnership. By discussing outcomes in non-judgmental terms, the follow-up entity signals that it is genuinely a partner that understands its limited role and the logical division of labor in the employment and training system. It is important during pre-launch focus group sessions for staff to stress that the central follow-up entity: 1) exists to meet their needs for outcomes-based performance information; 2) shares stakeholders’ interest in improving programs and delivery of services to their mutual customers; and 3) understands that, because its role is limited to data collection and analysis, it has no intention of sitting in judgment of its partners nor interfering in their legitimate activities.

It is one thing to make an official announcement about the lead agency’s limited role and respect for its partners’ prerogatives; it is quite another to demonstrate behaviorally that the lead agency will act strictly within the limits of its authority and mission. Follow-up staff can demonstrate the lead agency’s good faith intentions effectively during focus group session. Staff should hold steadfast to the claim that it is solely in the data collection and analysis business -- that it can help its partners document their success and pinpoint possible problems. Conversely, follow-up staff should steadfastly refrain from any suggestion that they will have solutions to problems detected or that they have any interest in dabbling in partner agency and service provider’s proper functions.<sup>8</sup>

Focus group sessions can just as easily undermine the central follow-up entity's credibility if discussions are not handled properly. An astute facilitator and well informed staff will anticipate that some stakeholders may attempt to derail the focus group process by diverting its attention from scanning the environment and reopening a debate over the very need for a centralized and integrated operation. Early in a focus group session, some stakeholders may express their resentment and fears about any initiative intended to hold them externally accountable. They may make exaggerated claims that centralized and integrated follow-up is the first step down a slippery slope to external micro-management. It serves the follow-up entity's purpose to allow stakeholders to do this kind of ventilating. It puts stakeholders' fears and resentments on the table where they can be addressed openly. Follow-up staff should allay stakeholders' fears for the record and refute any exaggerated claims then move on quickly to the business at hand -- scanning the environment.

The facilitator needs to be firm and persistent in keeping all parties on target after they've had an opportunity to ventilate. At an appropriate point, the facilitator must remind discussants that the focus group's purpose is to describe critical elements in the environment and to forecast how those elements will impact follow-up activities and services. Their purpose is neither to express value judgments about what has transpired nor to express what they hope will happen in the future.

Momentum is created to the extent that the facilitator and follow-up staff understand how they can lead focus group discussants in Socratic fashion to understanding and cooperation. Carefully phrased and tightly sequenced questions can transition a focus group session from griping and ventilating to purposeful discussion. Below are a few examples of questions structured to lead the discussion back to the point.

How can centralized and standardized follow-up help partner agencies and service providers document their former participants' post-exit successes to the satisfaction of a skeptical public?

How might outcomes data gathered by a detached and independent entity be used to justify program continuation or expansion? How can such data be used to recruit participants in the future? How can performance data be used to promote a positive public image?

How can stakeholders learn to work smarter not harder through information exchange? How can partner agencies and service providers avoid additional data collection burdens by building on work that has already been done? How can they address demands for accountability by harvesting data already in each others' management information systems?

How can the lead agency work to enable other stakeholders access and use decision-critical data? How can partner agencies and service providers be freed from spending scarce resources on data collection so they can focus on problem solving and program improvement?

How do we move beyond collection of outcomes data for compliance reporting to actually using performance data in a cycle of planning and evaluation for program improvement?

What are the respective roles of the follow-up entity, partner agencies and service providers in a data-driven approach to program improvement? How do their mutual customers benefit if each set of stakeholders plays an appropriate role in integrated and centralized follow-up?

In short, focus group discussions are a two-way street. On one hand, they are a way of soliciting information and opinions about the external environment from key stakeholders. On the other hand, they can serve to educate stakeholders and orient them into a new paradigm of performance-based accountability. Program administrators and service providers may have conducted other kinds of research they called follow-up -- inspecting internal processes and counting *outputs*. They may need to be educated to ask more meaningful questions that can lead to the collection of actionable data by the lead agency.

*It may be necessary to create constituencies who value information and a mandate to use outcomes data to drive program improvement.*

#### Partner ≠ push-over

In establishing the lead agency's credibility, follow-up staff will have allayed stakeholder fears and overcome lingering resentments. Staff will have acknowledged that the lead agency's role is limited to data collection and analysis. They will have exhibited professional empathy and an understanding of the problems faced by their partners. If the focus group sessions are not handled properly, however, participants may conclude that the fledgling follow-up entity will be the proverbial weak sister in one or more of the following respects:

- that follow-up staff will defer in all matters to the expertise of its partners;
- that the follow-up entity's function is solely to document successes (the implicit assumption being that it will spare partner agencies and service providers any public embarrassment if ever their performance data are unflattering);
- that the partner agencies and service providers (rather than program participants and/or the taxpaying public) are the lead agency's primary customers.

To combat these presumptions (or wishful thinking), follow-up staff must not bend over backwards too far in trying to appease fearful or resentful stakeholders. Staff must be assertive about matters within the scope of the follow-up entity's authority and special expertise. To avoid becoming push-overs, follow-up staff should develop *walk-aways* before going into focus group sessions. A walk-away is the predetermined point on an issue beyond which someone in a bargaining situation can no longer compromise. The advice McLaughlin and McLaughlin<sup>9</sup> give independent evaluation researchers on "walk aways" should be heeded by follow-up staff. They should walk away from the bargaining table: a) if the stakeholders want something the data cannot deliver; b) if the stakeholders are unwilling to cover the costs of data acquisition or when the data

delivery deadline is unreasonable; or c) whenever stakeholders want to use information in ways that are inconsistent with known professional guidelines.

If the follow-up entity is to succeed, it must be seen as a “co-equal” among partner agencies and service providers. While seeking input from stakeholders through focus group sessions, the follow-up entity and its staff should not come across as subservient. Certain key points must be established up front as staff works with focus group participants in scanning the environment.

1. Even though some stakeholders may fear or resent external accountability, the follow-up entity will pursue its mandate to gather, analyze and report outcomes data. The purpose of the focus group is to help determine what outcomes data should be gathered, analyzed and reported. Derailing the follow-up initiative is not an option.
2. The follow-up entity’s unique niche in the employment and training system is that of central data broker. As such, it has a legitimate role to play in making recommendations to partner agencies and service providers regarding issues of data quality control and in expressing professional judgments regarding definitional and methodological differences among them.<sup>10</sup>
3. The follow-up entity is serious about data privacy, confidentiality and security while also subscribing to the Golden Rule of Data Exchange.<sup>11</sup> (“Provide data onto others as you would have them provide data to you.”)
4. The follow-up entity’s commitment to customers of the employment and training system (including taxpayers and prospective clients) takes precedence over its commitments to partner agencies or to service providers).

While remaining firm and professional, follow-up staff also must come across as fair and impartial. A sense of fairness and impartiality can be created in several ways.

- Get discussants to focus on *value-added*.<sup>12</sup>

The concept of value-added is crucial to fairness in a performance-based accountability paradigm. It provides the framework for interpreting outcomes data. Follow-up staff should master the concept before any focus group is convened because they may have to educate discussants about the value-added approach.

The distinction between outcomes and value-added is poorly understood. By using outcomes and value-added as synonymous, partner programs and service providers may take undue credit for their former participants’ post-exit successes when, in fact, gross outcomes often depend to a large extent on cohort demographics and antecedent (i.e., pre-service) characteristics. Earnings among exiters of private postsecondary institutions, for example, are likely to be higher than earnings among exiters of public colleges and universities - not necessarily because they received a better education but because the selective criteria and higher tuition

costs of the former resulted in admissions of persons with fewer educational and economic disadvantages. Without information on participants' performance levels at time-of-entry, there is simply no way to interpret gross outcomes. To get at value-added, follow-up studies must include longitudinal elements (pre-service to post-service comparisons on key performance measures) and/or statistical controls for significant input factors (such as "percentage of the customer mix who were classified as hardest-to-serve," and tuition or cost of services provided). By leading focus group discussions in these areas, follow-up staff can signal the lead agency's intention to be even-handed in doing program assessments.

- Accommodate stakeholder interests only to the extent allowable under generally accepted rules of empirical research.

### *Multiple indicators approach*

Before convening a focus group, follow-up staff should understand the single indicator fallacy. In the employment and training arena, no single indicator can capture all desired outcomes adequately.<sup>13</sup> Indeed, taken one at a time, any given performance indicator may create perverse incentives.<sup>14</sup> Unfortunately, focus group discussants may press for a single indicator that captures the type of outcome their program most commonly produces. According to Ewell, "The single indicator approach is the bureaucrat's dream: It is simple, easily communicated, and probably cheap, and it allows easy choices among alternatives."<sup>15</sup>

As neutral parties, follow-up staff can help focus group members achieve consensus on a multiple indicators approach. Each group of stakeholders is granted use of measures that give them full credit for the kind of outcomes their customers typically achieve while the mix of measures -- taken as a whole -- are structured to off-set perverse incentives inherent in any given measure. A multiple indicator approach also will prove useful when the time comes for stakeholders to actually use outcomes data in program management and policy-making. Unflattering inferences drawn from a single performance indicator are more often ignored or explained away. On the other hand, appropriate response may be inescapable where multiple performance indicators converge through triangulation to support the same inference -- no matter how unflattering.

### *Avoiding false precision*

A focus group eventually will get around to discussing levels of measurement and presentation formats. Discussants from stakeholding groups accustomed to competing for scarce resources often are tempted to exaggerate the smallest differences between programs even if those differences are not statistically significant.<sup>16</sup> As neutral and detached discussants, follow-up staff can suggest ways to avoid conveying any sense of false precision in outcomes data. They can help by getting focus group members to agree on a relatively robust level of statistical significance for reporting purposes or ways to present data that will avoid erroneous inferences.

For example, although post-exit quarterly earnings can be captured to the nearest cent, staff might suggest transforming raw data into an performance indicator such as “percentage of exiters earning more than twice the minimum wage” or “percentage of exiters earning enough to move off public assistance.”<sup>17</sup>

### *Contemplating an adjustment model*

A model for making statistical adjustments to outcomes data follows logically from the value-added approach to performance measurement recommended above. The adjustment model used in the JTPA system can be used as a prototype for all outcomes-based program assessment.<sup>18</sup> It levels the playing field by taking into account factors like a program’s customer mix and labor market conditions in its service delivery area. By introducing the idea of a statistically-defensible model for making adjustments for factors that are beyond a program’s control, follow-up staff can demonstrate a sense of fairness and, thereby, win the confidence and support of stakeholders comprising the focus group.

- Demonstrate openness

Experienced evaluation researchers understand that a common stumbling block for organizations is “the tendency to wait for perfect measures instead of thinking in terms of improving measures over time. Each of the measures used. . . at the outset is generally not the best possible. Some measures are already in place and cannot be displaced easily, some data may not be available quickly or will be too burdensome to collect at present, and some objectives will [simply] require more definition.”<sup>19</sup> The collective wisdom of follow-up staff and their fellow focus group discussants will not necessarily lead to perfect measures or the ideal research design. Follow-up staff must take the lead in admitting fallibility -- coupled with a willingness to reinstitute the focus group process as necessary to review and revise decisions reached during the pre-launch phase.

### *Willingness to innovate*

The pre-launch scan of the environment can be a catalyst for change. Prior to any focus group discussion, follow-up staff should familiarize themselves with current methods used by partner agencies and service providers for collecting outcomes data (e.g., the JTPA system’s 13-week post-exit participant-contact surveys), their benefits, costs and limitations. Are the partners’ current methods dictated by statute or regulations? Are their cur-

***The Drunkard’s Search<sup>20</sup>***  
***Walking down a quiet street one night, a man saw a drunk on his hands and knees under a street light and asked, “What’re you doing down there on all fours?”***  
***“Looking for my keys,” came the reply.***  
***“Oh, do you think you dropped them around here?”***  
***“No, I lost them over yonder but the light is much better here under the street lamp.”***

rent methods simply old habits tied to a technology that was state-of-the-art of a bygone planning and evaluation cycle?<sup>21</sup> Are federal or state agencies with oversight responsibilities willing to wave existing guidelines to permit experimenting with new methods?<sup>22</sup>

Follow-up staff should be prepared to explain the relative advantages and disadvantages of automating the collection of any given data element. It may be necessary to propose piloting the use of new data collection techniques in tandem with current methods until the evidence is strong enough to warrant adoption of the newer method.

### *Flexibility*

While expressing a willingness to innovate, follow-up staff need to keep in mind that their purpose in scanning the environment is to understand their customers' information needs rather than to champion a particular technique (like automated record linkages).<sup>24</sup> It may take a combination of data collection techniques to get at all relevant outcomes for participating programs. (In fact, both Texas and Florida combine other data collection techniques with automated record linkages to get a more complete picture of outcomes achieved by the exit cohorts we study.) Follow-up staff must be aware of and openly acknowledge the limitations of any new techniques. It is also entirely possible that future technologies may make current state-of-the-art record linkage techniques obsolete. Staff should express a willingness to abandon techniques that don't work or which can be superseded with better techniques as technical innovations warrant. Above all else, follow-up staff must convince fellow focus group discussants that the central entity is committed to collecting useful outcomes data -- through whatever combination of techniques proves reliable, valid and cost-effective.

#### ***Kaplan's Law of the Instrument.***<sup>23</sup>

***There is a very real danger that some preferred set of techniques will come to be identified with scientific research as such. The pressures of fad and fashion are as great in science, for all its logic, as in other areas. . . [There is a human trait I call the law of the instrument that may be formulated as this:***

***Give a small boy a hammer, and he will find that everything he encounters needs pounding."***

- **Creating Momentum**

The very act of convening a focus group can be a visible signal of change -- an end to business as usual and an intent by the state to operate employment and training programs under a new accountability paradigm. It sends a message that performance measurement and accountability for results are being taken seriously.

By stimulating discussion, focus group activities may generate enough momentum to

launch a new follow-up initiative successfully. This can happen through improvements in both horizontal communications among stakeholders and vertical communications within programs.

#### *Improved horizontal communications*

Various employment and training programs were created at different times to serve different customer groups with little coordination among them. So long as dollars flow through categorical grants, programs may be operated in silos, with little communication between them. By participating on a focus group in the follow-up entity's environmental scanning process, key stakeholders may be made aware of the extent to which they unnecessarily duplicate each other's efforts while letting some customers fall through the cracks. They may establish closer relationships with other individuals who served with them on a focus group. Quite apart from their role in the environmental scanning activity, they may elect on their own to communicate more frequently and coordinate program planning with each other.

#### *Improved vertical communications*

Participation in a focus group may cause an anticipatory reaction. Operating on the premise that what gets counted is valued, discussants may return to their own entities and press for immediate improvements. Word can filter out from focus group participants into the field that program performance is about to be measured, evaluated and rewarded on the basis of post-exit results. That knowledge in and of itself may be used by program administrators and service providers to inspire improvements before any outcomes data can be collected. Bartik likens this anticipatory phenomenon to implementation of statistical quality control in manufacturing firms. It helps the workers get the process right and to maintain or improve it rather than waiting to inspect the final product to see whether or not it was good or bad.<sup>25</sup>

### ***Keys to Success***

There are several keys to success in using a focus group to scan the environment: 1) careful selection of group members; 2) advance preparation and research by designated staff; 3) tightly structured brainstorming; and 4) pragmatic synthesis of results.

#### *Composition*

Any focus group should be small enough to be manageable but should have broad enough membership to ensure that all relevant points of view are represented. To some extent, these two recommendations conflict. To meet both recommendations, it may be necessary to hold more than one focus group session.

If holding more than one focus group session, states may want to divide participants by:

1. *level* (e.g., convene one session for state-level stakeholders and one or more sessions around the state for substate officials and service providers);
2. *program* (e.g., convene mixed groups of state, substate and local service provider representatives separately for public and postsecondary education, workforce development, and/or public assistance programs); or
3. *cross-section* (e.g., randomly assign state, substate and local service provider representatives from all programs to mixed groups).<sup>26</sup>

Be sure to include key individuals from the full spectrum of employment and training programs to be studied.

- Key state officials -- for example:
  - representatives from the governor's office (especially intergovernmental relations);
  - members of the state legislature (especially labor and education committee members or policy specialists on the legislative staff);
  - performance measurement specialists from the legislative budget board (oversight entity);
  - members of the employment and training or human resource investment council(s);
  - representatives of partner agencies comprising the state's employment and training system; (include management information system administrators as well as strategic and operational planners);
- Substate officials -- for example:
  - members of Local Workforce Development Boards (LWFBs) or Private Industry Councils (PICs);
  - executive directors and/or planners from JTPA Service Delivery Areas (SDAs) and *One-Stop* Centers;
  - management information specialists from regional education service centers;
  - directors of regional Adult Literacy, Tech Prep and School-to-Work consortia;
  - representatives of regional advisory councils such as Job Security Employers Committees (JSEC) and local Vocational Advisory Councils;
- Service providers -- for example:
  - public education (K-12) officials (such as superintendents, assistant superintendents for career and technology education, and/or district-level management information system coordinators);

- representatives of public postsecondary institutions (particularly institutional researchers and vocational deans);
  - representatives of private postsecondary institutions and proprietary schools;
  - sponsors of on-the-job-training (OJT) and directors of apprenticeship training;
  - representatives of nontraditional service providers (e.g., corporate-sponsored postsecondary education or literacy training and distance-learning providers);
- Key interest groups -- for example:
    - business and industry leaders;
    - representatives of organized labor; and
    - directors of community-based organizations (particularly, *tax watch* groups and welfare-rights advocacy groups).

In recruiting focus group participants, keep in mind that the purpose of their efforts is to give practical guidance to the central entity as it implements follow-up services and activities. Participants should be selected for their insight and experience rather than stature. The focus group should not be a *blue ribbon* panel of dignitaries convened solely to give its blessing or lend its prestige to the follow-up entity during an official send-off. That can come later when the nitty-gritty work has been done and the follow-up entity is ready to market itself. At this stage, marketing hyperbole will be counter-productive to rigorous and objective environmental scanning.

***Environmental scanning is not a symbolic or marketing activity designed to give the follow-up entity high visibility nor is the focus group to officiate over some sort of grand opening.***

### *Laying the Foundation*

No focus groups can be expected to address all the issues from a cold start. Rather, focus group participants should be provided critical information in advance. At a minimum, members need to have a set of clearly defined questions to focus their efforts and a set of rules to ensure they stay on target as they participate in discussion sessions. To the extent possible, designated follow-up staff should do background research and translate the fruits of their efforts into briefing materials. While staff may not be privy to all the relevant factors likely to impinge on the follow-up entity from its external environment, their research can set the tone and suggest fruitful avenues for focus group members to explore on their own before arriving at a discussion session. In addition to a briefing paper, advance materials might include a bibliography and a list of relevant InterNet sights to explore.

Background research should start with a literature review -- including browsing through materials on the InterNet. This research effort should not be a random foray through the library and the vast resources of the InterNet. Rather it should have a guiding framework.

We suggest *PEST* analysis.<sup>27</sup> *PEST* analysis consists of listing significant **p**olitical, **e**conomic, **s**ocial and **t**echnical events, trends or factors likely to impact the fledgling follow-up entity. For the purpose of guiding the formation and initial implementation of integrated and automated follow-up, the questions of primary concern revolve around the impact of *PEST* events, trends or factors on: 1) the day-to-day operations of the central follow-up entity; 2) the type of outcome variables that must be gathered to meet the data needs of all interested stakeholders; 3) the types of independent variables that should be included in seed records in order to explain outcomes as they are gleaned from linked records; and 4) the kind of exogenous variables that should be harvested from auxiliary sources to make proper adjustments on outcome measures or to explain results in their proper context.

The table below suggests a handy way to organize information gathered through background research. (Obviously, the cells in the table are too small to record all the information uncovered by designated staff. The table is presented merely as a way to cluster similar events and factors together to make it easier at some future point in the process to identify common underlying themes.) In preparing briefing materials, follow-up staff should list as many relevant events, trends and factors as possible for each column. The focus group’s first task is to indicate in the corresponding cells below each header whether a trend or event presents a threat or opportunity for the lead agency. A numeric scale may prove useful. Let -10 represent a “grave threat,” -5 could indicate a “significant challenge,” +5 could denote “somewhat beneficial” and +10 could represent a “golden opportunity.” A zero on the scale would not indicate “insignificant;” a zero should stand for a “mixed blessing.” Issues, events or trends deemed insignificant should be dropped from the chart.

### Organizing Information Obtained Through *PEST* Analysis

<b>Likely impact on central follow-up entity’s activities and services:</b>	<b><i>PEST</i> Factors or Events</b>			
	<b>Political</b>	<b>Economic</b>	<b>Social</b>	<b>Technical</b>
Day-To-Day Operations				
Types of Outcome Data Needed to Address the Issues				
Types of Explanatory Variables to Include in Seed Records				
Types of Exogenous Variables to be Used in Adjusting Outcome Measures or Explaining Results in Context				

*PEST* analysis must be impact-oriented. The purpose of the exercise is not to list one event, trend or factor in each category; conversely, there is no need to limit the analysis to just one listing per category. It is not important how each entry is categorized. Indeed, most entries (except, perhaps those under the Technical heading) will be political, economic and social in nature. The purpose is to stimulate thinking about the implications for follow-up operations in general and the impact of specified events, trends and factors on the data elements to be included in the seed records, enhanced records, and contextual files. Any given event, trend or factor might not have an impact in all four areas of concern. However, to be worthy of inclusion in the briefing materials forwarded to focus group members, an entry must have a major impact on at least one of the areas of concern or at least a moderate impact on two or more areas of concern.

### *Examples*

*What impact will the work-first model of welfare reform have on the kinds of outcomes to be measured by the follow-up unit and the timeframe for measuring them?*

*What impact will School-to-Work or Tech Prep's emphasis on work-based activities have on variables to be included in public education's seed records?*

### *Tight control*

*PEST* analysis can easily get out of hand. Focus group members will be asked to discuss the data ramifications of hotly debated issues. Unless the process is tightly controlled, discussants may get caught up in partisan side-taking on those issues. The facilitator -- along with follow-up staff in attendance -- must constantly bring focus group participants back to the task at hand. What you're after is opinions about the likelihood of events and their impacts, not their desirability. One way to keep tight control of the focus group process is to use a variant called the *Delphi Technique*.

### *The Delphi Technique*<sup>28</sup>

The *Delphi Technique* was developed by Rand Corporation in the 1950s to help disparate stakeholders in the defense establishment achieve consensus on controversial issues. It involves multiple iterations of information exchange among experts who do not necessarily meet face-to-face. In fact, physical distance between focus group members can be turned to advantage. The anonymity of the arrangement allows discussants to be more frank. Independent thought is facilitated because no individual can dominate the process simply by being the loudest and most vocal and because group pressures and subliminal cues are not present to create *group-think*. Most importantly, the facilitator can serve as a filter. Rather than transmitting information and opinions *verbatim*, the facilitator can provide controlled feedback. Confrontational, self-serving and irrelevant items can be eliminated to keep information exchanges concise and problem/solution oriented.

After each round of exchanges, the facilitator summarizes the issues. Areas of agreement are identified as are those where differences of opinion remain. The facilitator synthesizes and circulates the prior round's majority position along with dissenting views. Those in dissent are asked to clarify or justify their positions. Additional iterations of discussion, synthesis, and explanation are completed until consensus is achieved.

### **Expectation Exercise<sup>29</sup>**

The final step in the environmental scanning phase should be an *expectation* or *imagining exercise*. In this exercise, stakeholders (perhaps the same experts who participated in focus group sessions) are asked two things:

- 1) In the worst case scenario, what might outcomes data say about your program's performance?
- 2) Should that worst case occur, what are you prepared to do about it?

Such an exercise serves several purposes. First, it can serve to eliminate surprises. If surprised down the road by actual data, stakeholders may react emotionally -- defending their programs, challenging the data, questioning the need for performance-based accountability. The imagining exercise requires them to dig into what they already know about their program performance -- a reality check that forces them to come to grips with any problems that may have been ignored or swept under the rug because performance measurement has never before been taken so seriously. Secondly, it serves as another stimulus to action (per the previous discussion of improved vertical communications on page 84.) Lastly, it orients them to rational action by getting them to arm themselves in advance with a plan for improving programs in case the data indicate poor performance. Having a plan of action in hand, they will be more confident and secure.

### **Results of Environmental Scanning**

As a result of an environmental scan, the follow-up entity should have its marching orders." Whether through staff research, statewide hearings, consultant advice and/or focus group sessions, an understanding must be achieved concerning the follow-up entity's customers and their information needs. The data elements for both seed records and enhanced files should be defined -- at least conceptually if not operationally. The environmental scan should result in a roadmap to data elements already available in partner agency and service providers' management information systems along with: a) a short-range plan for making do with available data and proxies for ideal measures; and b) a long-range plan for perfecting measures. The follow-up entity also needs to determine when its customers need outcomes data and how they want those data delivered. Hopefully, the scanning process will result in securing agreement in advance from stakeholders to actually use follow-up data to guide policy choices and program management decisions.

To determine if the environmental scan succeeded, we suggest that staff review the resultant strategic plan for follow-up. In particular, the data elements to be collected need to be assessed along the following criteria:<sup>30</sup>

[ ] *Defensibility* -- can collection be justified on a need-to-know basis?

This will be particularly important:

a) in negotiating terms of data exchange agreements (per Chapter IV); and

b) publicly justifying the lead agency's access to and statistical uses of individually-identifiable or firm-specific information.

[ ] *Policy coverage or utility* -- taken as a whole, do the measures provide handles for action; i.e., have all decision-critical elements been anticipated? Are they relevant to important policy issues? What is the potential of data on a particular variable for guiding action to achieve policy objectives?

[ ] *Breadth of Applicability* -- are they part of the core phenomena experienced by all stakeholders in the employment and training system or only to a particular program or a subset of service providers? To what extent will data on a particular variable meet the needs of multiple stakeholders?

[ ] *Leverage* -- do the data elements help identify phenomena within stakeholders' control? Will they actually be able to do something constructive if the data expose poor performance?

It does little good to gather thousands of measures in an attempt to gain a .005 percent increase in positive outcomes.

[ ] *Invulnerability* -- can they be used to assess genuine value-added and degrees of program improvement without being subject to manipulation in ways that do not benefit the customers?

[ ] *Interpretability* -- do they make sense (particularly to the decision-makers)? Are they understandable?

[ ] *Technical adequacy* -- are they valid and reliable?

a) Have they been (or can they be) operationally defined in ways that allow quantitative measurement?

b) Will the level of precision in the measurements be within the decision-makers' range of tolerable error?

- [ ] *Credibility* -- will the decision-makers believe the data once they are gathered?
  - a) Have decision-makers in the past attempted to gather identical or similar data?
  - b) Have new or modified approaches to collecting the data been field-tested -- at least through small-scale pilot projects?
- [ ] *Balance* -- taken as a whole, do they create any perverse incentives? Are they perceived as fair and even-handed by stakeholders regardless of their individual niche in the employment and training system?
- [ ] *Appropriate standards of comparison* -- has sufficient attention been given to:
  - a) explanatory variables to be included in seed records;
  - b) exogenous variables in contextual files; and
  - c) possible adjustment factors?
- [ ] *Practicality* -- this characteristic has four components:
  - a) *Availability* -- are the data already available within existing management information systems or will a new effort be required to gather the data? Will additional parties have to be brought into the centralized follow-up system in order to gain access to their data?
  - b) *Economical* -- can they be obtained at a reasonable cost and without putting unnecessary burdens on key stakeholders?
  - c) *Timely* -- can *ripe* data<sup>31</sup> be obtained in time to be fed into decision-makers' planning and evaluation cycles?
  - d) *Unobtrusiveness* -- can the data be obtained as a natural by-product of program operations without interfering with the service delivery itself?<sup>32</sup>

**Addendum 1**  
**Who's on first? -- Recommended Roles in Environmental Scanning**

Develop a framework for structuring focus group discussions	Outside consultant
Develop a list of <u>category</u> of stakeholders to invite	Outside consultant
Finalize list of actual invitees	Follow-up staff
Draft letter of invitation	Follow-up staff
Issue letter of invitation	Prominent in-state official
Develop list of discussion points that cross state lines and related briefing papers (Round Zero)	Outside consultant
Develop list of relatively unique in-state discussion points and related briefing papers (Round Zero)	Follow-up staff
Facilitate round one of group discussions Enforce discussion rules (particularly germaness) Record input in detail Synthesize results of round one	Outside consultant Follow-up staff Outside consultant
Between successive rounds Notify focus group members about issues where consensus has been achieved Identify areas where no consensus was achieved and indicate the order of magnitude for remaining differences of opinion Summarize dissenting minority positions Prompt participants in the minority on any given issue to explain and defend their positions	Outside consultant
Facilitate Nth rounds of discussion (as necessary)	Outside consultant
Draw conclusions Summarize results of the final round of discussions Make recommendations Draft tentative plan of action	Outside consultant Outside consultant Follow-up staff
Validate plan of action	Public hearings
Finalize plan of action	Follow-up staff
Facilitate expectation or imagining exercise	Follow-up staff

**Addendum 2**

## **Recommended Staff Research as a Prelude to Focus Group Discussions**

Follow-up staff should prepare well in advance of any focus group discussion by doing background research. At a minimum, this should include the following activities:

- Obtain copies of all partner agencies' performance measures and program evaluation instruments.
- Determine what outcomes service providers are required to report to partner state agencies or agency substate offices.
- Determine what outcomes partner state agencies report to those federal agencies which funded some or all of the services they rendered.
- Determine what outcomes partner state agencies report to the governor, the governor's staff and/or state policy councils.
- Determine what outcomes partner state agencies report to the state legislature and/or legislative committees.
- Determine what outcomes partner state agencies report to the legislative budget oversight office and/or to the State Comptroller of Public Accounts.
- Determine if partner state agencies or service providers customarily release outcomes-based performance indicators or aggregated data to the public or mass media.
- Determine if any reports pursuant to the obligations listed above are disaggregated by gender, ethnicity, or other targeted subpopulation/demographic characteristics.

A master matrix will help follow-up staff keep track of all outcomes-based performance measures currently used by potential partner agencies and service providers. (Sample on the next page.) Once all partner agencies and service providers' performance measures are logged into a convenient matrix, identify areas of overlap.

- ☞ Are some performance measures universally applied to all programs listed in the matrix? (These will constitute the core performance measures.)
- ☞ Is the same operational definition applied to all programs subject to a common performance measure?

As states reorganize disparate programs under an integrated human resource investment council, they are more likely to adopt common performance measures than they were when separate agencies were responsible for administering the same programs funded under categorical grants. Where this has occurred, follow-up staff can make an initial favorable impression on stakeholders (without entangling themselves in dysfunctional controversy) if they concentrate on areas where cross-program and cross-agency consensus has already been achieved on the applicability of common performance measures. Partner agencies can be offered a neutral and effective service for collecting data on those common (or *core*) measures while they iron out their differences of opinion about the applicability of other measures.

*A core performance measure is one that meets two conditions: it is applied universally and defined consistently across all programs in the matrix.*

**SAMPLE PERFORMANCE MEASURE TRACKING MATRIX**

The Employment and Training System		Performance Outcome Measure				
		M <sub>1</sub>	M <sub>2</sub>	M <sub>3</sub>	M <sub>4</sub> . . .	M <sub>n</sub>
<b>P R O G R A M</b>	Food Stamp Employment & Training					
	Adult Education & Literacy					
	JTPA (include all titles)					
	Job Opportunities & Basic Skills (JOBS)					
	Secondary Education					
	Postsecondary Education					
	Tech Prep					
	School-to-Work					
	Corrections-Based Education					
	Food Stamp Employment & Training					
	Program <sub>N</sub>					
	Program <sub>Z</sub>					

*Let Programs N through Z represent any other potential customer groups identified by the central follow-up entity based on its review of the literature, similar activities in other states, current or pending legislation (federal or state), or interest expressed to the follow-up design team by stakeholding groups themselves. Let M<sub>1</sub> through M<sub>n</sub> represent applicable outcomes-based performance measures. Each cell (P∩M) should contain an operational definition of the measure.*

Post-exit employment, for example, may be defined as a desirable outcome for all programs in the matrix. The performance measure might be defined for all programs as “earnings greater than \$0 in the first full quarter ( $Q_{+1}$ ) after the participant no longer received services.” In that case, the central follow-up entity can help partner agencies achieve cost-savings by facilitating automated linkages to the state’s Unemployment Insurance (UI) wage records as an alternative to conventional post-program/participant-contact surveys.

To make an effective case to present to partner agencies, follow-up staff should do its own study on the feasibility of collecting data for each common core performance measure. Such a study would consist of the following steps:

- 1) Determine how outcomes data for each measure are collected currently.
  - a) How many participants exit each partner agency’s programs annually?
  - b) At what intervals does each respective exit cohort need to be studied? and
  - c) What does each partner agency currently spend on conventional follow-up?
- 2) Determine if equivalents to or proxies for the data currently collected by traditional survey methods are available in existing databases.
- 3) Determine if automated record linkages can be established to gather information about outcomes currently documented in existing databases. This determination may require several subtasks:
  - a) Is the outcomes resource database stored on magnetic media or only in hardcopy files?
  - b) If stored electronically, get specifications on the file type and format of the database and the data dictionary.
  - c) Can the database be accessed electronically directly from the platform used by the central follow-up entity? If not, what platform-to-platform communications must be established?
  - d) Who is authorized legally to negotiate the data exchange agreements necessary to give follow-up staff access to those databases?
  - e) Quite apart from the question regarding legal authorization for information exchanges, has the potential partner agency exhibited resistance to the central follow-up entity’s overtures to engage in data sharing? Whose assistance and influence might be valuable when negotiating necessary data exchange agreements?
- 4) Assuming data exchange agreements can be obtained, determine the cost of gathering relevant outcomes data through automated record linkage techniques.
- 5) Estimate how long the conversion from traditional follow-up to automated follow-up will take under various scenarios. The scenarios should take into account the impact different funding options and levels might have on the pace of transition.<sup>33</sup>
  - a) If necessary, segment the transition from conventional follow-up to automated follow-up into workable phases with a price tag for each phase.
  - b) When offering to provide services in any suggested phase, be sure to attach the caveat, ***“Contingent upon available funding.”***

The next step is to identify measures that are defined consistently but not applied universally to all partner agencies' programs and services. In some cases, a performance measure might not apply to all programs in the matrix but, where applied, has a consistent operational definition. Again, without getting entangled in cross-program or cross-agency debates, follow-up staff can be of invaluable service by gathering data for programs to which any common performance measures apply. In addition, staff should explore the feasibility of gathering the same data for programs to which the performance measure in question does not yet apply.

***Program-specific are not as universally applicable as core measures. They consist of data elements which apply to some but not all partner agencies or service providers in the employment and training system.***

There are several conditions under which an offer to gather the data may be well received:

- Program administrators and service providers may have contemplated using a particular common performance measure but elected not to do so because it would be cost-prohibitive to gather required data elements through conventional methods. An offer to gather data for them in a cost-effective fashion may enable these stakeholders to join other partner agencies in using the common performance measure.
- In other instances, program administrators and service providers may be under pressure by a Human Resource Investment Council or other policy-advisory board to adopt a performance measure that is being applied to related programs and services offered by their partner agencies. Anticipating that they eventually will have to capitulate, these stakeholders may want to begin accumulating data to guide them when the time comes to set a standard on the common performance measure. Armed with several years' worth of data, they can avoid being saddled with an unrealistic standard.
- Lastly, there may be some cases where a program is exempted permanently from a performance measure applied to most other related programs. In these cases, program administrators and service providers might still want to have the same data as other partner agencies to guide program management.<sup>34</sup>

*Example: Training-relatedness of job placements may be used under the Job Training Partnership Act (JTPA) to measure the effectiveness of occupationally-specific training services and by the state's Higher Education Coordinating Board to assess vocational education programs offered at public community and technical colleges. At the same time, training-relatedness might not yet be applied as a measure of effectiveness for secondary education and training, academic and transfer programs offered at community colleges or baccalaureate and post-baccalaureate programs offered by public institutions of higher education. Nonetheless, data on the training-relatedness of their program placements may be useful to management decision making by secondary and university level administrators and academic program direc-*

tors at all levels. In fact, training-relatedness might never be applied to some of these programs. The point is: make an offer to collect the data on a voluntary basis even if the performance measure in question is not required officially. Let each set of stakeholders accept or reject the offer. The decision to apply any performance measure to any given program is not the central follow-up entity's to make; rather, such decisions should be left in the hands of those with the authority to make policy. Offer to help while, at the same time, avoid overstepping the follow-up entity's authority. That way, the lead agency can gain support by providing customer service without being perceived as having the kinds of policy-making and enforcement powers that might make stakeholders feel threatened.

The next thing to glean from a performance measure matrix is information about cases where the same kinds of outcomes are desired for several programs but where partner agencies use different operational definitions of the applicable performance measure. Disparities in the indicators used by separate programs to assess their respective former participants' achievement of a commonly desired outcome are highly probable. That is because various programs' performance measures probably were devised independently of each other. It is entirely possible that one way of measuring the performance outcome (say the measure used by Program<sub>A</sub>) will prove to be more efficient, valid and reliable than the method used by Program<sub>B</sub>. Moreover, administrators from Program<sub>B</sub> might be willing to adopt the measure used by the partner agency that administers Program<sub>A</sub>. In such cases, the central follow-up entity can serve as a catalyst for standardizing performance measures across programs simply by bringing best practices to the attention of all partners.

Staff should review the literature to ensure that they've missed no opportunity to be of service to stakeholders. A literature review should ask the following questions at a minimum: What is going on in other states? What programs are served by central follow-up entities in other states? What impact will pending legislation, policy initiatives or emergent theories have on opportunities to serve existing stakeholders? Will pending legislation, policy initiatives or emergent theories engender a stakeholding interest in automated follow-up among groups not yet served?

Armed with background research, follow-up staff can go into focus group discussion with a pretty good idea of what to expect. Well-prepared, they should be able to sort through any bureaucratic rhetoric and self-serving posturing by other focus group participants.

**Go to Addendum 3** 

### **Addendum 3**

## Suggested Topics to Stimulate Focus Group Discussion and PEST Analysis

### Opening Remark

*“Decisions are shaped by the demands and opportunities in the environment, resource constraints, and the values of decision-makers.”*

*Victor Borden and Edward Delaney*

Information Support for Group Decision-Making in Ewell (ed.) *op. cit.* (1989) p. 50

### Useful Historical Examples

The employment and training system is expected to react to events in the external environment even though many of those events are beyond the system’s control. Several classic cases come to mind. In 1957, for example, the Soviet Union’s launch of Sputnik created a perception that the United States was losing the Space Race. That, in turn, triggered fears that we were losing the Arms Race and our global economic domination. Public reaction placed a large share of the blame on our schools. The National Defense Education Act was passed to remedy the perceived inability of American Students to compete internationally in math and science -- fields of study deemed critical to regaining the lead in the space and arms races. Taxpayers began to pay more attention to the performance of American students on national achievement tests. For a more detailed impact study, see Joel Spring, *The Sorting Machine* (New York City, NY: David McKay Company, 1976).

More recently, America’s loss of worldwide economic hegemony has caused many scholars to look more closely at the skills of its workforce. See *A Nation At-Risk, America’s Choice: high skills or low wages!*, and *The Report of the Secretary’s Commission on Achieving Necessary Skills*.

### For Discussion

What are the likely impacts and data ramifications of the following:

- 1) Proposals pending before Congress to replace categorical funding with block grants and the general trend toward both devolution and privatization of service delivery under the rubric of *reinventing government*.
- 2) Education and training reform initiatives such as Tech Prep, School-to-Work, voucher systems and charter schools (including the emergence of distance-learning providers and training-on-demand)?
- 3) Federal legislation such as recent amendments to the Job Training Partnership Act and the Carl D. Perkins Vocational and Technical Education Act concerning joint outcomes-based performance accountability?

-- suggested reading, Office of Strategic Planning and Policy Development, “*Core Data Elements and Common Definitions for Employment and Training Programs*” (Washington, DC: DOL/Employment and Training Administration, 1994).

- 4) Other federal legislation pertaining to accountability:
  - Government Performance Reporting Act of 1993?
  - Student Right-to-Know and Campus Security Act of 1994?
  - Chief Financial Officers’ Act of 1994?
  - also growing public sensitivity to consumer rights and protection
  
- 5) Federal Legislation pertaining to data privacy and confidentiality:
  - Privacy Act of 1974?
  - Family Education and Right to Privacy Act?
  - Paperwork Reduction Act of 1995?
  - Computer Matching and Privacy Protection Act of 1988?
  - Pending sections of House and Senate versions of Omnibus Education Bills?
  
- 6) Decreasing public confidence in government in general and increasing skepticism about the capacity of education and training providers to prepare a highly skilled workforce?
  - suggested reading: Robert Zemsky, “*To Dance with Change: the Pew Higher Education Round Table*” in *Policy Perspectives* (vol. 5 #3 (April 1994) and Robert Wallhaus, Trudy Beers et. al., *Results of Round II Delphi Discussions* (Washington, DC: National Center for Education Statistics/National Postsecondary Education Collaborative. 1997).
  
- 7) The changing demographics of both secondary and postsecondary students?
  
- 8) The Work-First model of welfare reform under the Personal Responsibility Act?
  
- 9) Demands for a balanced budget and decreased funding for employment and training programs relative to the size of the eligible population?
  
- 10) Affirmative action cases concerning postsecondary admissions?
  
- 11) Increasing computer storage capacity, connectivity and processing speed along with decreasing prices?

Staff’s background research coupled with focus group analysis of the environment will give the design team sufficient information to draft a concrete plan of action. The next step is to model the activities and services. **Go to Addendum 2 in Chapter IV (p. 176)** 

## ENDNOTES

- <sup>1</sup> A number of studies -- invaluable for their seminal conceptual and definitional contributions -- should be included in every fledgling follow-up entity's reference library. See, for example, John Baj, Charles E. Trott and David Stevens, "*A Feasibility Study of the Use of Unemployment Insurance Wage-Record Data as an Evaluation Tool for JTPA*" (Washington, DC: National Commission for Employment Policy Research Report 90-02, 1991).

The National Governors' Association compiled an inventory of follow-up activities in 1993. See Lorraine Amico, "*State Capacity to Use UI Wage Records: The Vocational Education Experience*" (Washington, DC: National Governors' Association, 1993). See also Rosyln Korb, "*Postsecondary Student Outcomes: A Feasibility Study*" (Washington, DC: U.S. Department of Education/Office of Educational Research and Improvement/National Center for Education Statistics; February, 1992). Unfortunately, these are already out of date.

- <sup>2</sup> This *Guide* takes a different approach than the inventories and feasibility studies mentioned above. Per our *Letter to the Readers* (pgs. i-ii of this publication), the co-authors feel that:
- a) a structural-functional approach modeled after the *Occupational Information System Handbook* (Washington, DC: National Occupational Information Coordinating Committee, 1981) will be more useful to stakeholders; and
  - b) the time is ripe to move beyond feasibility studies to write an action-oriented cookbook.

The co-authors want to provide a view of the issues from the trenches and share their experiences directly with other stakeholders in an effort to get at the subtle (and sometimes not so subtle) political undercurrents. In doing so, we get into the day-to-day operations of follow-up entities and go beyond the broad concerns covered by Karen Levesque and Martha Alt in "*A Comprehensive Guide to Using Unemployment Insurance Data for Program Follow-Up*" (Washington, DC: National Occupational Information Coordinating Committee; July 1994).

- <sup>3</sup> Robert Glover and Jeffery Holmes, "*Assessing the External Environment*" in Norman Uhl (ed.) *Using Research for Strategic Planning* (San Francisco, CA: Jossey Bass Publishers, 1983) p.7.
- <sup>4</sup> *Ibid.* p. 11.
- <sup>5</sup> Carol Mowbray, "*The Gradual Extinction of Evaluation within a Government Agency*," in Micah Dial and Carla Stevens (eds.) *Preventing the Misuse of Evaluation* (San Francisco, CA: Jossey Bass Publishers, 1994), p. 33.
- <sup>6</sup> *Ibid.*, p.69.

- <sup>7</sup> Peter Ewell, “*Implementing Assessment: Some Organizational Issues*” in Trudy Banta (ed.) Implementing Outcomes Assessment: Promises and Perils (San Francisco, CA: Jossey Bass Publishers, 1988) p. 77.
- <sup>8</sup> *Ibid.*, p. 23.
- <sup>9</sup> Gerald McLaughlin and Jossetta McLaughlin, “*Barriers to Information Use: the Organizational Context*,” in Peter Ewell (ed.) Enhancing Information Use in Decision-Making (San Francisco, CA: Jossey Bass Publishers, 1989) p. 32.
- <sup>10</sup> In Texas, for example, many proprietary school operators saw the consumer reports issued by the state’s central follow-up entity as a useful tool for recruiting students. They wanted information about their programs included in files distributed to One-Stop career centers across the state. They proposed giving the central follow-up entity results of their own studies of their graduates’ post-exit achievements. The central follow-up entity, however, insisted that comparability of data (definitionally and methodologically) was the price of admission. As long as performance data for their chief competitors (public community and technical colleges) was based on completers and leavers (not just graduates) gathered through automated record linkages (rather than through respondents’ self-reported outcomes), proprietary schools’ performance histories were not included in Texas’s consumer report system until they agreed to participate fully in automated follow-up on the lead agency’s terms.
- <sup>11</sup> J. Dunn, Jr., “*Electronic Media and Information Sharing*,” in Ewell (ed.) *op. cit.* (1989) p. 82. In the co-authors experience, the Golden Rule often is ignored by agencies and service providers who may operate on the selfish premise, “What’s mine is mine; what’s yours is ours.” Public education officials may feel that they can be entrusted with firm-specific information in order to document their education and training program’s labor market outcomes **but** that none of the other partners should have access to their files because individually-identifiable information about their former students is too sensitive. Similarly, criminal justice division officials and welfare agencies will assert their needs for access to other partners’ files while contending that incarceration records or public assistance payment information respectively are too sensitive to share. In other words, “I can be trusted to keep your data confidential but you can’t be trusted with mine because the data I possess is more sensitive than yours.”
- <sup>12</sup> Alexander Astin is the chief advocate of a value-added approach to program evaluation. For a condensed summary of his approach, see “*Value-Added and Academic Excellence*” in Diane Halpern (ed.) Student Outcomes Assessment (San Francisco, CA: Jossey Bass Publishers, 1987) pp. 94-95.
- <sup>13</sup> Tech Prep programs are designed to prepare students for immediate labor market entry and to succeed at higher levels education and training. To describe successful Tech Prep outcomes fully, post-exit employment rates and percentage of leavers continuing to pursue postsecondary education must be captured with neither measure weighing more than the other.

- <sup>14</sup> The concept of *perverse incentives* has been discussed by Ray Marshall and Marc Tucker in Thinking for a Living (New York City, NY: Basic Books, 1992). The classic example involves the singular use of post-exit employment rates to evaluate employment and training programs. Unless counter-balanced with incentives or rules requiring them to serve the *hardest-to-serve*, providers -- working on the premise that “what gets measured is what counts” -- may play a numbers game by *creaming* (serving the *most job-ready*) and taking credit for job placements that the participants might have been able to obtain in the absence of any assistance. Unless counter-balanced with measures of earnings-at-placement or long-term employment retention, single-minded use of a post-exit employment measure may tempt education and training providers to push participants out the door and into short-term, low-wage jobs rather than providing the knowledge, skills and abilities they need to achieve long-term economic security and financial independence.
- <sup>15</sup> Peter Ewell in Banta (ed.) op. cit. (1988) p. 21.
- <sup>16</sup> See Astin, op. cit.
- <sup>17</sup> The California State Job Training Coordinating Council has suggested report formats that avoid conveying false precision: “percent earning more than X times the minimum wage” or percentage earnings more than Y times the federal definition of poverty for a family of four.” See “Solicitation for Proposals General Announcement #80128: Design and Operation of SB 645 Performance-Based Accountability System” (Sacramento, CA: Employment Development Department/Office of Workforce Policy, 1997) p. 29.
- <sup>18</sup> For a succinct discussion of the rationale behind the JTPA adjustment model and the general suitability of using adjustments to performance indicators in other employment and training programs, see Timothy Bartik, Using Performance Indicators to Improve the Effectiveness of Welfare-to-Work Programs (Kalamazoo, MI: W.E. Upjohn Institute, 1995), pp. 23-52.
- <sup>19</sup> Sharon Caudel, “*The Information Technology Factor*” in Kathryn Newcomer (ed.) Using Performance Measures to Improve Public and Non-Profit Programs (San Francisco, CA: Jossey Bass Publishers, 1997) p. 73.
- <sup>20</sup> Abraham Kaplan, The Conduct of Inquiry (New York, NY: Chandler Publishing, 1964). p. 11.
- <sup>21</sup> The 13-week participant-contact survey to gather post-program outcomes data has been around since JTPA replaced CETA and has taken on a life of its own in the sense that stakeholders in that system are comfortable with that approach. That approach, however, initially was adopted as an interim solution. States in DoL Region 1 (the Northeast) actually experimented with using automated record linkages to their respective UI wage record files. While the pilot test demonstrated the utility of using record linkages, adoption of automated follow-up across the entire JTPA system was postponed because some states still operated their Unemployment Insurance programs on a record request basis. The compromise was to use participant-contact

surveys only until the vast majority of states had wage record databases. See “*Technical Paper #2: Future JTPA Performance Standards*” (Washington, DC: Employment and Training Administration, November 1982) and “*Technical Paper #8: Post Program Data Collection and Performance Standards Issues*” (Washington, DC: December 1982).

<sup>22</sup> In Program Year 1996-1997, the Employment and Training Administration expressed a willingness to waive its 13-week follow-up guideline to allow the substitution outcomes data harvested UI wage records and actively encouraged states to take advantage of the offer.

<sup>23</sup> *Op. cit.*, p. 28.

<sup>24</sup> To some extent, the co-authors of this *Guide* are guilty of over-emphasizing the marvels of automated record linkages for cost-effective collection of outcomes data. We consciously introduced the idea of automating follow-up in Chapter I to capture the readers’ attention because the cost-savings involved are a powerful inducement for partner agencies and service providers to join in a common integrated and centralized follow-up initiative. We have taken care, however, to note: 1) gaps in the scope of outcomes data that can be gathered through record linkages; and 2) quality control problems in outcomes-resource databases.

<sup>25</sup> Bartik, *op. cit.* Pp. 1-5.

<sup>26</sup> If possible, avoid convening focus groups comprised of members representing only one stratum of one program (e.g., state-level JTPA officials). Excessively homogenous groups tend to share and reinforce each others’ limited perspective. A diverse focus group (mixed by program and strata) is more likely to alert a design team to the full panoply of issues. While striving for diversity, it is also important to ensure that all participants feel free to voice their opinions. The rules governing the focus group discussions must prohibit individuals from pulling rank. For example, opinions voiced by local service providers as well as state legislators should be considered on their merits rather than according to status considerations.

<sup>27</sup> The concept of P.E.S.T. analysis is adapted from Michael Dolence and Donald Norris, “*Using Key Performance Indicators to Drive Strategic Decision Making*” in Trudy Banta and Victor Borden (eds.) *Using Performance Indicators to Guide Strategic Decision Making* (San Francisco, CA: Jossey Bass Publishers; 1994). pp. 63-80.

<sup>28</sup> Glynton Smith, “*Institutional Fact Book*,” in Uhl, *op. cit.* P. 84.

<sup>29</sup> See Peter Ewell in Banta (ed.) *op. cit.* (1988) p. 21; and Peter Ewell in Ewell (ed.) *op. cit.* (1989) p. 11.

- <sup>30</sup> These criteria are a composite taken from a variety of resources including: Patrick Terenzini, *Student Outcomes Information for Policy-Making* (Washington, DC: U.S. Department of Education/National Center for Education Statistics, 1997) p. 14; and Peter Ewell and Dennis Jones, “Data, Indicators, and the National Center for Higher Education Management Systems” in Banta and Borden (eds.) *op. cit.* p. 28.
- <sup>31</sup> For additional information on the concept of *data ripeness*, see Marc Anderberg, “Waiting for Data to Ripen: The Case of Premature Evaluation” (unpublished paper prepared for the National Tech Prep Conference, 1997).
- <sup>32</sup> The Heisenberg Principle in the physical science warns researchers that any attempt to measure a phenomenon may alter the phenomenon to be measured. This principle, as applied to the social sciences, is addressed briefly in most text books on research methods. One work regarded as the definitive treatise on the subjects is Eugene Webb, Donald Campbell, Richard Schwartz and Lee Sechrest, *Unobtrusive Measures: Nonreactive Research in the Social Sciences* (Chicago, IL: Rand McNally, 1966).
- <sup>33</sup> The cost of rendering follow-up services is not necessarily a linear function of the number of seed records processed. Costs also will depend on the number of partner agencies and/or education and training providers served directly by the follow-up entity and the number of services rendered to each. Three hypothetical follow-up entities are used in the illustration on the next page. Assume that each processes the same number of seed records but the configuration of partner agencies differ as do the number of services rendered over and above data collection. In the example, hypothetical entities #1 and #2 might operate in states of comparable size with each doing follow-up on roughly 75,000 postsecondary (public and private) completers and leavers and 25,000 JTPA program exiters in a given program year. Hypothetical entity #3 might operate in a smaller state yet process as many seed records by virtue of doing follow-up in 62,000 postsecondary completers and leavers, 22,000 former JTPA participants and 16,000 former participants from JOBS and Food Stamp E&T programs.
- <sup>34</sup> In fact, if block grant funding arrangements are adopted, they may need comparable data in order to compete effectively for dollars currently earmarked for them through categorical funding.

### How Factors Other Than Number of Seed Records Impact the Cost of Follow-Up Services and Activities

Factor to Consider	Entity 1	Entity 2	Entity 3
<p><b>Number of partner agencies served</b></p> <p>Number of batch runs to link seed records to UI wage database</p> <p>Total set-up charges for processing each batch . . . . .</p> <p>Number of seed records processed in UI wage record linkage at \$ .001 per record . . . . .</p>	<p>2</p> <p>1 consolidated run</p> <p>\$ 35.00</p> <p>100,000</p> <p>\$ 100.00</p>	<p>2</p> <p>2 batch runs</p> <p>\$ 70.00</p> <p>100,000</p> <p>\$ 100.00</p>	<p>3</p> <p>3 batch runs</p> <p>\$ 105.00</p> <p>100,000</p> <p>\$ 100.00</p>
<p>Basis for <b>linking seed records to other databases</b> (e.g., OPM) record count for auxiliary linkages</p> <p>Number of auxiliary databases tapped electronically</p> <p>OPM = Office of Personnel Management (federal civil service); USPS = Postal Service; DoD = Department of Defense; state higher ed. = master public postsecondary enrollment file; public assistance = welfare assistance disbursement history file</p> <p>Cost to do auxiliary record linkages at \$.01 per record . . . . . includes shipping, handling, communications with auxiliary entities</p>	<p>exceptions only</p> <p>10,000</p> <p>3</p> <p>OPM, USPS, DoD</p> <p>\$ 300.00</p>	<p>exceptions only</p> <p>10,000</p> <p>5</p> <p>OPM, USPS, DoD state higher ed. public assistance</p> <p>\$ 500.00</p>	<p>entire exit cohort</p> <p>100,000</p> <p>5</p> <p>OPM, USPS, DoD state higher ed. public assistance</p> <p>\$5,000</p>
<p>Cost of processing <b>data files for distribution to stakeholders</b></p> <p>LWFDB = Local Workforce Development Board; IR officer = post-secondary institutional research officer</p> <p>at \$10 per subfile generated . . . . .</p> <p>Mode of delivery</p> <p>Cost of data file dissemination (supplies and fees) . . . . .</p>	<p>to 2 state-level partner agencies only</p> <p>\$ 20.00</p> <p>electronic</p> <p>nominal</p>	<p>to 2 state-level partner agencies and 10 LWFDBs</p> <p>\$ 120.00</p> <p>via bonded service</p> <p>\$ 120.00</p>	<p>to 3 state-level partner agencies, 10 LWFDBs and 25 college IR officers</p> <p>\$ 380.00</p> <p>via bonded service</p> <p>\$ 380.00</p>
<p>Cumulative tally of selected cost items . . . . .</p> <p>Items selected for illustrative purposes only do not exhaust all the factors to be taken into consideration. Personnel costs, equipment costs, etc. also will increase proportionately to the workload even though the number of seed records processed is the same for each hypothetical entity.</p>	<p>\$ 455.00</p>	<p>\$ 910.00</p>	<p>\$5,965.00</p>

NOTES



## CHAPTER IV PROCESS CONSIDERATIONS

### Synopsis

Having established the follow-up entity's boundaries and domain and having identified the information needs of its customers, the next step is to wade into a number of issues which inevitably are associated with efforts to establish data-driven accountability systems. This chapter offers a step-by-step guide to those issues. It explains how Florida, Texas and other states developed remarkably similar solutions. Included are several imperatives and strong recommendations. The barriers to implementing effective automated follow-up are steep. It is the opinion of the co-authors that any central follow-up entity that does not have the resources, leverage and political will to establish rigorous procedures is unlikely to succeed in legitimating its follow-up activities as an integral part of the state's accountability system.

### Background

#### *Collecting Data by Computer Matching*

*"...the term 'matching program' means any computerized comparison of two or more automated systems of records or a system of records with non-federal records for the purpose of establishing or verifying the eligibility of, or continuing compliance with statutory and regulatory requirements by, applicants for, recipients of, participants in, or providers of services with respect to, cash or in-kind assistance or payments under federal benefit programs, or recouping payments or delinquent debts under such federal benefits programs... [T]he term, 'matching program'... does not include matches performed to support any research or statistical project, the specific data of which may not be used to make decisions concerning the rights, benefits, or privileges of specific individuals..."*

Subsection (a) of Section 552a U.S. Code  
(as amended by the Computer Matching and Privacy Protection Act of 1988)

There is an important distinction in the definitions cited above between a "*matching program*" and a research or statistical project. While the term "*matching program*" frequently is used when referring to follow-up activities involving automated record linkages, it is clear that these activities do not meet the legal definition under the Computer Matching and Privacy Protection Act of 1988. Because the follow-up process used by Florida and Texas involves linking two or more databases through a common element (in this case, Social Security numbers), the term "*record linkage*" is appropriate. It is important that readers wishing to pursue data collection through record linkages carefully observe this distinction in negotiating arrangements with their Unemployment Insurance agency or other data resource counterparts.

***Purposes associated with research or program evaluation should not be mixed with those that target individuals for sanctions, program eligibility determination, or other types of specific actions directed at individual people.***

The collection of data by electronically linking administrative databases as a means of supporting statistical analyses is a relatively new phenomenon. Use of this automated technique for vocational education and JTPA follow-up are but two of several applications that have been explored. It has been used in health and vital statistics by the Center for Disease Control, U.S. Census to Internal Revenue Service master files, enhancements from the U.S. Survey of Income and Program Participation and economic data, and a myriad of others. The Washington Statistical Society, the Federal Commission on Statistical Methodology and the U.S. Bureau of the Census periodically have co-sponsored workshops to help define and refine the technique as well as to share experiences among researchers.

While it is a legitimate means of data collection and it can support the aims of student follow-up, the record linkage technique is not like a survey process. In a survey approach, the designer/administrator controls much of the process. Questions and terms are selected carefully and designed to elicit clearly defined answers. A sampling design is chosen that best represents a selected population given certain response expectations. The survey is conducted in a manner that maximizes responses.

When data are collected by linking several databases from different agencies, however, much of this direct quality control is lost. Researchers who use record linkage techniques are dependent on controls that may or may not be applied by others. For example, the accuracy of Unemployment Insurance (UI) wage record data requires that employers diligently record and report employee identification and payroll information. It also requires employers' data to be entered accurately when received by the state's UI-administering agency. Assignment of Standard Industrial Classification (SIC) codes to employers must be accurate as well. Similarly, the accuracy of student or participant data to be used in a record linkage program requires that Social Security numbers be collected, accurately recorded, verified and properly transmitted. Other useful student-level information such as demographic attributes, socio-economic characteristics, program distinctions, etc. must be faithfully represented.

To retain some modicum of quality control, those involved in establishing a system to collect follow-up data by linking student records to UI wage records or other files must have a clear understanding of the data sets involved. They must know how the data are collected and recorded by others, how they are processed, how they are defined and what they represent.

*As record linkage activities proceed, anomalies or problems should be brought to the attention of the affected agency for clarification or resolution. This should be accomplished in a helpful fashion to build trust between the follow-up unit and its data suppliers.*

## ***Recognizing the Individual and Custodial Ownership of Personally-Identifiable Data***

Among the things each of us owns is information about ourselves. Some of this information might be bandied about freely. Some might be protected vigorously because of its personal nature. Because this information is privately owned, the decision to bandy it about or protect it zealously is a matter of personal choice. When an organization (whether it is a school, employer, or an Unemployment Insurance agency) requests access to this personal property, there is an implicit (and often explicit) agreement that what is being provided remains personal - not organizational - property. The Privacy Act of 1974 (as amended) canonizes certain aspects of this agreement.

The Privacy Act requires federal agencies to collect and maintain only that personal information which is relevant to the lawful purposes of the agency. When personal information is requested from individuals, the Act requires that they be told whether the information must be provided as a requirement of law or is being solicited on a voluntary basis. They are to be told how such information will be used and how it will be protected.

Agencies or organizations which intend to or are collecting information about individuals should answer the following questions:

1. Why are the data being collected? (Include any applicable statutory references.)
2. How will the data be used by the agency or organization? (Include information on methods and length of storage and any data sharing uses.)
3. Am I required to provide personal information as a matter of some legal requirement or am I at liberty not to give out the information requested?
4. What would be the legal consequences for me if I supply the personal information requested? What if I refuse to give you the requested personal information?
5. What persons and/or organizations are authorized under law or regulation to receive the data should I reveal it?

Every agency must refrain from disclosing the personal information that is collected to its own employees except in the performance of their lawful duties. An agency must not make personally-identifiable information available outside the agency without the consent of affected individuals unless it is for certain pre-defined purposes. Laws governing the collection of personal information by state Unemployment Insurance agencies or public educational institutions are founded on these common principles. They collect only the data that are necessary to fulfill their prescribed and integral information needs.

Each data element collected should be decision-critical in the sense that it: a) relates directly to the range of actions that the agency collecting the data is authorized to take; or b) it has the capacity to explain some significant portion of the services rendered and/or their outcomes.

State Unemployment Compensation laws allow administering agencies to collect specific data necessary for managing the state's UI program. It may be argued that collecting follow-up data on former students or workforce development program participants is not an exercise directly connected with managing UI benefits. On the other hand, if educational programs are improved through the use of follow-up data, it also can be argued that incidences of unemployment may be significantly reduced or that the length of each episode of unemployment might be shortened. In either case, the cost of UI as well as individual dislocations would be reduced. Thus, the purposes of follow-up are consonant with those of the UI program.

***The original thinking that went into designing the content and structure of various administrative data systems did not include collecting follow-up data on former education, training and workforce development program participants.***

In fact, §125(b)(1) through §125(b)(3)(d) of the Job Training Partnership Act officially recognize the necessity of data exchanges between employment and training programs funded with JTPA as well as Perkins dollars and those funded with Wagner-Peyser dollars (which, in part, are earmarked for states to use in administering their Unemployment Insurance operations). The language in that Act is quite emphatic. “(d) No provision of this part or any other provision of Federal law shall be construed to prohibit any State from combining or consolidating Federal administrative management information reporting requirements relating to employment, productivity, or training.” Any federal agency that would disapprove of any data consolidation or combination effort has the burden of proof under §125(b)(3)(d) to “demonstrate that the combination or consolidation will not meet the essential purposes of the affected Federal Law.” The active encouragement of information exchange to improve the effectiveness and efficiency of related employment and training programs was reiterated more recently by Congress when it passed the Government Performance Reporting and Accountability Act (GPRRA).

But our laws also require agencies to be very protective of the personal information which is, in effect, lent to them by employers. They also must treat firm-specific information entrusted to them with equal care. Therefore, governmental agencies will be reluctant -- and correctly so -- to lend individually-identifiable information to someone else without taking some precautions. State and local education, training and social service agencies likewise collect individual student, participant and client data deemed necessary for administering and providing pro-

***The confidentiality of firm-specific information lent to governmental agencies must be protected to the same extent that individually-identifiable information is protected.***

grams, services and benefits. In many cases, data content design decisions included provisions for collecting follow-up data by traditional means. However, these agencies also may be reluctant to lend any data in their charge to someone else without taking precautions.

## **Initial Steps**

### *Lay the Ground Work*

**1. Determine interest and receptivity.** This may occur in several ways. For example, federal legislation, such as the employment and training block grant proposal posited by Senator Nancy Kassebaum of Kansas in 1995, included a provision which would require states to create *placement verification systems*. These systems would be founded on linking program participant data to state Unemployment Insurance wage record data. While such legislation was not enacted by the 104<sup>th</sup> Congress, comparable provisions are included in both the Republican-sponsored omnibus education legislation (Senate Bill 1) and the Democrat-sponsored alternative (Senate Bill 12) currently pending before the 105<sup>th</sup> Congress.

In Florida, the Governor's staff initially generated interest in student follow-up using UI wage records through its 1982 vocational education study. This interest culminated in state legislation. In this situation, a higher authority created the interest. Similarly, legislative action in California prompted the centralization, integration and automation of partner agencies' follow-up efforts. In Texas, on the other hand, initial interest came from the grassroots. A community college district tapped UI wage records for follow-up purposes through its own initiative. This activity expanded to include a consortium of colleges. In a special feasibility study examining potential uses of the UI wage records, the consortium recommended that a statewide, comprehensive follow-up system be developed. State interests, through the Texas State Occupational Information Coordinating Committee (TSOICC), were able to build on that local experience to include additional institutions and agencies. Similar interest has been spawned in other states because of related research at local universities.

In North Dakota, state-level meetings were sponsored by its SOICC with representatives of agencies that used student or participant follow-up data. The meetings were geared to inform key stakeholders about the use of data collected through linkages to the UI wage records. The initial meeting was structured to introduce and discuss the concept in general. Subsequent meetings in the series were held on a more intimate agency-by-agency basis to build on initial interest. In this case, interest was prompted by openly discussing the idea of linking student records with UI wage records. Similar approaches have been used in Nevada, North Carolina, Georgia, South Dakota and Minnesota to generate interest in automated follow-up.

In any case, **it is important to include all affected agencies interested in this process:** i.e., the agency or agencies that administer programs where follow-up data are to be applied as well as the agency or agencies that administer data sets that will be tapped as sources of outcomes information (like the state's Unemployment Insurance agency). It may be appropriate at this point to single out a lead organization to pursue any further development of the record linkage initiative. This lead organization might or might not be the one ultimately responsible for managing an ongoing follow-up system. It also may be appropriate to establish an advisory group of interested parties to help guide the development process.

It will be meaningful during this step to document the follow-up and outcome measurement requirements and needs of all potential agency participants. It also is important to maintain accurate minutes and a paper trail to document how the follow-up system evolved. Should questions arise during initial implementation, this historical record may be useful in explaining follow-up services and activities to key stakeholders and in clarifying the process and policies.

**The importance of including the Unemployment Insurance agency cannot be over-emphasized.** It will be important to determine that agency's receptivity to a follow-up/record linkage effort. Interactions with this agency will have technical as well as promotional aspects.

All but a few states use wage records in some form as a part of the employers' tax and claimant-eligibility determination process for unemployment insurance. Therefore, certain employer and employee information (including each worker's Social Security number) will be stored electronically. The technical part of the inquiry will have to identify data element definitions, flows, content, quality controls and security requirements. It also should determine how UI wage records are being used by other agencies.

Most states currently use wage records for several purposes other than administering UI benefits and computing employers' payroll tax contributions. For example, because they are comprehensive, UI wage records are a major information resource for state Labor Market Information units (also referred to as Research and Analysis or R&A units) within state employment security agencies. This is why the Standard Industrial Classification (SIC) code is assigned to employers who report to the wage record system. While such use is not strictly related to the UI program, it is considered an "*in the family*" use because of the R&A unit's affiliation with the state employment security agency.

There are a number of *out of family* users as well. These include users who match individual Social Security numbers against the UI wage records under the strict legal definition of the Computer Matching and Privacy Protection Act of 1988. Such matching is done, for example, to verify eligibility for or detect fraud in certain programs (such as JTPA and AFDC/TANF), garner wages for non-payment of federal student loans or child support, and identify subjects of interest to law enforcement agencies. These uses of data result in individually-directed action. **They should not be included as part of a central follow-up entity's activities and services.**

A very delicate balance must be achieved. Without developing expensive, redundant operations, follow-up linkages can be piggy-backed on individually-directed processes **so long as the two types of files are not co-mingled and so long as the follow-up entity steadfastly refrains from over-stepping its bounds by taking a direct hand in individual interventions.**

Other agencies or organizations conducting follow-up studies might include those which administer the federal JOBS program or JTPA programs. They could include university economic, public policy/political science or social research units. They also might include local school districts, vocational-technical education institutions and community colleges.

Where other entities are doing follow-up studies, the lead agency may have several options in obtaining UI wage record data. These options could include a dovetailed process where student records are combined with other types of individual records when they are submitted to the UI agency by the other unit. An additional option would be to have the central follow-up entity act as a coordinator. That is, it would strive to combine multiple interactions with the UI wage record database into a unified work order. Where these efforts can be consolidated, an extremely useful service is being provided to the UI agency as well as to the employment and training agencies. Whether or not other linkages to the wage records are being conducted, it will be desirable for the lead follow-up entity to enter into a separate data exchange agreement of its own with the UI agency.

**2. Determine conditions under which administrative records can be linked.** At the same time that interest and receptivity are being ascertained, it will be important to determine whether or not and under what conditions Social Security numbers (SSNs) can be used for record linkages. It may be judicious to involve legal staff from the lead agency early so they can assist throughout the process of establishing record linkages.

The Social Security Act tends to be shrouded in bureaucratic myth and popular folklore. Obtain an actual copy of the Social Security Act. A careful reading of that Act will prepare follow-up staff to deal effectively with those who contend that federal law prohibits the use of SSNs as individual identifiers or the exchange of data organized around the SSN. Technically, the Social Security Administration uses each SSN as a record identifier -- not as an individual identifier. That is, an individual may have more than one SSN but each record used by the Administration is uniquely identified.

**Internal custom and usage practices of the Social Security Administration do not prohibit other entities from using Social Security numbers to identify individuals in their own record keeping systems.**

Secondly, the Social Security Act does not prohibit the collection or exchange of personal information organized by SSNs. Section 303a of the Act requires only that the gathering of personal data and any data exchanges based on SSN linkages be done with the informed consent of the individuals involved. Moreover, collection and exchange of data organized by SSNs must be done in such a way that neither interferes with the functions of the Social Security Administration nor has a chilling effect on delivery of services to which an individual is entitled under law.

If there are state laws or interpretations of state and federal laws that appear to prohibit the collection and exchange of personal information organized by SSNs, those who are interested in record linkage follow-up will have to judge how best to proceed. One approach might be to develop an issue paper to circulate among officials in the executive or legislative branches to determine if there is sufficient interest to pursue appropriate legislative remedies. This interest may be cultivated as officials learn of related activities at the national level and in other states. It also may be cultivated by the notion of developing information that helps hold education and training programs accountable for results at relatively low cost. (A technical appendix to this *Guide* suggests additional strategies for gaining legal recognition of the researchers' needs while balancing individual privacy rights.)

**3. Review UI wage record and student/participant record structure, context and content.** If follow-up by linking records through Social Security numbers is a permissible activity, the next step entails determining whether or not individually-identifiable student, participant or client records include SSNs at any level (i.e., the program, service delivery agent, institutional, county, regional or state level) or even at any location. If SSNs are included anywhere, it would be useful to determine if the files can be accessed electronically -- **preferably from a single point-of-contact representing statewide consolidation of a program's data.** There are two areas of activity that should accompany this step. One is technical and relates to the manner in which data are defined, stored, processed and accessed. Technical efforts should be directed at defining data elements and record formats. The second area of activity is promotional and is designed to continue encouraging participation at the appropriate level or location. Promotional work also should be directed toward defining exactly what types of reports administrators and policy-makers at each selected level desire from efforts to do follow-up on their former participants.

In some cases, Social Security numbers will not be a part of the repertoire in participant data files. An institution's administrators may be convinced to begin collecting SSNs either in the future or as a supplemental activity in the current program/school year. If this occurs, the lead agency should work with administrators to develop a collection process that meets all requirements of the Family Educational Rights and Privacy Act of 1974 (FERPA) to ensure that program participants, students and their parents know how the data will be collected and used. Administrators also must provide adequate controls to secure and protect such information.

**4. Determine who does what.** There are several facets to the "Who does what?" question. One is to assign responsibility for coordinating the receipt of records from education, training and employment organizations that will be used in links to wage records. The designated organization could be the State Occupational Information Coordinating Committee (as in Texas and North Dakota), the Employment Security Agency (as in Oregon, South and North Carolina), a special unit within the Department of Education (as in Florida), or a university-based unit (such as the Jacob France Center at the University of Baltimore in Maryland).

Another facet is to assign responsibility for the record linkage process. Assignment of linkage responsibilities may involve several dimensions. **In the opinion of the authors, the most desirable situation is one in which a single lead agency not only coordinates the input process but actually conducts the linkage process as well.** In this situation, the lead agency would receive and process input records and have possession of outcomes data resources (such as the UI wage records and higher education's master enrollment files). This arrangement reduces the transfer of individually-identifiable data between agencies and thus minimizes the risk of inadvertent disclosure. Physical possession of outcomes data resources also gives the lead agency direct control over output file production to its own specifications. This degree of control helps avoid misinterpretations that might otherwise occur if instructions for record linkages must be transmitted to other parties in the form of work order requests. This is the type of arrangement being established in Oregon where all resources are pooled in a single Shared Information System (SIS) strategy.

There may be some mix of responsibilities in many cases. In Florida, for example, the State Division of Unemployment Compensation provides a complete copy of the UI wage record file to the central follow-up entity on a quarterly basis. The lead follow-up entity then is in a position to conduct its own linkage with that database. In other cases, target agencies (such as those representing public schools, community colleges and universities) provide electronic access to their internal administrative databases to a central follow-up entity for record linkage purposes. Texas also has a mixed system but control of access to the two primary sources of outcomes data are reversed. In Texas, the SOICC coordinates the input process and linkages to records in its possession to identify individuals who continue their pursuit of postsecondary education and training. The Texas SOICC, however, depends on another division of the state's employment security agency (the Texas Workforce Commission) for linkages to UI wage records.

Like all states seeking linkages to federal databases, Texas and Florida must transmit files physically or electronically to the Office of Personnel Management (OMP), the United States Postal Service (USPS) and the Department of Defense (DoD). Out-of-state wage record linkages presently are negotiated on a state-by-state basis. The Employment and Training Administration (under an ALMIS initiative) is testing the feasibility of a national clearinghouse to facilitate exchanges of UI wage record data through a *Wage Record Information System* (WRIS) housed at the Information Technology Support Center (ITSC).

A National Postsecondary Education Collaborative (NPEC), working under the auspices of the National Center for Education Statistics (NCES), has begun work on the concept of sharing higher education enrollment data in a fashion similar to the ITSC's arrangements for the exchange of UI wage record-based information. To date, however, the interstate exchange of educational data lags behind developments on the labor market side of the equation. Florida and Texas have made initial overtures to the National Student Loan Clearinghouse (NSLC) in Herndon, Virginia, for access to its files on enrollments in institutions of higher education across the nation whose students are eligible for guaranteed federal loans under Title IV.

***Readers should keep one important distinction clearly in mind. Groups like the ITSC and the NPEC are discussing the creation of voluntary data exchanges on a national level. They are not proposing that any governmental agency create, maintain or compel state or institutional participation in a federal database.***

Thus, a mix of in-house and external matching probably will be established in every state to get a complete picture of what happens to students and program participants after they exit employment and training programs. It may take several years before a state's central follow-up entity has the capacity to perform most record linkages in-house. While giving a follow-up entity more control and flexibility, in-house processing requires significant computing and storage capacity. During its first years of operation, a follow-up entity may serve largely as a go-between, preparing a master file containing the names and SSNs of those being followed. It then distributes these master files electronically or *via* magnetic media to entities such as the state's UI agency which performs the record linkages and provides the resulting linked data sets back to the central follow-up entity. These data sets may be provided on an individually-identifiable basis or on an aggregate basis. In North Dakota, for example, record linkage arrangements include the State Department of Tax which provides aggregations of (not individually-identifiable) data back to the lead agency, the ND-SOICC.

Similar issues will need to be addressed regarding public reporting responsibilities. For example, there may be circumstances that make it appropriate for a state's lead agency to limit itself to collecting data. With such a limit, the agency may simply provide linked data sets either in raw form or some other report format back to the agency for whom outcomes data were collected. Here the customer agency is responsible for its own reporting while the lead agency takes little or no responsibility for reporting.

In other cases, a state may choose to make the lead agency responsible for public reports. In this situation, customer agencies would receive and react to reports prepared as a result of the record linkage, but would not manipulate data comprising the report.

As with the linkage responsibility issue, it is more likely that there will be some mix of reporting responsibilities and activities. It is common to find a central follow-up entity responsible for reporting on the overall effectiveness of a state's education, training and workforce development efforts by categorical grant while individual agencies administering those programs are responsible for substate or local provider reports and more detailed analysis. In these cases, the lead agency provides data sets, files and reports to the customer agencies with whom they work.

***When returning outcomes data to state agencies, substate units, and/or local service providers for more detailed analysis and reporting, the follow-up entity should provide technical assistance to users.***

Some latitude frequently is given to education and training providers to offer contextual explanations of performance outcomes achieved by the specific programs they offer. While agency field offices and local education and training providers will want to do their own analysis for program management purposes, some may lack sufficient resources or expertise to do so. This is often the case when it comes to examining labor market conditions and the mix of subpopulations served as contextual factors explaining performance outcomes. It is important that the follow-up be located in or have very close working relationships with the SOICC and the R&A unit of the state's employment security agency (SESA) to gain access to other kinds of economic and demographic information for the purpose of providing contextual explanations. The central follow-up entity also should establish close working relationships with other providers of contextual data such as the state's official repository of census data and the State Comptroller's office (or equivalent agency that maintains data sets based on state sales and franchise tax collections).

The original reason for pursuing a data exchange agreement may have been to develop state level analyses or information related to performance standards. However, once the enhanced output files are received and the central follow-up entity is comfortable with the data, it can offer a major service to local education agencies whose information systems provided the original seed records on their exiting cohorts. This service can take the form of tailoring a variety of reports and analyses for local use. In initial efforts, this is particularly important because local agencies may become champions and advocates of automated follow-up. They can assist the lead agency in promoting follow-up services to additional customers.

The lead agency will have to account for expenses. It will have to determine if follow-up by record linkage is to be performed by existing or additional staff. Costs associated with computer linkages, editing and report generation will have to be covered. In Florida, such costs are covered through combinations of state and federal funds made available to the Department of Education. The Texas and North Dakota operations are funded through contributions by agencies that are partners in the follow-up process. (See the Chapter V on Legitimizing and Marketing Follow-Up.)

Each state will have to consider assigning responsibilities reflecting their unique organizational and political situations. There are, however, several issues that states will have in common. For example, the lead agency should be established at a level that will facilitate direct contact with the administrators and policy-makers of participating agencies who have decision-making authority. Technical staffs will need freedom to contact their counterparts in other agencies. However, high level judgment and direction will be required in making decisions about whether or not to participate, what data are collected, how they are to be disseminated, how cost-reimbursements are to be calculated and recovered, and how much access technical staffs can have to each other without prior clearance from their respective managers.

*Data specialists in particular should be free to communicate highly technical information unencumbered by interagency protocols requiring multiple sign-offs by non-technicians in supervisory roles.*

**It is very important that the lead agency be a respected organization.** Because of the confidential nature of the data being manipulated, the lead agency will have to be trusted implicitly. If the data are to be used widely for performance reporting, what is published must be believed to be accurate and reliable. Agencies which collect data and evaluate their own programs often produce findings which are suspect because of proprietary interests. States are strongly urged to establish lead responsibilities with an organization that is independent of program operations. Because of this issue, organizations such as State Occupational Information Coordinating Committees, universities, joint governmental auditing organizations, Legislative Budget Boards or offices reporting to the elected executive branch of government may be worth considering.

A third location issue relates to access. Some of the data resources that could become part of the automated follow-up process may be only accessible to organizational units within particular agencies. For example, state administrators with custodial responsibilities for student data will be reluctant to release individually-identifiable information to outside agencies. This disinclination might not apply to in-house releases. Similarly, state employment security agencies may be willing to provide access to UI wage records to inside groups but not to outside entities.

## **Establish Measures to Protect Data from Public Disclosure**

**1. Interagency Agreements.** In all probability, there will have to be a formal written agreement with each agency involved in the exchange of information for automated follow-up. Any agreement for transferring student or participant records should take the form of a Buckley Agreement. A Buckley Agreement stipulates that the recipient of individual records (whether obtained on paper or magnetic media) acknowledges that Amendment's requirements regarding the confidential nature of those records. The agreement should reiterate conditions, prohibitions and penalties associated with public release of individually-identifiable information. Figure I depicts a typical Buckley Agreement.

**Figure I**  
**Sample Buckley Agreement \***

<p align="center">State Department of Education Bureau of Student Information Systems</p> <p align="center"><u>BUCKLEY AMENDMENT INFORMATION REQUEST</u></p> <p>Date:</p> <p>Requesting Agency:</p> <p>Term/Year:</p> <p>Purpose/Use:</p> <p>Public Law 93-380 - The Family Educational Rights and Privacy Act, commonly known as the "Buckley Amendments," limits the availability of personally-identifiable records of students. Educational institutions conducting studies for the purpose of improving instruction are permitted access to these records "if such studies are conducted in such a manner as will not permit the personal identification of students and their parents by persons other than the representatives of such organizations and such information will be destroyed when no longer needed for the purpose for which it is collected." Access to these records or copies of these records may not be given by you to any person or agency.</p> <p>It is under this justification and these restraints that these records are made available to you. Acceptance and subsequent use of the records will constitute recognition of and adherence to the above limitations regarding use of these records.</p> <p>I understand these limitations and agree to adhere to them.</p> <p>Name: _____</p> <p>Signature: _____</p> <p>Title: _____</p> <p>Organization: _____</p>	<p>☞ Identity of the record custodian</p> <p>☞ This form is usually a one page acknowledgment that must be signed by a receiving organizational unit before it can receive student records with individually-identifiable information.</p> <p>☞ The first part identifies the receiving organization and define the purpose for the file's transmittal.</p> <p>☞ The Second part briefly informs the receiving agency of its obligations under the Buckley Amendments.</p> <p>☞ The third and final part identifies the receiving agent and provides his/her signature which acknowledges both the receipt and the obligations under federal and state law.</p>
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\* Other organizations may need more elaborate documents.

In developing any binding agreement between government agencies, attorneys for partner agencies should be consulted. This consultation will be facilitated within the matchmaker agency if legal staffs of both agencies are involved early in the process. Each agency may have boilerplate agreements that serve as templates for contracts. There also may be template agreements that facilitate the exchange of personally-identifiable information. Any inconsistencies between the boilerplates and templates of the respective agencies will have to be resolved -- probably on the side of the agency whose requirements are more stringent or expressed with greater specificity. State-specific and agency-specific assurances and certifications probably will have to be included. Templates and unique state requirements notwithstanding, some basic elements of formal inter-agency data exchange agreements must be negotiated successfully.

The Computer Matching and Privacy Protection Act of 1988 guides federal agencies as they conduct computer matching programs. It dictates what types of agreements they must have prior to conducting any interagency match. The law only applies to federal agencies and excludes the type of record linkage discussed herein from the definition of a "computer match." However, the guidelines in that law represent a good starting place in designing an agreement. If passed, the Statistical Confidentiality Act (HR 3924) introduced during the Second Session of the 104<sup>th</sup> Congress would clarify the situation essentially by combining elements of FERPA, the Computer Matching and Privacy Protection Act of 1988 and the spirit of §125 of the JTPA to grant express permission for record linkage activities at the federal level for statistical purposes. Although HR 3924 has not been passed by the release date of this *Guide*, it expresses sound principles that also can guide each state's efforts to devise appropriate data exchange agreements among partner agencies. It also could serve as a model for parallel state legislation that would give follow-up entities the latitude they need to do their jobs while still protecting confidential and private data.

Figure II is an example of an interagency agreement between the Florida Department of Education and the Florida Department of Health and Rehabilitative Services. It illustrates the type of agreement the lead agency will need to negotiate with each partner agency.

The lead agency will be obligated under the Buckley Agreement to disclose only that information which is necessary and proper to accomplish particular tasks (i.e., decision-critical information and major explanatory variables). In linkages with the UI system, only the Social Security number is used. Therefore, any tape or electronic file that is used for the match needs to contain only SSNs. Files that contain detailed demographic or program data should be retained by the follow-up entity itself and kept in a secure environment while electronic linkages to outside databases are being made.

Agreements with the UI agency and other agencies may contain specific language regarding how costs associated with these activities will be calculated and recovered. Such provisions will be based on the size of input record files (i.e., the number of SSNs going in) and the volume of enhanced records returned (i.e., the number of response records resulting from SSN *hits*). If an exact amount cannot be specified, terms in each agreement should set a limit above which further negotiations are necessary.

Tapes, disks, files and reports containing individually-identifiable information should be retained only so long as they are needed. Any records with individually-identifiable data being retained for any use should be kept under lock and key with limited accessibility when they are not in use.

***If files are being maintained over relatively long periods because of longitudinal interests, all parties to the agreement should periodically justify their retention.***

## Figure II

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INTERAGENCY AGREEMENT  
BETWEEN  
THE FLORIDA DEPARTMENT OF HEALTH AND  
REHABILITATIVE SERVICES AND  
THE FLORIDA DEPARTMENT OF EDUCATION

☞ Identifies the parties to the agreement.

### A. INTRODUCTION

Section 7 of Senate Bill 1018 passed by the 1994 Legislature requires that a plan be developed to incorporate public assistance data from the Department of Health and Rehabilitative Services (DHRS) with data collected by the Florida Education and Training Placement Information Program (FETPIP) of the Department of Education (DOE) in support of the performance funding initiative for vocational programs, certain education and training accountability outcome measures, and Project Independence Evaluations. Section 409.029, Florida Statutes requires the development of an ongoing evaluation process for Project Independence activities that include measures of employment and recidivism to public assistance programs. Section 229.8075, Florida Statutes provides that DOE, for FETPIP, shall have access to the files of DHRS that contain information about the distribution of public assistance to evaluate and improve education and training programs. FETPIP is charged with the responsibility of developing follow-up data on former students and/or program participants through the use of automated record matching. The data are used to meet statutory follow-up requirements for education and training programs, for program evaluation, and educational accountability.

☞ An introductory section discusses background considerations that resulted in developing the agreement.

The Florida State Job Training Coordinating Council, for the Department of Labor and Employment Security (DLES), has entered into an agreement with Florida TaxWatch to develop "Return on Investment" measurement tools. These tools will be used to conduct cost/benefit studies for education, employment, and training programs in furtherance of the statutory requirements referenced above. The tools rely on education/training program participation, employment, and public assistance data available through FETPIP.

The DOE and DHRS have entered into this agreement under which record linkages will be conducted.

### B. PURPOSE

There are four purposes to this agreement.

1. The first purpose is to identify former students/participants of education and training programs who are receiving various forms of public assistance.

☞ A purpose section outlines all intended objectives to be covered under the agreement.

2. The second purpose is to identify the dollar value of the public assistance provided to students/participants of education and training programs for defined intervals of time. These intervals will represent periods prior to, during, and after participation in an education and training program.

3. The third purpose is to assist in meeting the requirements of Section 409.029, F.S. for the development of ongoing evaluation information for Project Independence that includes persistence data for non-dependence on public assistance, employment data and characteristics, and continuing education and training data.

4. The fourth purpose is to assist in meeting the requirements of Section 409.925 F.S. regarding the Family Transition Program, including employment data and characteristics of participants in the welfare reform demonstration program.

The resulting enhanced files will be used for the sole purpose of generating aggregate statistics to help evaluate the effectiveness of Project Independence and other education and training activities that help former students and program participants achieve self sufficiency. **Personal identifying information generated through the record linkages will neither be publicly disclosed nor used to make decisions that affect the rights, privileges, or benefits of identified individuals .**

☞ A guarantee of confidentiality is made prominent.

### C. JUSTIFICATION

DHRS, organizational elements within DLES, and organizational elements within DOE have conducted earlier record linkages for this and similar purposes. FETPIP, on behalf of DOE and DLES, also links the records of former students/participants with administrative records of the U.S. Department of Defense; the U.S. Office of Personnel Management; the U.S. Postal Service; and, the Florida Departments of Management Services, Corrections, and Education. It also links records with employer wage records administered by DLES. FETPIP is designated in Florida Statutes (Section 229.8075) as the primary means for DOE to collect follow-up data by linkages with various administrative records. Through this agreement, data exchange requests of all of the diverse organizational elements of DOE and DLES to DHRS will be consolidated through FETPIP when these requests are consistent with provisions and purposes of the agreement.

☞ Justification may include information about other linkages performed by the lead agency to establish *bona fide* precedence.

FETPIP has demonstrated that its record linkage activities provide useful data on training outcomes at one-tenth of the costs associated with student/employer surveys, the alternative means of accomplishing the follow-up purpose. Further, FETPIP is able to develop useful data on up to 88% of the former students and participants being followed-up while student/employer surveys generally achieve significantly lower response rates.

☞ The justification is commonly explained in terms of benefits to be gained by participating parties.

## D. IMPLEMENTATION

1. The first record linkage arrangement through this agreement will occur with records provided by FETPIP to DHRS in March of 1996.

2. For subsequent periods, FETPIP will notify DHRS in writing regarding the anticipated volume of former student/participant records, coverage timeframes, and the expected submission timeframes by March 15 of each year covered in this agreement.

3. FETPIP will provide a file to DHRS, in a format prescribed by DHRS, on magnetic computer tape or personal computer disk, containing the unduplicated Social Security numbers of former students or program participants no more than twice in a given fiscal year.

4. DHRS will provide a response record from its automated public assistance files when there is a match on Social Security numbers for the months to be specified by FETPIP in its March communication to DHRS. Response records will be provided on the FETPIP-provided computer tape or personal computer disk.

The response record will state whether the individual represented by the Social Security number received or was a part of a family that received one or more of the following public assistance sources during the specified time period: Aid to Families with Dependent Children, Medicaid, or Food Stamps. It will also include the cash value of the assistance received.

5. DHRS will provide files to FETPIP containing the records of Family Transition Program participants who enter the program. The files will be batched and provided to FETPIP by DHRS on a quarterly basis. FETPIP will link these records to employer wage records on a quarterly basis continuously for a period of up to five years.

Response records will be provided to DHRS where corresponding participant Social Security numbers are found. The response rate will state whether the individual represented by the Social Security number was employed during the quarterly period. It will include an indication of the total wages paid to the individual during the period.

## E. PROGRAM RECORDS; SECURITY, PRIVACY RIGHTS, AND PUBLIC ACCESS.

The parties acknowledge that the performance of this agreement involves a process in which preexisting records maintained by each agency for purposes other than the FETPIP program will be electronically linked to create new records needed to carry out the FETPIP program. The parties further acknowledge their separate obligation to perform this agreement in compliance by both with the requirements

☞ This section outlines the timing and action steps that will be taken to implement the agreement.

☞ A section of the agreement spells out all conditions and practices that will be observed when handling individually-identifiable data.

of the Public Records Law, Chapter 119, Florida Statutes, and with other applicable statutes that constitute express exceptions to Section 119.07(1), Florida Statutes, by establishing rights or duties of confidentiality, privacy, and nondisclosure. To fulfill these obligations, the parties agree as follows:

1. As to pre-existing records, each agency will continue to manage its respective preexisting records in conformance with applicable statutes regarding nondisclosure, privacy, and confidentiality.

2. Computer tapes sent from DOE to DHRS contains information on "pupils" or "students" as defined in Section 228.093(2)(d) and (f), Florida Statutes.

Therefore, the following provisions shall apply;

a) If the electronic linkage process for which purpose the tape was sent does not require DHRS personnel to print, display, or otherwise personally view the contents of the tape, the personnel shall refrain from doing so.

b) If the electronic linkage process for which purpose the tape was sent does require DHRS personnel to print, display, or otherwise personally view the contents of the tape, for example, to avoid or correct a malfunction of the automated process. The personnel shall do so in a manner that prevents the contents of the tape to be viewed by persons not involved in the linkage process;

c) When the electronic linkage process is completed and the results of that process are sent to DOE, DHRS shall return to DOE, or erase or destroy all information which is personally identifiable as to pupil or student, and shall not retain such information in any form.

d) DHRS will give written instructions regarding subparagraphs a) through c) to affected employees.

3. Each computer tape sent by DOE and in the possession of DHRS containing personally-identifiable information as to a pupil or student and each hard copy of such information shall be stored in a secure location such as a locked desk or file cabinet, except when in use for the purposes for which it was provided. Automated records shall be stored in secured computer facilities with strict ADP controls.

4. Under no circumstances shall either party disclose personally identifiable information as to a pupil or student to any third party except as provided by Section 228.093, Florida Statutes and 20 U.S.C. S. 1232g.

☞ This section includes some provisions regarding the necessity of refraining from viewing the individual data.

☞ It should include provisions regarding the necessity of destroying data covered under the agreement when their uses under the agreement are served.

☞ It should assure that all persons involved in carrying out the purposes of the agreement understand its provisions.

☞ Individually-identifiable data and data files should be stored in secure facilities.

## F. DURATION

The linkage program is expected to begin on November 1, 1995 and continue in effect until June 30, 1998 unless terminated in writing by a party to the agreement. Modifications to the agreement can occur at any time during the contract period if both parties agree. At the end of the contract period, the agreement may be renewed for a period of an additional year if both parties agree.

Renewals shall be contingent upon satisfactory performance evaluations by both parties to the agreement and the understanding that the program will be continued without change.

## G. REIMBURSEMENT OF MATCHING COSTS

Either DHRS or DOE may elect to conduct linkages on a cost-reimbursable basis whenever the level of effort warrants. If such an election is made, a written addendum to this agreement will be prepared stating the basis for calculating costs and a maximum cost over the life of the agreement. The written addendum will be approved and signed by the approval authorities identified in section I of this agreement.

## H. CONTACT POINTS

DHRS Contact:

DOE Contact:

## I. APPROVAL

The undersigned authorized officials of the DHRS and DOE commit their respective agencies to the terms of this agreement.

Draft as of March 1996 -- modified to some extent to conform to terminology conventions recommended in this *Guide*.

☞ The period of time covered by the agreement should be specified.

***In no case should an agreement of this nature be indefinite.***

☞ If there are costs to be covered through the agreement, they should be specified.

***If a specific amount cannot be calculated, the means for its calculation and any outside limits should be stipulated.***

☞ Staff persons who have detailed knowledge about the agreement should be identified.

☞ Legally responsible officials should sign the agreement. In many cases, this will be the heads of the agencies involved.

**Security arrangements spelled out in such agreements should be followed zealously.**

Files being stored in mainframe computer facilities or personal computer hard drives should be subject to stringent security and be accessible only to authorized personnel using secure passwords.

*Files to be stored for long periods should have sensitive data stripped or encrypted.*

It is important to recall that interagency agreements allow a lead agency to borrow certain records that initially were lent by individuals and employers to another agency. While a formal agreement will stipulate how the data will be handled and secured, **there should be a sense of trust that goes beyond it.** This trust requires working with partner agencies to assist them in recognizing and resolving problems uncovered in the linkage process. It also means continually working with them to ease processing burdens associated with the follow-up effort. Over time, by establishing a reputation for integrity and for providing high quality, useful services, a lead agency can overcome the reluctance of some partner agencies that might have joined in the follow-up enterprise with skepticism or through legislative and/or administrative mandates whose adoption they once opposed. Whenever questions arise regarding release of certain data or analysis, even if the release appears to fall within an agreement's parameters, the cooperating agency should be consulted.

One such question may arise when users request access to the files that resulted from links with the Unemployment Insurance agency. Unilaterally, the transmittal of files or reports containing individually-identifiable records to organizations or individuals other than those that are party to the agreements should be prohibited. If it is necessary to transmit data that retains its individual character for purposes that promote the use or improvement of the information, those who are party to the original agreement must be consulted. If such a transfer is acceptable to all parties, it is appropriate to remove names, SSNs, and any other information that could result in personal or specific employer identification from the records being transferred. Personal information could be replaced by dummy codes or placeholders. In any case, another, separate agreement -- similar to that described previously -- should be negotiated.

On occasion, a central follow-up entity may be asked by a third party (i.e., one not covered by an interagency data exchange agreement) to supply personally-identifiable data under the Freedom of Information Act. A newspaper, for example, knowing that a central follow-up entity has access to educational and employment data, may insist on receiving information about a specific individual prominent in the community or currently newsworthy. We suggest deflecting such a request on the grounds that the central follow-up entity does not own the data and, therefore, is

#### *Model Legislation*

*The Statistical Confidentiality Act (HR 3924) proposed during the 104<sup>th</sup> Congress by Representatives Horn and Maloney would exempt a defined class of statistical information from compulsory disclosure under the Freedom of Information Act [§2(b)(6)] or through other legal/court processes [§9(b)(2)(C)(I)].*

not authorized to release individually-identifiable information. Reiterate that the central follow-up entity only borrows information lent to it under very restrictive conditions. The principles of the Freedom of Information Act can still be served if follow-up staff refer any requesting party to the entity or entities which actually own the information being sought. It is the *owning-entity's* decision to legally resist or comply with requests under the Freedom of Information Act.

**2. Establish written procedures.** Most state and federal agencies have established information management policies that include extensive language regarding the security of data processing equipment and information maintained therein. Because of the special nature of linked data sets, it is imperative to establish written procedures for collecting, maintaining, and handling these data. This section outlines some key considerations in developing a security policy and procedures manual for the agency administering an automated follow-up process.

For guidance in developing security policies and procedures, we strongly urge you to review the following:

- *Bulletin 90-08, Circulars A-130 and 170* from the Office of Management and Budget;
- *Handbook for Information Technology Security* from the Bureau of the Census;
- Tom Szuba, et. al., *Data Security Handbook* (forthcoming from the National Center on Education Statistics, 1998); and
- *Federal Register* Vol. 53, No. 69 April 11, 1988 on FERPA -- see 34 CFR Part 99, especially §99.31 - §99.35(a).

**a) Spell out the follow-up unit's obligations to cooperating agencies.** Agencies participating in a state's automated follow-up system collect their student, participant, client or inmate data under the auspices of state and federal laws. Assemble a library of legal references for lead agency counsel's review. Operations staff also should have ready access to that library of legal references.

Federal laws directly apply to record linkage interactions between the lead agency and federal agencies. Most often, the Computer Matching and Privacy Protection Act of 1988 is used to guide these interactions. However, because most state agencies participating in automated follow-up receive federal funds in addition to state resources, three federal laws also apply. They are the Family Educational Rights and Privacy Act (FERPA) as amended, the Privacy Act as amended, and the Social Security Act as amended. Generally and collectively, these laws require every agency that collects information from individuals, including Social Security numbers, for purposes related to the services it provides or for its lawful operation, to tell each individual why the information is being collected and how it will be used. Such agencies are obligated to establish procedures to ensure the administrative, technical and physical security of all individual-level data it

collects. Agencies also are obligated to ensure that individually-identifiable data are not released publicly beyond what is necessary for the conduct of their lawful operations. Divisions of Unemployment Insurance add a special dimension in that the state laws governing their operations extend confidentiality restrictions, public release constraints, and security requirements to data collected from and about employers. **This bears repeating: The confidentiality of firm-specific information must be protected to the same extent as is individually-identifiable information.**

A central follow-up entity is in the unique situation of obtaining access to individual data that are collected by participating agencies, collecting further individual data regarding employment (and whatever other sorts of data are incorporated into the state process) on behalf of participating agencies and providing certain reports back to the agencies themselves for their use. In so doing, lead agency staff must edit, manipulate, report and store data much as the partner agencies themselves do. These staff, however, provide no direct service of any kind to students, clients, participants or inmates.

*The agreements that are negotiated with agencies also may specify certain handling, publication and distribution obligations.*

Staff members, thus, may have no role in any public release of individual information except to provide it back to originating agencies. This in itself can be complicated. For example, an individual student's data originating with the public schools might subsequently be enhanced with his/her employment data from the Division of Unemployment Insurance, individual student data from public postsecondary institutions and information from other protected sources as a result of automated follow-up efforts. There is an obligation to provide individual student data back to the State Education Agency (SEA) for its administrative uses. This must be done in a manner that protects the identity of employers and which respects the security restrictions of its other sources.

**b) Clearly define the unit's overall security policy.** Data that are collected, manipulated, and maintained by an automated follow-up unit are to be treated in a manner to ensure that individually-identifiable data will be used only for statistical purposes and will be accessible only to authorized persons.

**"Statistical purposes"** means that the data will be used to estimate, describe or analyze characteristics of groups of people and the average outcomes they achieved without regard to the identities of individuals or organizations within the groups.

**"Authorized persons"** include only those individuals who are responsible for collecting, processing or using data in the furtherance of the automated follow-up system's lawful mission. The term includes those individuals who are designated by the lead agency's data center who may have a need to access data files in order to correct a computer malfunction. Such personnel sign appropriate security agreements as a part of their employment. However, special security agreements regarding automated follow-up records are required before any of these personnel can access files for any reason.

Figure III is a sample of such an agreement used by the lead agency in Florida. One can see in reviewing the content of Figure III, that the contents of the acknowledgment closely follow similar provisions that were expressed in the Buckley Amendment and the interagency agreement.

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### Figure III

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#### **FLORIDA EDUCATION AND TRAINING PLACEMENT INFORMATION PROGRAM ACKNOWLEDGMENT REGARDING CONFIDENTIALITY AND SECURITY**

The undersigned individual has been granted access to confidential files maintained for purposes attendant to the Florida Education and Training Placement Information Program (FETPIP). The purpose of this acknowledgment is to ensure that all individuals with access to FETPIP data which are individually-identifiable understand the confidential nature of the data and the strict prohibitions regarding public disclosure of these data.

By his or her signature, the undersigned individual acknowledges and agrees to the following:

1. Individually-identifiable data stored on facilities maintained by the Florida Education Data Center by FETPIP result from electronic record linkages between among several state and federal agencies. Each linkage that occurred in the process is governed by provisions of state and federal law that were enacted to protect the privacy and confidentiality of the records. Linked records are governed by laws which include:

a. Public Law 93-380: A federal law governing and specifying the Privacy Rights of Parents and Students also known as the "Buckley Amendments." Similar provisions are outlined in Section 228.093 Florida Statutes.

b. Section 443.171, Florida Statutes: A state law which governs access to data used to manage state and federal unemployment compensation programs. It also stipulates penalties associated with violating restrictions put on the data. The following federal regulations also apply: 7 CFR 272.8(a), 42 CFR 431.300F, 45 CFR 205.5, and 45 CFR 303.21.

c. Public Law 100-503: This law is referred to as the "Computer Matching and Privacy Protection Act of 1988." It governs data related to the U.S. Postal Service, the Federal Office of Personnel Management and the U.S. Department of Defense.

d. Sections 943.053, 943.056, 943.057, 943.058, Florida Statutes: These statutes address the privacy and security of conviction and arrest information of correctional system inmates.

2. To further ensure the security of data managed by FETPIP, the Florida Department of Education has entered into several agreements with state and federal agencies which have been provided for review by the undersigned.

3. The undersigned acknowledges the need to ensure that data stored and managed on FETPIP's behalf are protected from public disclosure. The undersigned agrees to adhere to the following guidelines when accessing individually-identifiable files maintained by FETPIP;

a. If the conditions that warrant access to FETPIP's files do not require the undersigned to print, display, or otherwise personally view the contents of the tape, the undersigned shall refrain from doing so.

b. If the conditions that warrant access do require the undersigned to print, display, or otherwise personally view the contents of the files, such as to avoid or correct a malfunction or improve electronic data processing methods for example, the undersigned shall do so in a manner that prevents the contents of the tape from being viewed by persons other than those needed to carry out the electronic data processing.

c. If the conditions that warranted access are not immediately rectified, the undersigned shall ensure that any disk, tape, or printed copies of files containing individually-identifiable information are stored in a secure location such as a locked desk or file cabinet except when they are in use for the purposes for which they were prepared.

d. When the conditions that warranted access are rectified, the undersigned shall erase or destroy all information which is personally-identifiable as to pupil, student, inmate, employee, or employer that was printed or displayed as a part of rectifying conditions. This information shall not be retained in any form outside of the FETPIP files.

Person Accessing Files: \_\_\_\_\_ Name: \_\_\_\_\_ Title: \_\_\_\_\_  
\_\_\_\_\_ Agency/phone: \_\_\_\_\_ Witnesses: \_\_\_\_\_  
\_\_\_\_\_

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**c) Describe measures taken to ensure physical security.** This section of a lead agency's security procedure should describe the physical layout of office sites and describe how access to these sites are controlled both during and after working hours.

It should outline how the storage of computer files, tapes, and printed materials are protected during use and after hours. Office suites, computer facilities and files may be accessed after hours by staff in the performance of their duties. Procedures should describe their responsibility for maintaining physical and computer access security. Maintenance staff employed by the agency may have access to the offices after hours to clean them and empty trash cans. Their supervisor should be advised periodically regarding the nature of confidential information being maintained and of the necessity of ensuring that doors are locked securely and that cleaning staff not tamper with computing tools or printed materials.

***Warnings should be posted prominently throughout work areas regarding the necessity of keeping the office environment secure because of the confidential data in the lead agency's possession.***

Printed material, backup tapes, disks, and disk packs containing individually-identifiable data maintained in conjunction with immediate or on-going projects must be secured in a locked storage cabinet in the office suite when they are not in use. Specify how access to these locked cabinets will be supervised and controlled. Software not containing individually-identifiable data should be secured in a locked storage cabinet in the staff office suite when not in use as well.

**d) Describe measures taken to ensure the security of computer equipment and printed materials.** The workstation environment for persons involved in processing automated follow-up data should be described. All staff must follow login/password security conventions adopted by their agency's data center. These should be described in the security document. Any additional requirements should be stipulated as well. Procedures should describe the following elements:

**i. User Identification Codes:** Assignment of user identification codes (User IDs) may occur under the auspices of the lead agency's data center. There may be agency regulatory policies on security matters written in accord with state information resources organizations. Each permanent staff member will be assigned a unique User ID that provides access to local area network (LAN) facilities and/or mainframe facilities. Temporary staff will be assigned temporary IDs that provide network access. Expiration dates of temporary User IDs should be monitored constantly and time limits thereon strictly enforced.

When both local area networks and mainframe facilities are used in the automated follow-up process, staff should be assigned different IDs to access each. Changes to these IDs are handled in the same manner as changes to LAN IDs. When temporary staff no longer require access to data, their IDs should be rendered invalid. Other user IDs should be changed when conditions, such as staff departure, warrant. If there are several different software applications used to process and store individually-identifiable data, security arrangements limiting access to each should be described.

**ii. Passwords:** Each User ID is associated with a unique password. For temporary staff, passwords should be assigned by the program director and be rendered invalid as these workers depart. Permanent staff assign their own password for their assigned User ID.

During the log-in process onto a local area network or central data warehouse, user IDs typically are visible on the workstation screen. Passwords, however, are not visible. If a password is entered incorrectly, the user typically may make two additional attempts. With three faulty attempts, further access should be denied. Access at that point must be reestablished through the program director, a high level supervisor, or the duly authorized LAN administrator.

Files containing individually-identifiable data that are temporarily stored or manipulated *via* disk space on a LAN should be to be password-protected. That is, access to these files would be through a password established in addition to those used during initial access to the computer.

**iii. Time-Limited Access:** While staff are working with files containing individually-identifiable information, they should perform their tasks in such a way as to ensure that unauthorized persons are

***Be advised that most conventional screen-saver routines allow anyone to return to the last display of a program by simply touching any key. If you do not adopt a time-limited access protection routine, choose a screen-saver that requires password input rather than a "touch-any-key" routine to return to the last program display .***

not permitted to view the data. If staff absent themselves from their workstation during a time when they are working with files containing individual information, they should log-off from that work. Further, access routines should be structured so that if a file or application containing individually-identifiable data is inactive for a period of more than five minutes, that routine should be logged off automatically.

**The best security is provided by a lockable c.p.u. which requires a key to activate the unit's power supply. This is now a standard feature of most desktop computers and terminals. The protection offered by this feature, however, is not effective unless rules require its consistent and universal use and good habits are practiced to turn off and lock systems at the end of each work session.**

*iv. Local Area Network Processing:* Lead agency staff must do their work with files containing individually-identifiable data in a manner that precludes unauthorized access to those files. Security processes established through data centers and agencies that manage LANs typically accomplish this. If there is no resident policy regarding network security, the lead agency should establish one.

When working through networks, staff will have to work in a manner that prevents unauthorized access that could occur through dial-in access to modems. This is best accomplished by either: a) physically unplugging any telephone line connection to the modem; and b) encrypting files with individual data while signed off the network.

*v. Computer File Backups:* Files that result from all record linkages should be backed up on appropriate media on a frequent basis. The frequency should be prescribed in a security manual. Backup files should be stored in locked facilities such as a safe or locked cabinet with limited, supervised access. The backup media should be catalogued and labeled as "**Confidential Files - Restricted Use.**" Backup files should be inventoried at least semi-annually.

*Any time records are downloaded (for storage, backup, or transporting) serious consideration should be given to encrypting all personally-identifiable data or stripping all individual identifiers from the files.*

*vi. Printed Material Security:* Staff should avoid printing reports with individually-identifiable data unless it is absolutely necessary to do so. When necessary, printed material containing individually-identifiable data should be catalogued and maintained under lock and key. It may be useful to differentiate between printed material that has current uses and those not intended for immediate use. Current materials may be stored in close proximity to staff who must use them. Materials not intended for current use may be stored in more remote - but similarly secure - sites. These materials should be catalogued. The necessity for their continued storage at some remote site should be reconsidered annually.

When printed material containing individually-identifiable data are no longer used, they should be destroyed. For small documents, this can be done with an office shredder. For large volumes of materials, arrangements should be made with local recycling office to have them shredded. A staff person covered by a security agreement should be assigned to oversee any shredding process and assure that all documents are destroyed.

*e) Describe measures taken in developing public reports that prevent revealing individual information.* Staff always should avoid developing reports that contain individually-identifiable data. Such reports, however, might be required to decipher the contents of a particular file or to solve a computer programming malfunction. Such reports also may be a part of the file-building process in initial automated follow-up processing steps. When such a report has served its purpose, it must be destroyed immediately as described above.

Individual-level reports may be required by program operators who are the custodians of individually-identifiable data used in the follow-up process. Local operators may need individual-level records to determine where students were found. **However, it is important to understand that while such operators have a custodial right to individual student or participant data, they have no such right with respect to specific data that were added in the linkage process.** Employment data obtained from the UI system may include individual employer and wage information that are highly confidential. These should not be released to personnel outside the employment security system. However, information that includes the Standard Industrial Classification (SIC), an occupational title, and/or some indication of a wage category may be provided to assist administrators in determining relatedness of employment pursuant to program performance measures. No data should be provided that would reveal the identity of an employer. For continuing education data, the name of the institution in which a person enrolled and the field of study could be reported. For military enlistment data, the branch of service identification could be provided.

*Hard copy reports may be sent to local designees by registered mail - return receipt requested. Reports that are made available electronically should be “read only” files accessed only via certain log-on identifications held by persons identified to the lead agency as being authorized to view the reports.*

No other information collected -- such as exact earnings or specific employer names -- may be provided. Reports of this nature can be made available to recipients on hard copy or *via* secure statewide computer networks. All reports containing aggregate data must be developed in a manner that precludes identification of an individual or his/her employer. No report, analysis or tabulation should make public data where there are fewer than five individuals in any table's cell. Further, any tabulations should be reviewed to assure that individual information will not be disclosed by crosstabulating one cell with another.

**We strongly urge follow-up entities to develop automated edit-check routines to scan tables and replace small cell entries with “Not Available” to guard against human error in eyeballing reports for possible breeches of data aggregation and release rules. We also recommend that the edit-check program should contain a subroutine to print a standard footnote to each table to explain why data in some cells have been suppressed.**

*f) Describe how any follow-up related employer surveys will be handled.* Information linking a specific individual to a specific employer or a specific earnings level must not be released publicly in any form. There may be one exception. Annually in Florida, North Carolina and Texas, staff contact employers for occupational and worksite information on specific persons found in their employ. If this activity is authorized by statute, rule, or regulation, references should be provided. This is a very sensitive activity because individual names are revealed to employers (i.e., ones that were found to have been reported by the employer *via* their quarterly wage reports to the state’s Unemployment Insurance Division). Employers’ participation is voluntary and the information they provided back is subject to the same confidentiality and security provisions as are individually-identifiable data.

From time to time, questions and concerns come back from employers regarding specific persons about whom additional information is being sought.

1. Some employers refuse to participate in any manner. In these cases, the employer's name and address should be flagged so they will not be contacted in future follow-up cycles.
2. Some employers indicate that the person listed on the survey form was never their employee. This misidentification may have occurred through erroneous data entry or processing. These records should be flagged with a code indicating that fact.
3. Some employees or employers indicate that the Social Security number is theirs but that they are not the person on the survey instrument (this may take the form of concern over whether or not a SSN is being used fraudulently). In this situation, staff should try to identify where the record originated, notify the originator of a potential reporting error for this particular record, and delete the record from follow-up files.

An employer opinion survey also may be conducted under the auspices of the follow-up entity. Such surveys ask employers to indicate their satisfaction with job preparation of certain types of students they have hired (e.g., by major field of study). The traditional way of handling these surveys is to contact students, ask each to identify his/her employers, and obtain the student’s consent to contact that employer for a performance rating. **The automated process is not well suited to obtaining permission from students to do this.** Therefore, employer surveys should be directed to employers to describe the performance of unnamed new hires in certain occupational areas. Employers known to have hired former students of particular programs may be asked to rate

the effectiveness of those programs in preparing students for the world of work. Legal problems are much more likely to occur if employers are asked to rate individual program participants they have hired.

***g) Describe procedures taken to protect files and reports containing individually-identifiable data when they are being transported physically from one site to another.*** From time to time, it will be necessary for staff to transport individually-identifiable data resources from one site to another. Most often, this involves retrieving files from a remote computing facility and returning them to the lead agency's office. It may take the form of picking up files at one site, transporting them to a third site for some action, then transporting them to another site for additional processing. When individually-identifiable data are to be transported, the following rules should be observed:

1. Media containing individually-identifiable data should be transported only by permanent, authorized staff.
2. Media being transported should be taken directly to the appropriate designation (no errands, side trips, or over night retention).
3. When non-office sites are involved, such as warehouses or mail rooms, media should be in direct control and view of authorized, permanent staff at all times.
4. When media to be destroyed are being transported to outside facilities, they should be in the direct control and view of authorized, permanent staff until their destruction has been verified.

***h) Require that staff performance be evaluated in part on the basis of their adherence to security rules and procedures.*** Procedures described herein must be observed by all staff. Staff should recognize their obligation at all times to protect the privacy of individuals whose data are in the agency's charge. They should take all reasonable and necessary precautions to protect individually-identifiable information from public disclosure. Staff performance should be evaluated in terms of their adherence to written data security procedures.

## Overall System Design Considerations

### Scope

There are at least four considerations that will define the scope of automated follow-up operations. The first consideration is to specify the groups and organizations whose clients will be included in the follow-up process. The second consideration will relate to the government databases that will be accessed in performing the follow-up data collection. A third deals with secondary data collections for outcomes information not located through automated processing. The fourth relates to the timing of the follow-up cycle.

**1. Who will be followed-up?** There are a large number of state and federal laws, regulations, and government procedural guides that direct administrators to collect follow-up data on the clients of their programs. The focus of this *Guide* is follow-up that results in data which help portray the success or failure of programs in achieving their stated purposes. In almost all cases, employment and certain characteristics of employment represent desired program outcomes.

As lifelong learning increases in importance as a key to long-term economic self-sufficiency, continued pursuit of education and training also has come to be defined as a desirable outcome of high priority.

It is the position of the co-authors of this *Guide*, that a central follow-up entity should be seen as an integral part of a state's core system for achieving accountability in federally-funded/state-administered education, training, workforce development and welfare-to-work programs. Unified and centralized efforts should be used to develop follow-up data on all program activities that comprise a state's employment and training (or human resource development) system. Figure IV is a listing of employment and training programs that should be considered for inclusion in integrated and automated follow-up.

Many of the programs or systems identified in Figure IV relate directly to employment as an integral and desired outcome to be measured and included as an element of program accountability. For example, job training and vocational education clearly are in the business of preparing people for work; employment outcomes are essential elements of program success. Similarly, dependence on welfare is reduced when participants are able to earn sufficient, steady wages.

Other program areas may not be linked as directly and clearly to labor market outcomes; nonetheless, measuring employment outcomes will contribute data useful to program improvement and participants' post-program successes. Why measure employment outcomes for correctional system releasees, for example, if they did not receive some form of training while incarcerated? A major issue in state correctional policy is how to prevent inmates from recidivating. Recidivism has been shown to be less of a problem when former inmates are able to obtain steady

**Figure IV**

**Programs/Systems Requiring Follow-Up Data**

Education System and Programs		Workforce Development Programs	
High School Exits	Dropouts Dropout Prevention Participants Graduates Special Diploma Recipients Certificates of Attendance Recipients Tech Prep Participants School-to-Work Students Dual Enrollment Students Vocational Education Students Scholarship Recipients GED Recipients	Job Training Exits	On-the-Job Training Participants Work Experience Exiters Occupational Training Exiters Basic Skills Training Exiters Displaced Worker Training Exiters
		Welfare Reform Participants	Transition Services Participants JOBS/Project Independence Participants Control Group Members Welfare Recipients
Area Vocational School Exits	Occupational Program Exiters Sex-Equity Program Participants Single Parent Participants Displaced Homemaker Participants Scholarship Recipients Adult Education Students	Correctional System Releases	Parolees Probationers End-of-Sentence Releasees Correctional Education Graduates Work-Release Inmates Prison Industries Participants
Community College Exits	Associate of Arts Graduates Associate of Science Graduates Non-graduating Students Transferring Students Occupational Program Exiters Scholarship Recipients Adult Education Students	Rehabilitative Services Participants	Drug/Alcohol Clients Vocational Rehabilitation Clients Blind/Hearing Impaired Clients Mental Illness Clients Workers Compensation Recipients Retarded Citizen's Alliance Participants
University System Exits	Bachelors Degree Recipients Masters Degree Recipients Doctoral Degree Recipients Professional Degree Recipients Non-graduating Students	Placement Services	Private Placement Service Recipients Job Services Placements Job Services Registrants Discretionary Program Participants Targeted Placement Service Recipients
Private Licensed Schools	High School Exiters Trade School Exiters Two Year College Exiters University Exiters	Unemployment Insurance Claimants	Claims Exhaustees Claims Recipients Profiled Claimants Training Initiative Claimants

employment. Analogously, the ability to obtain and sustain employment is compromised when one is dependent on alcohol and/or drugs. Steady employment then can be seen as a desired outcome for drug and alcohol dependence intervention programs. The same would be true of rehabilitation programs.

Some academic professionals argue that employment is not an appropriate measure of the success or failure of educational programs, with the exception of vocational education and certain occupationally-specific professional programs (e.g., accounting and engineering). This argument is commonly made at all levels. High school administrators frequently suggest that their mission is to prepare students for higher education -- particularly at the baccalaureate level. However, follow-up studies clearly indicate that most high school graduates do not obtain baccalaureate degrees. Most either enter the workforce directly or do so after a year or so of pursuing (but not completing) a postsecondary education. Elected officials often express an interest in assessing the relative contributions of every partner in a state's education and training system to that state's economy. One measure of these

contributions can be expressed in terms of the earnings and other employment characteristics of graduates -- even if employment does not exhaust the entire range of outcomes promised by the service provider or desired by participants and students.

The principle suggested here is that employment is a bottom-line outcome that must result from all of the areas identified on Figure IV if former clients, participants, students, or inmates are to achieve economic self-sufficiency and if they are to contribute to their communities' economic development and prosperity.

*Some educators argue that they do more than prepare students for careers. One can accept that argument yet still assert that labor market outcome measures legitimately can be applied to programs in all fields of study. So long as career aspirations and future earnings enter into any student's selection of education and training alternatives, they deserve the job placement and earnings data they need in order to make informed choices.*

*The co-authors of this **Guide** believe that non-economic performance data ought to be collected in addition to -- but not instead of -- labor market outcomes. After considering all relevant data, some students may elect to enroll in fields of study knowing that prior exit cohorts exhibited below average placement rates and/or earnings but in so doing, they are making informed choices.*

*So long as the overarching policy intent is to foster economic development and prosperity through upgrading the labor supply, an expectation of successful labor market outcomes is at the heart of public motivation for funding programs through tax dollars directly to underwrite operating expenses or indirectly as tuition subsidies and student loan guarantees. Consequently, citizens, through their public officials, reserve the prerogative of judging programs on the basis of economic outcome performance measures. That being the case, both the public and program operators deserve valid and reliable outcomes data obtainable at a reasonable cost.*

The scope of an individual state's follow-up system may be limited initially to job training or vocational programs. This may be the result of limited funding, the necessity of meeting Congressional or legislative requirements, or the knowledge and experience of the follow-up entity's administrators. It also may be limited because databases containing individual client, student or participant information from related programs are not conveniently available. However, as investments are made in developing software to support automated follow-up, it will be desirable to build in flexibility and capacity for expanding the scope of services and broadening the outcomes data resources over time.

If the state's vision is to establish a broad-ranging follow-up program, it may be useful to add organizational and program customers on a limited basis at first. For example, rather than attempting to serve the entire state community college system, it may be instructive to start with a few institutions. This will allow follow-up staff sufficient time to become familiar with the student databases, processing issues and typical customer data needs before tackling the entire system. It also is a good tactic to begin on a limited basis. Many customer groups may be suspicious of centralized and integrated follow-up activities over which they do not have unilateral operational control. If follow-up staff are able to serve a limited number of members in a customer group well, those satisfied customers may promote follow-up activities and services among their colleagues and peers.

In realizing a wide-breadth operation, it is obviously important that the central follow-up entity's managers work with organizations that administer programs such as those in Figure IV -- whether customers are added on a staged basis or all at once. It also will be important that administrators recognize and participate in initiatives that could be served by data collected through the follow-up system. In Florida, for example, the Governor established an initiative referred to as the "Government Accountability to the People Commission." Its purpose was to develop a series of *bottom-line* accountability measures for key government activities. Florida's central follow-up entity's administrators participated in all Commission meetings. As a result, key follow-up data are included in the Commission's products. More importantly, the follow-up entity is seen as a key data provider for a variety of programs and services. In Texas, the legislature developed accountability requirements for education and job training programs. The Texas SOICC, which administers that state's automated follow-up effort, made sure that the unit they operate was identified as the one authorized to provide core measures to meet those requirements. In North Dakota, the central follow-up entity's administrator was an active participant in the State Auditor General's overarching governmental accountability initiative.

Regardless of the intended scope of operation, it is important to consider the content of all databases that will in essence be the inputs to the accountability system. Potential customers frequently will ask, "What data elements should I provide to you -- you just need Social Security numbers, right?". In a later section of the *Guide*, considerations for editing the system will be discussed. If central follow-up entity administrators intend to edit input records as suggested herein, they will, in all likelihood, require names and birth dates as well. If customers eventually will wish to aggregate reports around demographic characteristics, socio-economic characteristics, disability

characteristics, types of interventions, or particular program strategies, these items will be needed as a part of the input records as well. If part of the follow-up mission is to relate employment to the types of training or education received by participants, indicators should include major field of study and mode of instructional delivery. If outcome data are to be explained in relationship to various geographic units (such as post-program mobility relative to the taxing district or planning region in which training was provided), this information should be included as well.

To save file storage space, however, coding conventions can be used in combination with look-up tools to reconstitute details for the purpose of generating labels or headers for tables and graphs in follow-up reports. In picking data coding schemes, one should consider:

a) **Universality:** the number of programs participating in unified follow-up that have used the coding system in the past; and

b) **Utility:** the availability and usefulness of crosswalks and analytical tools tied to a coding system.

### ***Common Coding Systems Used in Automated Follow-Up***

#### ***Industry of Employment:***

***Standard Industrial Classification (SIC)***  
*North American Industry Classification System (NAICS)*

#### ***Occupational Employment:***

*Occupational Employment Statistic (OES)*  
*Dictionary of Occupational Titles (DOT)*  
*Standard Occupational Code (SOC)*  
*O\*NET (forthcoming)*

#### ***Field of Study:***

*Classification of Instructional Programs (CIP)*

As one deals with different databases such as those outlined in Figure IV, disparate definitions frequently will be found in data elements that purportedly depict a similar phenomenon. Some of this disparity may relate to how demographic or socio-economic characteristics are defined by a particular customer. Some of it may relate to the way substate regions are defined; some will relate to how programs are defined. Even where one would expect common ground, as in the use of the federal Classification of Instructional Programs (CIP) by elements of the education system, significant differences may be encountered. This *Guide* hopes to convey the important message that follow-up administrators should design their system to accommodate the nuances of their customers rather than force stakeholders to use unfamiliar definitions or structures. In some instances, however, a partner agency's use of its own unique coding system may make it difficult -- if not impossible -- for the central follow-up entity to assess the degree of articulation between that agency's programs and programs operated by other agencies.<sup>1</sup>

In many states, various agencies often will work together to adopt appropriate common definitions. Such activities often occur through State Occupational Information Coordinating Committees or Information Resource Management units. Follow-up

***It may be incumbent upon the lead follow-up agency to develop crosswalks between agency-specific coding systems and more common structures used to code the same phenomena by other partner agencies.***

administrators should work with these efforts. The administrators should not, however, predicate anyone's participation in integrated follow-up on their adoption of common definitions or file structures.

**2. Databases to be used in follow-up data collection.** As suggested earlier in this *Guide*, the Unemployment Insurance wage record apparatus in each state will form the core database used in developing systematic follow-up. It is important that the central follow-up entity's administrators become intimately familiar with the content strengths and limitations of this database. A strength of the UI wage records is that the database generally represents a near-universe of wage and salary employment in states.<sup>2</sup> This representation is a consequence of the State Unemployment Compensation law's coverage. Where certain employment is not covered under a particular state's law, that type of employment also will not be covered by follow-up data harvested from UI wage records. *Non-covered employment* typically includes federal employment, U.S. Postal Service employment, military enlistment, railroad employment, out-of-state employment, self-employment, some agricultural employment, employment where earnings are based strictly on commissions, and unpaid family workers. Any employment that results from a cash exchange frequently will not be covered. For example, in some cases, arrangements for lawn care between a home owner and individuals with some lawn care equipment will not be covered. The effects of uncovered employment varies. In Florida and Texas for example, UI wage records account for about 96% of each state's wage and salary employment and a high proportion of overall employment. In North Dakota, however, the UI system accounts for about 60% of overall employment because more of its citizens fall under agricultural-related coverage exemptions.

**Useful employment data can be developed from UI wage records as long as administrators understand and clearly denote their limits.** A state's central follow-up entity should consider including other databases as outcomes data resources. Figure V identifies employment data resources that can augment UI wage report data in the automated follow-up process.

It may be important to broaden the scope of follow-up activities beyond collecting employment-related data. This may be governed by an interest in filling information gaps as in, for example, answering the question, "What other policy-relevant things do people do that feasibly can be documented through automated follow-up?". It also may be governed by the requirements of programs for which data are collected. For example, if elements of the state's education system are participants in centralized and integrated follow-up activities, then continued enrollments, subsequent enrollments, and eventual degree or certificate awards may be critical pieces of information.

**Figure V**  
**Potential Employment and Employment-Related Databases**

Type of Employment Data	Content of Interest	Source
Federal Career Service (civil service workers)	Occupation, pay grade, governmental and geographic location worldwide	Office of Personnel Management (OPM)
United States Postal Service (USPS)	Occupation, pay grade, geographic location nationwide	Data Integrity Board United States Postal Service
Railroad System	Occupation, pay grade, duty station nationwide	Railroad Retirement System
Military Enlistment	Military Occupational Specialty (MOS), branch of service, active duty, reserve duty, inactive reserve, rank, pay grade, duty station world- wide (except where disclosure would breach national security)	U.S. Department of Defense Manpower Information Center Monterey, California
Federal Income Tax	Self-reported occupation, earnings, employer information, address worldwide	Internal Revenue Service (IRS)
State Income Tax (where applicable)	Self-reported occupation, earnings	State Department of Revenue or Tax.
Occupational Licensure	Occupation, licensure tests passage, current employment	State Department of Professional or Occupational Regulation, poss- ible other units such as health care administration or specific boards like the Board of Nur- sing
Unemployment Insurance (UI) Claimants	Occupation, industry, claims information for eligible unemployed	State Employment Security Agency (SESA)
State Career Service Systems (if not in the state UI system)	Career classifications, admin- istrative unit, location, pay grade	State Personnel and/or Payroll Agency
Out-of-State	Wage record information	State Employment Security Agency and ITSC clearinghouse
Job Placement	Information from placement programs, may include occupation, industry, wage at placement	State Employment Security Agency (SESA)
Occupational Information Geographic Information	Address, occupational title	State Department of Motor Vehicles or State Driver's License Agency
Not available to labor market	Mortality, incarceration	Vital Statistics, prison system

Additionally, if follow-up services are provided for welfare reform efforts, it may be important to examine the degree to which participants reduce or eliminate their dependence on various forms of public assistance. Similarly, if follow-up data are gathered for former correctional system inmates, employment data may be correlated to recidivism rates. Figure VI presents some of these types of possibilities.

**Figure VI**  
**Additional Database Subject Areas**

Type of Data	Content of Interest	Source
Pursuing Postsecondary Education	Enrollment, discipline or occupationally specific training program, curriculum, grades, test scores, graduation. (Limited to in-state geography.)	State Vocational Education Entity, State Board Governing Community Colleges, State Board Governing Universities, State Licensing Boards for Private Schools, State Education Associations, Integrated Postsecondary Education Reporting Unit, Higher Education Planning Unit, Higher Education Coordinating Board, Regents
Public Assistance Receipt	Aid to Families with Dependent Children (now TANF), Food Stamps, Supplemental Security Income, Medicaid, Medicare, state programs (probably limited to in-state geography).	State Welfare, Human Services, Social Services, or Family Support Agency
Incarceration, Supervised Release, Arrest	Type of custody, type of infraction, length of sentence, type of supervision, location of custody.	State Corrections Department, State Law Enforcement Agency

In examining the potential use of the resources identified in Figures V and VI, their content, timing and definitions should be studied carefully. Data on various outcomes in the files -- where warranted -- can be combined with input records to provide data that are useful in analyzing program effects. It will be important to assure that each contains common individual-identifiers such as names, Social Security numbers and birth dates. These elements are essential to the record linkage process -- particularly for verifying records when there is a successful link. It will be important to be clear on operational definitions of key data items such as industrial classification, occupational titles, and education/training program taxonomies. It also will be important to observe the collection cycles that drive partner agencies' activities so data added to the follow-up entity's repertoire can be coterminus or nearly coterminus with UI wage record reporting intervals. To keep with the quarterly character of UI wage report data, for example, it may be necessary to ask each cooperating agency to batch process information resources around the same period. Also be aware that the dates for **official** public release of data are lagged significantly behind data submission close-out dates in partner agencies' management information system cycles.

In many cases, characteristics that will not change over time -- such as demographic information -- are contained in input records. In these situations, it is not necessary that they be included on the target records.

The logistics necessary for accessing information must be considered in addition to content issues. In some cases, the follow-up entity may be required to deliver files to other agencies for *enhancement processing* or *augmentation*. In other cases, partner agencies may provide files to the follow-up entity for in-house processing. Organizations responsible for managing these databases may require some form of agreement as suggested earlier in the *Guide*. They also may require reimbursement for their services.

**3. Auxiliary linked data sets and other sources of outcomes data.** There are three types of auxiliary data collection activities discussed in this chapter. Two require collecting information from employers. One of these deals with the addition of job information not available *via* record linkage operations. The other deals with employer satisfaction information of the sort frequently required for education and training program accountability. The third approach involves contacting individuals being followed-up for auxiliary data about their employment, education or satisfaction with the services they received.

**a. Job Information.** Occupational information most often will be cited by users as an important information need. The record linkage processes that have been discussed will yield occupational data only in limited cases. The Department of Defense includes Military Occupational Specialties (MOS) on members of the uniformed military forces of the United States. The Office of Personnel Management (OPM) maintains Federal Occupational Class Codes on its employees. The U.S. Postal Service and Railroad Retirement Systems likewise maintain career occupational classifications. State Administrative entities often are charged with maintaining state employee career, payroll, or retirement records organized around state occupational job assignment codes. The Job Service maintains *Dictionary of Occupational Titles* codes on individuals placed through the State Employment Security Agency. These occupational classifications may be collected through record linkages but will be available only when there is a *hit* in the automated portion of the process. Most documentation of post-program employment status, however, will result from linkages with the UI wage record database. This system typically does not include occupational titles.<sup>3</sup>

It is assumed that most states will need to develop occupationally-specific data for many organizations served by their central follow-up entity. Other types of information deemed important to employment and training system customers might not be available on a wide basis from linked systems. Examples include employment location, hours worked, point-in-time indicators and wage rates.

Employer satisfaction indicators often are needed by education agencies and local service providers. This type of information will be treated in the next section of this *Guide*.

Those charged with establishing a state's central follow-up entity should go through a thoughtful needs-assessment process with planned customers. They may be tempted to specify needs that are not absolutely critical, but rather *nice-to-have* types of items. (See the Privacy Chapter of this *Guide* for a more detailed discussion of *need-to-know* versus *nice-to-have* variables.) It is very important to keep in mind that this information will be requested of employers on a voluntary basis. If the information being sought is difficult or arduous for employers to gather, they will not respond voluntarily.<sup>4</sup> A good strategy would be to involve representatives of business, industry and labor in each phase of identifying and prioritizing auxiliary data. A two-pronged approach is recommended.

First, the central follow-up entity should consult employers and labor representatives who are active in advising vocational education, job training, workforce development, welfare reform or job service operations. Deeply involved, well-informed, committed and conscientious stakeholders most likely will be found serving on local Curriculum Technical Committees or the state-level Council on Vocational Education, Private Industry Councils (PICs) or Local Workforce Development Boards (LWDBs), Job Service Employer Committees (JSECs), the State Job Training Coordinating Council (SJTCC) or Human Resource Investment Council (HRIC) and others. Subgroups of these committees could be formed to help guide development of the follow-up process or each could be involved separately. Support from key leaders from the private sector will be very important in justifying and explaining the process to their peers and the general public. Advice from the employers in particular should be sought formally and documented thoroughly. This input should have several facets -- including a recognition by employers of what potential customers need, how to obtain the information most efficiently from employers, and how to develop necessary tools to collect, code and evaluate the information.

Second, once a follow-up entity has identified crucial data items and has a preliminary design for collection tools, they should be tested with a purposive sample of firms. A "purposive sample" is a more limited sample than those developed for statistical analysis. Its focus is to test approaches in case situations. Examples of case situations should be selected on the basis of how particular establishments might respond to specific kinds of information requests. For example, multi-unit firms will respond differently from single-unit firms, large firms differently from medium sized ones. Firms that tend to use leased or temporary workers will respond differently than those which directly employ most of their workers.

The employer advisory groups can assist in designing a purposive sample. This effort will help assure that the process and design are understood fully by other employers and that information being requested can be obtained from them with minimal intrusion. If a particular data item presents a serious difficulty for employers, it should be eliminated from the follow-up survey instrument.

Florida, Texas and North Carolina regularly contact employers to gather data not available from their respective UI wage record databases. Florida requests occupational and locational data; Texas requests occupational and part-time/full-time indicators as well as the Zip code of the

employee's primary work-site; North Carolina collects only occupational data. Each state had to weigh its critical data needs against what is available already from record linkages and what reasonably could be requested from employers *via* a survey. The common denominator in each state is the request for occupational employment data. The following discussion focuses on that particular data item.

Most follow-up customers -- particularly those that provide occupationally-specific training -- will need occupational employment information.

For example, vocational education programs train students extensively in particular occupational fields. Administrators, adult learners and taxpayers as well as prospective students and their parents will want to know whether training-related employment ultimately is obtained by vocational program completers. (See the Chapter in this *Guide* on the Training-Relatedness of Post-Exit Employment.)

***In some university-level disciplines, such as allied health or engineering, similar questions are appropriate.***

Where particular customer information-needs dictate acquisition of occupational data, employers who hired former students from related programs are identified through UI wage record linkages. These employers are sent a form, such as the one attached in Figure VII, identifying the particular students for whom occupational data are needed. The form is accompanied by a letter from a state official that requests their participation by recording responses on the survey instrument. (A sample letter is provided herein as Figure VIII.) The back of the form includes instructions that direct the employer to indicate an occupational title and a county worksite designation. The county worksite is requested as each UI wage record typically is limited to the employer's reporting addresses. These addresses may indicate the location of a reporting firm or a central headquarters that are remote from the actual employment site; some may represent the location of a third-party processing the payroll on an outsource basis for the employer-of-record.

***Serious consideration should be given to arrangements for employers -- particularly large firms -- to respond electronically. This may require preparing a run-time version of a file format with data entry screens to prompt input for each former student or program participant reported to be in their employment and an easy-to-follow guide for returning the data to the lead follow-up entity or its survey subcontractor.***

Employers also are asked to provide occupational information for the type of job on which each specified employee spent most of his or her time -- whether full-time or part-time. In reporting occupational titles, employers have a choice. They may select a title from an industry-specific listing of occupations provided by the State Employment Security Agency's Occupational Employment Statistics (OES) survey. They also may choose to report their own generic payroll or human resource job titles. (One major difficulty in this process is how to force a huge variety of employer payroll and personnel titles into a standard classification that can be used for statistical purposes.)

**Figure VII**

**Employer Contact Form**

<b>State Name</b> <b>State Seal</b>  <b>(List of Cooperating Departments Here)</b>			
Any Firm 123 Any Street Anytown, State 123456  Attention: Personnel Director	Unemployment Insurance Account Number: 1234567C  Telephone Number: (123) 456-7890	Standard Industrial Classification: 9999  Information Quarter: October-December 1996	
<b>Employee's Name</b>	<b>Social Security No.</b>	<b>Occupational Code or Title</b>	<b>Place of Work (County)</b>
Queenah D. Nile	555-66-7777		
Vinnie Vidivichie	111-22-3333		
Marge N. Overa	444-88-9999		
<b>If you have questions, please call Charles Obert of my staff at 1-800-123-4567.</b>			

The survey instrument should be mailed under a cover letter per the sample in Figure VIII. It should be signed by someone well respected by business and industry in order to stimulate the highest possible response rate.

**This sample employer contact letter (next page) should be printed on agency letter-head with the state seal or some other indicator of official state business faintly embossed in the background. An automated routine should be used to stamp each letter with its outbound date.**

## Figure VIII

### Sample Cover Letter for Employer Follow-Up Survey

Dear Texas Employer:

As a former business person, I share your deep commitment to the economic development of this state. The education and training of a highly skilled workforce is vitally important to its economic development strategy. If all Texans are to prosper, we must prepare students and adult learners to compete in the global economy. Under authority granted by the State Legislature and upon the advice of the Texas Council on Workforce and Economic Competitiveness, the Governor's Office has adopted core performance measures and standards designed to improve the quality of Texas' education and training programs. An automated student and adult learner follow-up system operated by the Texas State Occupational Information Coordinating Committee collects the information necessary to implement this strategy. The information collected is vitally important for program evaluation, for calculating returns on the investment of your tax dollars in education and training, for planning future programs and for helping students and adult learners make informed career choices.

Our records indicate that you have employed one or more students who graduated from various school districts, community/technical colleges, universities or job training programs across the state. Each former student's name is listed on the enclosed survey. We would greatly appreciate if you or a personnel representative from your company will provide us with each employee's job title and other information requested on the form.

I know this will take some effort, but it is extremely important. The state's workforce and economic development partners need this information so we can better determine the success rate of the state's education and training programs. By consolidating this request on a single survey form, it is our goal to streamline data collection to assess public education's capacity to meet the demands of Texas employers for a highly skilled workforce. Please mail the completed form in the enclosed pre-addressed/stamped envelope. I assure you that the information you provide will be completely confidential. It will be analyzed by a team of authorized researchers from state agencies and educational institutions solely for the purpose of planning program improvements.

Please send your completed surveys directly to the University of North Texas Survey Research Center to expedite processing. Thank you for your cooperation. If you have any questions, please contact Dr. James Glass, research team leader, toll-free at (800) 687-7055.

Sincerely,

George W. Bush  
Governor of the State of Texas

There are two basic choices. The conventional approach involves asking employers to categorize and enumerate their employees by classifications in a standardized taxonomy (the "standard taxonomy approach"). Employers determine the relationship between the job titles used in everyday business -- their personnel or payroll system titles -- and standard taxonomic categories. In other words, the employer interprets the relationships. The group conducting the survey aggregates responses by category. This was the preferred approach for surveys because employers can compare their own job descriptions to those associated with the standard taxonomy, thus making for accurate responses.

A second approach involves asking employers to enumerate their employees by the personnel or payroll titles they use in the course of doing business. We refer to this approach as the "employer-generated title approach." In it, employers have a relatively simple job of counting and reporting employees by the titles with which they are most familiar. The requesting party then must force employer-generated titles into a standard taxonomy before aggregating any data. Analysts in reporting units have the

formidable task of comparing a myriad of employer-specific job descriptions (or no job descriptions at all) to the standard classification system. Because analysts are most often detached from employers, they generally are unfamiliar with day-to-day tasks; thus, they are not totally qualified to determine appropriate relationships. The accuracy of aggregated data from this type of approach would be suspect. It does, however, have a desired benefit; i.e., it eases the work required of employers in responding to occupational information requests.

***A payroll or lay title may be unique to a region or firm. It is important to develop an exhaustive crosswalk from lay/ payroll titles to a standardized occupational code when relying on "employer-generated title approach." The technical reference section of this Guide provides information on a crosswalk technique used by Florida and Texas to perform these conversions.***

In both Florida and Texas, the follow-up entities faced the dilemma of balancing the aim of collecting occupational data from more employers without imposing undue reporting burdens. Both states decided to give employers the option of reporting their employees grouped into standard classifications or grouped by their own personnel/payroll titles. In the case of the former, Florida employers were provided with a dictionary of standard occupational classifications typical of the type of business in which they are engaged. The standard classification selected was the Occupational Employment Statistics (OES) taxonomy used in employer surveys nationwide. In the latter case, Texas chose to accommodate employer-generated titles by constructing an automated occupational thesaurus that would associate employer titles with standard OES classifications.

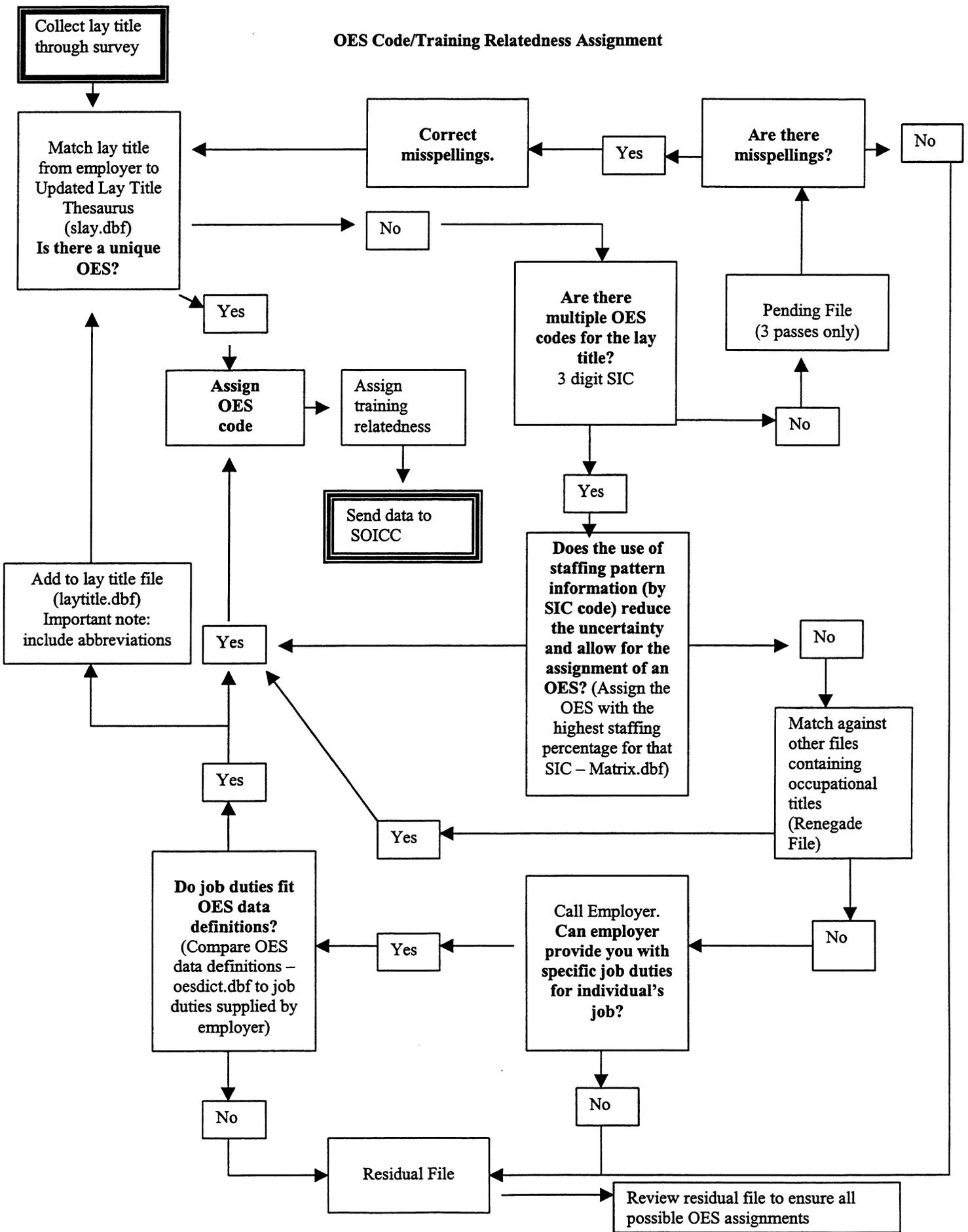
There are several widely used occupational employment classification systems; e.g., the Standard Occupational Codes (SOC), the Occupational Employment Statistics (OES), and the *Dictionary of Occupational Titles* (DOT). Florida and Texas both chose to use the OES structure for the following reasons:

1. Since a primary purpose of follow-up is to provide feedback on the planning and delivery of a skilled workforce through education and training programs, both states thought it appropriate to use a coding structure that relates occupational employment supply and demand. Unlike the other two occupational coding systems, the OES attaches current employment and employment demand growth forecasts to each title.
2. Crosswalks and other analytic tools linking education, training, workforce development, and occupational employment already have been developed around the OES.
3. By listing fewer than 800 separate titles, the OES probably offers a better reflection of occupational employment in the modern workplace where a wide variety of duties and tasks are performed under a single title. (By comparison, the DOT list more than 12,000 occupations characteristic of an earlier era when Tayloristic human resource management techniques broke down work into narrow, repetitive tasks -- each assigned to a separate title.)

As the central unit receives employer responses, they can be keyed *verbatim* into a processing system. An automated processing routine compares job titles being entered to those listed in the thesaurus. Where there is a match, the entry is auto-coded with an OES classification immediately. Where there is no match, an *exception* is recorded to be batched with other exceptions for resolution. "Resolution" means that staff research each exception to determine the proper OES classification. Where employers used their dictionaries in providing occupational data, the thesaurus can be used to verify reported titles and/or codes. (Chart I depicts the process flow used in handling in-coming surveys, using the thesaurus, and updating the job title file therein.)

As Florida conducted its initial research, several other states were engaged in efforts to obtain occupational titles through the use of UI wage record systems. There also were a number of initiatives, including those directly sponsored by the National Occupational Information Coordinating Committee, to develop approaches to automatically relate various occupational taxonomies to one another. One such approach was developed in Utah. It related Dictionary of Occupational Title (DOT) classifications to Standard Occupational Classifications (SOC). The tool developed in Utah was referred to as the "AUTOSOC." It was the first tool of its kind. It operated much like a thesaurus in that it allowed a user to relate a detailed DOT code to a summary-level SOC code. Those charged with developing the Florida job title file thesaurus used the AUTOSOC as a starting

OES Code/Training Relatedness Assignment



resource. The thinking was that an employer-reported title more likely would match a DOT classification than a summary-level OES classification. Equally important, the AUTOSOC could be adapted to get from the detailed DOT to the more general OES. The AUTOSOC was more useful for this purpose than a straight crosswalk because it also included Standard Industrial Classification (SIC) relationships to the DOT codes.

Because the number of individual classifications resident in employer personnel and payroll systems were potentially endless, the thesaurus was designed to facilitate searches. In other words, when a specific employer-generated title is entered into the thesaurus, it must be related to the proper OES classification in the most parsimonious fashion possible. A straight search through a very long listing of occupations would not be very efficient. Therefore, the thesaurus was designed to index occupational classification searches by industrial classification sectors.

The system operates in the following way. When an employer response is input during data entry, the first search of occupational titles is indexed by the industrial classification under which the employer is categorized. If matches between employer titles and OES titles are found, they are automatically coded. If no matches are found, a second search is conducted against a sector of occupations that occur across all industry groups. These occupations were grouped as "99" classifications -- meaning their occurrences were not industry-specific. Again, if a match is found, it is duly recorded. If not, the title is reported as a "pending title" (meaning that it has to be assigned by research staff to a particular OES classification).

***The best approach when attempting to code employer-generated titles not previously entered into the historic Job Title File is to contact the employer directly to request a description of the duties and tasks assigned to incumbent workers. The duties and tasks can then be compared to those found in the data dictionaries of standard coding systems and to the thesaurus compiled over time through prior direct employer contacts.***

In dealing with the pending titles -- by determining the appropriate OES assignments and recording them in the historical Job Title File -- the file's utility has improved greatly over time. When Texas's central follow-up entity began operating, it included the Florida Job Title File as a starting place in preparing its own version of the automated thesaurus. Thereafter, Texas and Florida have worked together continuously to add lay payroll titles from each state to make the thesaurus more exhaustive.

It is important to note that the process of building the Job Title thesaurus over time does not necessarily mean that each of the occupations that are unrecognized by the system is a unique new job title. Pending files can be created when unrecognizable acronyms, misspellings or title nuances are provided by employers.

Figure IX is a subset of records from the Florida Job Title File that reflects this point. Fifteen unique titles are listed in Figure IX (there are actually about 65 entries in the current Florida Job Title File which crosswalk to “Registered Nurse” classification in the OES). When these titles originally were received from employers, most were not resident in the automated thesaurus. Most, therefore, originally were listed as “pending records” that had to be associated with an appropriate classification through persistence efforts to recontact employers.

**Figure IX**  
**Variations on the Occupational Title “Registered Nurse”**  
**Submitted to the**

**Florida Education and Training Placement Information Program**

Record Number	Selected Titles Related to Registered Nurses in the Florida Job Title File
1	Administrative Nurse
2	ARNP
3	Nurse I
4	Nurse II
5	Nurse-General Duty
6	Nurse-Registered
7	Office Nurse
8	RN Nurse
9	RN Midwife
10	RN Shift Supervisor
11	RN-Pediatrics
12	Registered Nurses
13	Registered Nurse Practitioner
14	Reg. Nurse
15	Rehabilitation Nurse

There are advantages to automating the thesaurus. Once an exception is resolved, a permanent entry is added to the thesaurus. This ensures intra-coder reliability (consistent coding by any given data-entry clerk each time he/she encounters the same title) and inter-coder reliability (consistency among clerks as they encounter the same title during the course of data entry) literally by taking the coding decision out of data entry clerks’ hands in all subsequent instances.

**While every effort is made to shoehorn employer-generated titles into the OES structure, Florida and Texas carefully preserve copies of the pending titles files for later analysis. The residual titles -- ones neither previously encountered nor permutations of existing titles -- are studied in more detail as possible candidates for inclusion on state lists of emerging occupations. When the number of entries in any given emerging occupation category reaches critical mass, they may drive development of new education and training programs.**

**(See the technical reference section of this *Guide* for more details on the use of follow-up data in the study of Emerging Occupations.)**

The process outlined above presumes that the central entity will either do an employer follow-up survey or enter into a contract with another party to do the actual survey. Below, we outline several procedures that should be followed to ensure efficient survey operations. If the central entity enters into an agreement to obtain these services, the recommendations below should be distilled into a procedures manual and made part of the statement of work attached to the contract. Because of the costs associated with each step, these procedures should be made known in advance -- either as specifications in a request for proposals/bids or during contract negotiations -- before either party actually signs the final terms of agreement.

**Step 1: Arrangement for Postal Services.** In Florida and Texas, follow-up administrators chose to handle postal servicing outside their state agencies. Since each state contacts a large number of employers (25,000 or more) annually, it was felt that the agencies' processes could not handle the volume on a timely, efficient basis. This required establishing five separate accounts with the Postal Service. One account pays for a postal drawer at the local Post Office where responses are received daily. All mail concerning the employer follow-up survey effort should be steered to this address.

#### *Reducing Postage Costs*

*In some areas, the Postal Service is equipped to handle bar-coded addresses on outbound mail and return envelopes. Annually updated Zip Code Plus bar codes can be generated from a nationwide database on CD-ROM available from the Postal Service. Use of bar-coding to expedite sorting and handling employer surveys and their responses will qualify the follow-up entity for the lowest postal rates.*

A second account pays for all outgoing mail. References to this account are coded onto the envelopes used to mail the follow-up package to employers.

A third account provides the postage necessary to return responses. Codes concerning this account are imprinted on all envelopes used to return responses from the employers. Along with return mail codes, the return address information is printed on return envelopes.

Another account assures that mail is forwarded in cases where there has been an address change. A fifth account assures that undeliverable mail is returned to the follow-up entity's head-quarter address for record-keeping purposes.

**Step 2: Stuffing the Mailout Package.** The mailout package suggested above is not a simple one to prepare. This is especially true when a large number of firms are involved in the survey process. Each employer will receive an industrial classification-specific occupational listing as suggested above. The SIC classification of that listing will have to be correlated to the SIC-identifier of particular employers. Further, the envelopes used in mailing out and receiving materials are different for employers of different size. Large employers who are being asked to respond to several pages of employees will need large envelopes for the mailout and mail back while smaller employers require smaller envelopes. Design an automated processing routine to sort employers to be contacted by firm addresses, size and SIC classification so that address labels are available to staff in a useable form. In Florida and Texas, the forms are designed to position employers' addresses so they appear in an envelope's window when the survey instrument is folded properly.

This stuffing step in the process may necessitate hiring a mail service firm or additional staff. Many areas have Associations of Retarded Citizens or similar organizations with mail servicing units adept at these types of tasks. No matter how stuffing is handled, remember that survey forms contain information that should be in the direct charge of the follow-up staff at all times.

**While you may subcontract the stuffing step to a private firm, we strongly suggest that you not use a private for-profit firm to conduct the employer follow-up survey. If the lead follow-up agency must contract for an employer follow-up survey because it does not have the capacity to handle it in-house, it should use the services of another public entity such as the survey research center of a state college or university.**

- 1. State procurement rules probably make it easier to enter into an interagency agreement with another public entity than to enter into a contract with a private-for-profit.**
- 2. By so limiting contracts for services, all entities involved in follow-up activities come under provisions of the Buckley Amendment (FERPA) as "public officials" in the pursuit of their "official duties."**
- 3. Interagency agreements also eliminate any temptation or appearance of impropriety regarding the possible re-sale of confidential, individually-identifiable or firm-specific information for a windfall profit by a private sector contract service provider.**

**Step 3: Sorting packages by weight category and delivery to the Postal Service.** The Postal account which funds outgoing mail will require that packages to be mailed be sorted by weight groupings before delivery. Follow-up staff will be advised of this requirement and the weight categories by the local Postal Master. Once all packages are categorized appropriately for mailout, they should be delivered either by a hired service or by staff.

We recommend that the mailout process not be done in stages; rather, all processes used to prepare the mailout should be geared to culminate on a single day. It may be appropriate to target the mailout to a day when it can be handled expeditiously by the Postal Service.

### **Handling Responses**

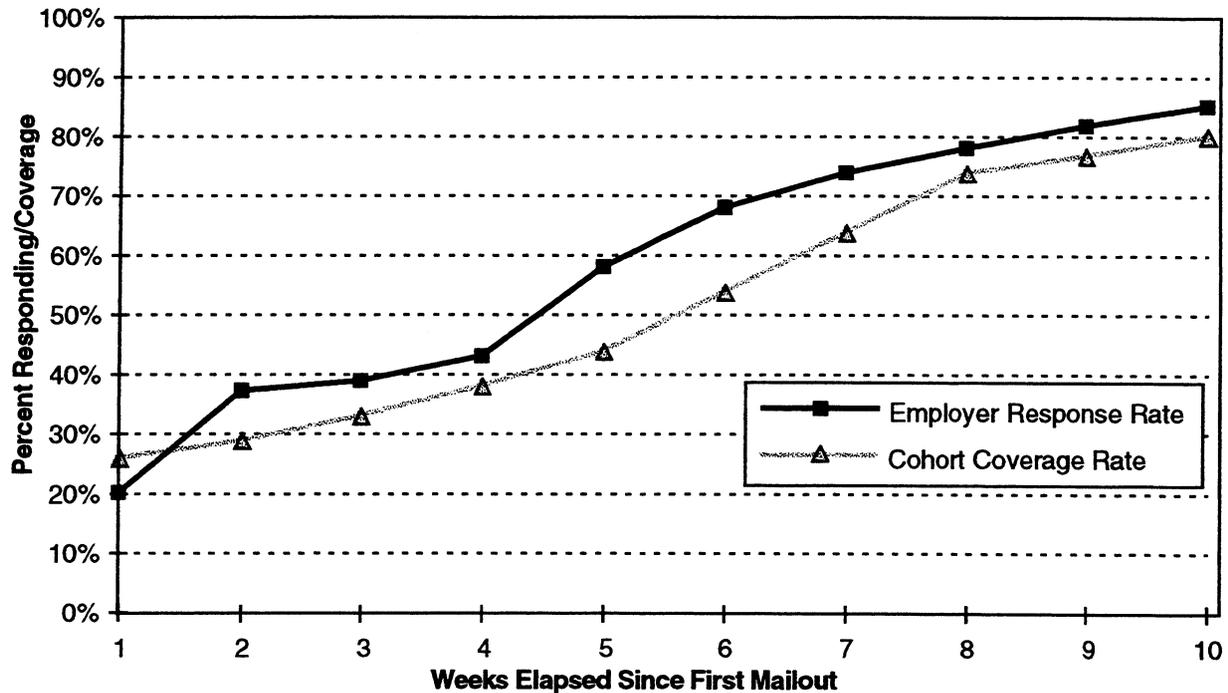
In the co-authors' experience, if the targeted mail day is a Friday, the surveyor may begin receiving responses on the following Monday. The number of responses will escalate quickly for about five days, then begin to diminish. Approximately half of the responses should be received within two weeks of the initial mailout date. Substantial *persistence effort* may be needed to stimulate responses from the remaining employers in the survey population.

It will be helpful to chart responses on a daily basis. Graph them relative to significant activities associated with the employer survey to determine the marginal return for each level of persistence effort. (See Chart II.) Real data will reveal, for example, whether paying for a third mail out is a better investment than persistence efforts by telephone or vice versa. Such information helps immensely in planning activities and peak-load staffing needs for subsequent years and/or negotiating with an outside entity for professional survey services.

In designing the survey instrument form, it may be useful to provide printed instructions to help employers who want to ask questions about follow-up or who wish to respond by phone. Employers with questions will want them answered immediately. It will be wise to establish a dedicated telephone number for this purpose. A ring on this line will alert staff that in-coming calls are from employers to help assure proper handling. In Florida, employers are provided a dedicated telephone number as well as a bogus contact person, "Charles Obert." The naming convention is used because employers occasionally will ignore the dedicated number and use conventional office contact information. When this happens, a request for Charles Obert alerts receptionists to direct such calls to appropriate staff. Staff fielding such telephone inquiries from employers acknowledge that Charles Obert is not available and give their own name while handling the call.

As questions are fielded, employers are given an opportunity to respond over the telephone if the volume of information requested is reasonably small. If they choose that option, they are directed to destroy survey forms that were sent to them. Care is taken to thank them for their cooperation. As a part of the telephoned response process, employers are asked for their Unemployment Insurance account number (from the form), then to provide the requested information for each employee listed on the survey instrument.

## Comparison of Employer Response Rate to the Percent of Cohort Coverage



- In the first week, a substantial number of employers, particularly the larger ones that can automate the process, respond to the follow-up survey.
- During the second and third weeks more responses come from mid to small size employers.
- When the responses taper off around the third or fourth week, a reminder is sent to non-responding employers. That prompts another surge of responses, especially from mid to small sized firms in subsequent weeks.
- During weeks 6-10, the largest non-responding firms are contacted by phone or in person to encourage them to complete the survey. Even if only a few of those contacted actually respond, a handful of such firms—because of their size—can improve the cohort coverage rate dramatically.

It will be very important to develop tools to monitor responses as they are returned by employers. As responses are received, they should be time/date stamped and sorted on a daily basis into categories according to the way they will be handled by staff. These categories should be determined based on how responses will be tracked. A log should be maintained on the number of responses received each day in each category. For example, completed returns (whether telephoned or mailed) should be recorded as complete in a response log, preferably an automated one. Refusals should be recorded in a similar fashion. Responses requiring some form of additional follow-up should be logged and set aside for special handling.

Additional follow-up can take three or more forms. One involves incomplete responses. Most often when opening the mail, staff will spot situations where an employer failed to provide information on a particular employee. As an increasing portion of the workforce is hired through employee leasing companies, some employers may list the former students' occupational titles as "temps" regardless of the duties and tasks performed. In another typical situation, it may be obvious that an employer has misunderstood the instructions provided. In such cases, staff will have to contact the employer directly. Telephone contact is recommended. In these situations, staff should try to complete the request over the telephone rather than ask for an employer to remail any materials. Once a request is clarified and the employer has supplied sufficient information, the survey should be put in the "completed response" category.

Another type of additional follow-up is prompted by written comments scrawled on a response form. These comments may reflect derogatory thoughts or may reflect an unanswered question or an employer's information needs. The central follow-up entity's director will have to exercise judgement on these responses. It is essential, however, that angry responses be addressed and that answers be provided when requested. In some cases, these may be answered *via* telephone or they may require written communication.<sup>14</sup>

Some employers receiving a follow-up survey will direct inquiries -- particularly if they are hostile -- to someone they believe to be of higher authority than the follow-up director. Letters or notes hand-written across the face of the survey instrument may be received by the Governor, Commissioners of the State Employment Security Agency, members of the Human Resource Investment Council and/or the state agencies for public and higher education. The follow-up director should be prepared to draft language that these other public officials can use in their responses *verbatim* or edited as each official sees fit. The director must follow through on any commitments made either to the employer or to other public officials to look into issues raised and/or resolve remaining problems. While some highly irate parties may not be satisfied with any solution short of terminating all follow-up activities, the director's *bona fide* efforts to explain the function of follow-up efforts in an accountability system and to garner as much customer satisfaction as possible will keep a follow-up entity in good standing with the public officials on whose behalf the director handles formal complaints.

Completed responses, once recorded for tracking purposes, will be routed through one or more tools used to enter responses into the employer survey database. In Florida and Texas, an on-line computer application is used to facilitate data entry. This application is keyed to the Unemployment Insurance account numbers that appear on each contact form. When an account number is keyed, a facsimile of that particular employer's survey form appears with each of the employees' names and Social Security numbers with blank spaces for occupational and locational information. The data entry keyer merely tabs from one entry to the next during this process. Where the data entry keyer must make judgments about coding employer responses, pop-up help screens containing further instructions, definitions or lookup subroutines can be accessed at a key stroke.

## Tracking Responses

The tracking tool used to monitor responses plays a very important function. It allows administrative staff (with either the central follow-up entity or the survey contractor) to conduct secondary contact with employers when responses wane or are weak in particular areas. **The tracking tool should provide response statistics as reports to staff on a regular and an *ad hoc* basis.** Statistics can be summarized by industry (at various SIC levels), firm size or substate regions. It is crucial that statistics be summarized by employer size. If reports show a particular response weakness in a particular part of the state or size class, staff can focus their persistence efforts accordingly.

At the point when responses to the initial mailout diminish significantly - usually somewhere past the 50% return mark - it will be important to conduct a second mailout to non-responding employers. This is where a tracking tool is especially critical, as only those employers who have not responded should be re-contacted. The tracking tool will identify those non-responding employers. While some overlap in contact is unavoidable (that is, employer responses from the first mailout will unavoidably overlap with a second mailout), every effort should be made to minimize it. The second mailout can replicate the first with the exception of the introductory letter. Costs can be reduced if the second mailout is an abbreviated version of the first. For example, for smaller employer requests, a follow-up letter may include the identity of employees on whom information is requested with space for an employer response. Figure X is an example of such a letter.

*The second letter should be couched as a persistence effort. It should include a phrase to apologize in advance for any overlap that might occur.*

It is important to summarize response rates after the survey close-out. Responses should be tracked in two ways. First, what percentage of the surveys mailed out were completed and returned ( $\frac{\text{completed surveys by close-out}}{\text{total employers surveyed}}$ ). The numerator should include surveys that were completed by phone or in person as staff contacted employers to resolve problems. Surveys returned as undeliverable or addressee unknown should be removed from the denominator.

**Figure X**

**Follow-Up Form**

Anyfirm  
123 Any Street  
Anytown, State 123456

Dear Sir or Madam;

You recently received a request from the Governor for information concerning certain individuals in your employ for the period October - December, 1996. The information being sought is an important part of this state's process for evaluating the success or failure of publicly-funded work-force preparation programs.

Would you please take a few moments and indicate the job title and worksite location for the employees listed below? For worksite location, please indicate the county in which the employee spends most of his or her time working. For job title, you may wish to use the attached occupational list and select the title which best describes what the employee does. If you would prefer, indicate the job title that you typically use with your firm. Your response will be treated as confidential. It will not be released to the public.

Please use the attached postage-paid envelope for your response. If you have already responded to this request, please disregard this letter and accept my personal gratitude for your participation. If you have questions please call Charles Obert of my staff at 1-800-123-4567.

Sincerely,

Follow-Up Entity Administrator

-----  
#1234567C

Employee's Name	Social Security Number	Job Title	Place of Work
Queenah D. Nile	555-66-7777		
Vinnie Vidivichie	111-22-3333		
Marge N. Overa	444-88-9999		

This is the overall “employer response rate.” Separate calculations for each stage of the process can determine what kinds of effort worked best to get complete responses from employers. Several such calculations are listed below. These comparisons can help determine how to allocate time and resources more effectively in subsequent rounds of employer surveys.

Effectiveness of 1<sup>st</sup> mailout  $\frac{\text{completed surveys returned before 1st wave close-out}}{\text{total surveys mailed out}}$

Effectiveness of 2<sup>nd</sup> mailout  $\frac{\text{completed surveys returned before 2nd wave close-out}}{\text{total surveys mailed in 2nd wave}}$

Effectiveness of persistence phone calls\*  $\frac{\text{surveys completed by phone}}{\text{total employers contacted by phone}}$

*\*In this calculation, the numerator should include the surveys completed by employers then mailed in after being prompted by staff during a telephone call.*

A second calculation (or set of calculations) also will help reveal what percentage of a cohort is covered by the information received. (This is the “cohort coverage rate.”) Since surveys are batch processed by employer rather than sent one at a time for each individual in the cohort, some employers may be asked to report occupational employment information on one or two individuals while others (such as a state’s biggest grocery store chain) may be asked to report on more than a hundred individuals in any given year. The employer response rate and the cohort coverage rate will **not** be identical. It only takes a handful of non-reporting large employers to drive the cohort coverage rate significantly below the employer response rate. It is conceivable, for example, to have an 80% employer response rate that covers only 60% or less of the cohort being studied. The following formula determines the cohort coverage rate:

$$\frac{\text{number of individuals with complete data}}{\text{total number of individuals in the cohort}}$$

As in calculating an employer response rate, the denominator should not include the count of individuals on the survey forms returned as “undeliverable” or “addressee unknown.” The additional coverage obtained through each persistence activity should be calculated, particularly if the follow-up entity or the employer survey contractor invests heavily in phone calls to large firms that did not respond to the mail out.

Of the two sets of response measures, the latter will be easier to compute but the former is far more important. The purpose of follow-up is to draw meaningful inferences about the universe of students in the cohort studied. (Inferences about the employer community are only serendipitous by-products of follow-up.) It is much more important to have nearly 100 percent coverage of the cohort to ensure that inferences drawn about an exit cohort and the services rendered to them are sound. Service providers whose education and training programs may be evaluated on the basis of information from the employer survey certainly (and rightfully) will care far more about cohort coverage than the employer response rate. Prospective students looking at follow-up data to guide their career choices and selection of training providers also ought to care more about the

cohort coverage rate than the employer response. Prospective students, however, may not have the level of statistical sophistication to know the difference. Therefore, it is every follow-up entity's obligation to report both rates and explain any differences in terms that are meaningful to the various respective audiences.

It also is the obligation of the central follow-up entity to improve both response measures either: a) through its own efforts, or b) through the way it words and enforces performance expectations in its contract with another entity that does its employer follow-up survey. Any successful effort to improve the employer response rate will, *ipso facto*, improve cohort coverage. Nonetheless, some strategies for persistence efforts will be more fruitful than others - namely tracking down the largest non-responding employers and getting information from them about a larger number of subjects.

## **Response Analysis**

### ***Introduction***

One of the first steps taken by the central follow-up entities both in Florida and in Texas was to conduct on-site surveys with employers. These initial surveys were designed to determine how employers, particularly private firms, compile their quarterly Unemployment Insurance wage reports. This included determining where and how certain data are stored and accessed by establishments. Its purpose also was to develop an inventory of data elements regularly collected and maintained by employers that had potential use as labor market information elements, particularly occupational information. These surveys were similar in design and content to those conducted to support development of America's Labor Market Information System (ALMIS).<sup>14</sup> The major purpose of such surveys is to gain an appreciation of current employer reporting activities, as well as potential burdens that would be imposed on them through additional requests for information.

An initial employer survey has an additional benefit in that it helps secure buy-in from the employer community. Employers appreciate being consulted on data availability and data processing practices before being asked to provide information to yet another entity endeavoring to improve the performance of publicly-funded programs. In most states, Job Service Employer Committees (JSEC) have been formed at the regional level for this express purpose. We strongly urge states to work closely with the JSECs or other comparable bodies (e.g., employer representatives on Private Industry Councils or Local Workforce Development Boards) in designing an initial survey. These stakeholders, accustomed to collaborative strategic planning with governmental bodies, can serve as key informants. They help ensure that every follow-up entity is sensitized to the issues and concerns of employers. They literally can save follow-up administrators from inadvertently antagonizing the very groups whose cooperation is vital to the data collection effort.

It is very useful to revisit the subject matter addressed *via* those initial surveys periodically. Subsequent rounds of surveys keep staff well informed about how employers meet current reporting requirements as well as voluntary requests. Keeping current is important as employers continually adopt and adapt new technologies to process administrative data requirements. By keeping current, follow-up administrators will recognize that employers often devise new arrangements to ease their reporting burdens. Note, for example, the rapid emergence of service organizations formed to help employers meet federal and state reporting requirements. They maintain databases and develop required reports on behalf of other firms that buy or subscribe to their services. Periodic employer surveys also will help administrators recognize the rise of complicating factors such as employee leasing and staffing firms. In these, a business service is provided that includes locating and screening qualified employees, assuring that employees will be at work during peak-load periods, maintaining payroll and personnel records and meeting reporting requirements.

Continued effort to keep current with changing employer practices is also a key aspect of quality control. A process was described in a previous section of this *Guide* where employers are contacted regularly for occupational information about former students or program participants they have hired. It is important to implement a process where a sample of employers who have responded to follow-up surveys are re-contacted to determine what resources were used in compiling any information requested on a survey instrument. Additional information should be collected to answer the following questions:

1. Did responses provided by employers correctly reflect the job duties of their employee or employees whose names and SSNs appeared on the survey?
2. Did follow-up staff interpret the employer's payroll titles correctly?
3. Are there new or emerging occupational situations that should be added to the job title thesaurus used to process employer-provided information?

States whose data collection systems rely in part on information provided by employers should incorporate periodic *Response Analysis Surveys* into their quality assurance tools. This section provides information about how such surveys might be designed and conducted.

### ***Employer Selection for Response Analysis***

Before designing a sampling process, administrators will make decisions about the breadth of their response analysis effort. While it is desirable to have a continuous process that provides broad statistical assurance of responses accuracy, it may not be practical to do extensive surveys -- particularly if they are conducted through face-to-face interviews. The scope of a response analysis effort will be determined by budget considerations, the breadth of business types to be covered, and the decision to include or exclude respondents along with the non-respondents surveyed. Scope concerns can be addressed by limiting the effort to single geographic areas to minimize travel and

*per diem* for staff. The survey process may focus on particular types of employers. These could be selected because of reporting problems encountered with particular types of firms or known emerging situations that have come to light.

Certain types of firms might be selected because they represent a primary sector involved in hiring a significant portion of students from specific fields of study. For example, in Florida, health programs constitute a major portion of the repertoire of training opportunities at all program levels. Florida, therefore, chose to focus a round of response analysis surveys on the Health Care industry. In this particular industry, health care providers include a variety of business types. There are urban and rural hospitals, doctor's offices, clinics, home health care providers, extended care facilities, etc. All of these were considered in sample selection. In hospitals, however, there was substantial standardization of job titles by corporate offices for the local hospitals they franchised. Therefore, those choosing the sample in Florida decided to focus on one example of each corporate entity to achieve additional savings.

The administrator who designs a response analysis survey might consider selecting employers that represent different reporting situations. These situations might be differentiated by employer size. Small employers, for example, often will use different information resources to respond to requests than larger firms. Smaller firms may rely on a supervisor's or associate's memory of a particular employee rather than the kind of automated personnel database likely to be used by larger firms.

States that incorporate employer-contact efforts into their follow-up information collection systems will use automated tools to assist them in monitoring and managing responses. The monitoring tools will assist staff in timing repeat surveys to non-respondents or in targeting the repeat efforts. Monitoring tools should be designed to include Standard Industrial Classifications (SIC) of employers, size-of-employment and contact information. With these information items included, monitoring tools can be used to select a set of employers to be interviewed.

### ***The Survey Instrument***

The survey instrument should be designed to be used in face-to-face interviews. In that sense, the instrument should serve as a discussion guide and a medium for structured note-taking. A sample survey form is presented as an attachment to this section of the *Guide*. It is provided as an example only to assist other states in developing their own response analysis tools. The instrument should contain the elements outlined below:

#### **Part I: General Information.**

This area should be used to establish (and update) the name, address, telephone number, principal business activity/product/service (SIC code), reported number of employees and personal contact information for the selected firm. Previously available information should

be completed prior to an interview so the interviewer can move expeditiously through the instrument; i.e., pausing only to annotate changes rather than taking the time to record every answer. An automated response monitoring system might be used for this purpose.

#### Part 2: Information About the Firm.

This section should be used as part of the interview process to verify information in the first part, obtain detailed information about the firm's primary or secondary goods and/or services and establish whether or not the firm operates through branch units or leasing establishments. It also should be used to identify contact personnel should additional inquiries be necessary.

#### Part 3: Human Resource Management Information Systems.

This section should be used to determine how a firm's personnel and payroll information systems are maintained and by whom. It should include several inquiry areas that focus on the type of occupational or job title classifications being used. Where possible, respondents should be asked to provide copies of their classification categories. (These are useful in validating and updating the payroll title thesaurus.)

#### Part 4: Survey Response.

Questions in this section should be used to highlight the manner in which previous rounds of employer follow-up surveys were completed by the respondent. It also should be used to determine whether or not the response correctly identified the job title of particular students or program participants for the period covered by the survey. Those conducting the survey should bring a copy of the actual employer response as a reference.

### ***The Process***

As with other attempts to request information from employers, staff must be very sensitive to the fact that firms frequently are reluctant to share their time for activities not directly related to their business. Contacts with employers that do not leave them with positive feelings regarding an organization's efforts could well affect their willingness to respond to future requests. A sense of propriety must be conveyed. It may be wise to begin the process of soliciting employers' participation with a letter to the personnel director indicating that a staff member will contact them by telephone to schedule a face-to-face interview. After sufficient time has elapsed to assure that the letter has been received, staff should contact the employer as promised to set a schedule. In advance of a face-to-face meeting, an employer should be informed fully and clearly about the purpose of the interview. Employers also should be provided any background materials in advance that will facilitate responses. Staff should use the pre-interview contact as an opportunity to be sure they have the correct address for the meeting place and any directions that will assist them in locating it.

Results of each employer visit should be summarized immediately to assure that impressions are recorded accurately. Participating employers should have an opportunity to review summaries for their firms. They should be thanked in writing for their time and effort. Overall results should be used to improve contact efforts in future iterations. If there are plans to write a formal report based on a response analysis survey, it would be appropriate to ask cooperative employers for their permission to be cited in an acknowledgment section and for particularly insightful ones to be quoted in the narrative. Employers appreciate recognition for their contributions not only to improve follow-up services and activities but also, in the larger scheme of things, for their efforts to improve education and training and the economic development of the community.

*Every face-to-face meeting with employers should be treated as an opportunity to show them the connection between the data they are asked to provide and overall efforts to sustain economic development in their community through improved education and training of the labor force.*

The visit also may be used to identify better ways to collect data in the future. For example, with employers who annually hire large numbers of students or participants, the visit may provide an opportunity to explore automating future responses from the establishment.

### ***Response Bias***

Response bias is a standard determination associated with any well-designed survey process. The process described in the previous section deals with *response analysis*. It will do little to illuminate issues related to bias. The purpose of examining *response bias* is to answer the following types of questions:

- Are findings associated with the record linkage process sufficiently representative of the universe of interest, i.e. students completing various education and training programs, the employers who employ them, and the schools that enrolled them, etc.?
- Are there variables (including demographic characteristics, socio-economic characteristics, locality, educational achievement, school type, program type, employer type, occupational grouping) where ambiguous findings or a lack of responses creates particular problems?
- Can adjustments be made for any biases detected?
- Can additional administrative data sets be incorporated into the follow-up process or can process modifications be made to minimize biases once they've been identified?

There are several dimensions to bias analysis associated with collecting data *via* automated record linkage techniques. The processes discussed in this *Guide* assume that in most cases, universes of completers and leavers from various program areas will be the subject of the data collection processes. Administrators must be certain from the outset that records entering the process represent complete counts of those graduating or departing programs under other conditions.

### *Records Eliminated in Initial Edits*

The first step discussed in the process was to conduct various edits of incoming records. These include an edit of Social Security numbers accompanying the student or participant records as well as efforts designed to be sure that the name associated with an SSN is consistent where duplicate records are encountered. Records with unverified SSNs or apparent mismatches are eliminated from the data collection process before it begins. Some records will be eliminated through these edits. In some applications, usually associated with JTPA or vocational education, the percentage of records eliminated from the input file generally will be small. In other cases, as with former correctional system inmates or Adult Education participants, the percentage of records eliminated may be very large. Regardless of the numbers involved, it will be important to ascertain if certain types of students (demographically, socio-economically, programmatically, etc.) are disproportionately eliminated.

The possibility of bias is one of many reasons why it is very important that the input phase of data collection involve as much detail regarding each individual as is feasible and reasonable. Many partner agencies and service providers will be under the impression that they need only provide a list of SSNs to participate in automated follow-up. While gross errors (e.g., too few or too many digits, alphabetic characters or non-assigned numbers) can be detected through simple edit-checks, validation of SSNs requires additional information. First name, last name, middle initial and date of birth -- if included in the input record -- will help follow-up administrators verify SSNs as a prelude to assessing any systematic sources of errors and omissions made either during data entry by service providers or in extracting the seed record files from participating entities' management information systems.

At this point in the process, it will be difficult to develop any adjustments to the process to account for any detected bias. Some patterns may be detected, however, that may lead to advising those responsible for initial collection and processing of the input data about procedural improvements. Awareness of initial sources of bias is a prerequisite for fully understanding results or inferences derived from follow-up data. As the first step toward data quality control, this information should be reported back to local service providers who initially collect individual-level data.

***Where a follow-up entity encounters a high error rate in (or missing) SSNs, there may be reason to suspect the quality of data in the other fields reported by the same service provider.***

## ***Data Collected in the Record Linkage Process***

One process described in this *Guide* involves linking individual student or participant data to other data resources containing individually-identifiable data. Whether or not a *hit* occurs depends on the presence of a matching record in multiple data sets. If there is not a *hit*, however, system administrators should try to determine if there are variables associated with the *non-hit* which are not explained adequately by some programmatic phenomena. As an example, those involved in record linkage arrangements with their state social service agency to assess AFDC/TANF programs will note immediately that participation by males as heads-of-household is almost non-existent. Their *hits* will be predominantly female. In this case, a low *hit rate* is not a bias, but an explainable situation routinely encountered in the AFDC/TANF program. Similarly, graduates of university-level programs are likely to be employed at a very high rate while those exiting a JTPA or JOBS program will be employed at lower rates. Since the JTPA and JOBS programs serve individuals who have experienced various labor market participation problems in the past, such findings should be expected.

The analyses should focus on detecting anomalies, i.e., inconsistencies which are not readily explained by eligibility criteria for or the demographics of program participation. It is important to examine employer data identified through record linkages with equal care. Inconsistencies of findings with respect to employment rates, average numbers of *hits* per employer, distributions by SIC code and size-class may offer clues to detect problems with the particular wage reports being accessed. Fall-offs in employment rates could indicate reporting problems associated with any number of phenomena including timing or the absence of a particular large, key firm from the reporting stream. It might indicate that a large, key firm jettisoned some of its incumbent employees and resorted to using contract labor to get its work done.

### ***Employer Non-Response Bias<sup>1</sup>***

Another process discussed in this *Guide* includes an employer survey to collect occupational and other data from employers to augment those elements collected through record linkages. With this part of the process, a set of employers is selected from the universe of employers that were identified to survey. This set is either a statistically-designed sample or a smaller universe representing a particular group of employers that require scrutiny. For example, in Florida, while the linkage process identifies universes of employers associated with every level of education and training, a subset representing those who have hired vocational graduates is surveyed. At one and the same time, this set is the universe of those hiring specific kinds of graduates and a subset of the overall universe.

When linked data are selected, administrators will be able to identify several attributes of the universe including the distribution of establishments by SIC code, size-class, and -- to some degree -- locality. When the survey process is completed, responses should be analyzed to determine if the results are representative of the original universe.

In both Texas and Florida, overall response rates consistently have exceeded 80 percent. However, this response is not distributed evenly by size, SIC or locality. Typically, for example, large firms respond at a lower rate. Not only is this lower response level a problem in itself, but large firms hire a disproportionate number of former students for whom occupational data are being sought. For example, Florida's Spring 1996 overall response rate was 85 percent. The response rate for firms employing 500 or more employees was about 78 percent. This employer response rate, however, accounted for only 72 percent of the students being followed with those firms.

Similar kinds of disparities can be detected by SIC and locality. When SIC or locality variables are an issue, adjustments can be made in subsequent surveys to step up contact or publicity efforts in those areas. Size, as suggested above, is a critical issue because of the number of students involved. To improve responses with larger firms, it may be desirable to pre-contact key firms to cultivate a rapport with a particular respondent. It also may be important to conduct on-site visits to collect responses. It would be a good idea to determine if automated (electronic) responses to follow-up surveys can be arranged. This is important because larger firms will be the ones most likely to be included in subsequent surveys.

When biases are detected, administrators will have to determine if they are serious enough to warrant adjusting the findings. The usual correction would be to assume that responses for the non-respondents would have been the same as those given by respondents in the same industry or size-class. Under that assumption, the appropriate procedure would be a straight-line weighting of observations in an industry or size class by the reciprocal of the response rate for that industry or size-class. This kind of straight-line statistical adjustment assumes a high degree of homogeneity across all employers in the way they deploy their workers. Administrators should be ever alert to the possibility that non-response bias is multivariate. That is, adjustments by industry alone or by size-class alone may not suffice to correct for non-response bias in an employer follow-up survey because there is some evidence to suggest that industries with a low percentage of full-time workers also tended to respond at lower rates. Texas, for example, found that it had to construct a two-dimensional lookup table of adjustment factors to take into account both the industry of employment and firm size to be applied to data from its employer follow-up survey.<sup>5</sup>

It should be emphasized, however, that efforts to stimulate increased employer response are preferable to the use of any weighting procedure. So long as the intent of the employer follow-up primarily is to attach specific outcomes to specific former students in order to evaluate the effectiveness of the education and training they received, every reasonable effort must be made to increase response rates.

*A weighting procedure may permit statisticians to improve their estimates of performance outcomes at various levels of aggregation but such a procedure cannot be used to determine if a particular outcome was achieved by a specific former student whose current employer failed to respond to the survey.*

Specifically, the following steps are highly recommended:

- ✓ The follow-up entity or its employer survey subcontractor should obtain and verify the names and phone numbers of all employers or ADP firm contact persons prior to mailing the surveys to increase the response rate by ensuring that each survey is mailed to the most appropriate person. While such an effort may have been cost-prohibitive in the past, the U.S. Department of Labor, through the ALMIS initiative, purchased a commercial employer database and periodic updates of the necessary information. That database is made available to the states electronically. It now can be used to validate contact information for employers to be included in subsequent surveys.
- ✓ An effort should be made to differentiate between employees working directly for a firm and those employed through leasing companies or temporary help agencies. Firms which outsource their payroll and reporting activities to third parties also should be identified to ensure that survey instruments are sent to firms that actually are responsible for collecting and reporting employment data.
- ✓ Use electronic survey-response techniques where feasible and appropriate -- for example, with those employers who regularly file their UI contributions and other reports electronically.
- ✓ Increase persistence efforts by telephone to get responses from those employers who do not return mail survey instruments. In particular, special attention should be devoted to obtaining responses from firms in those industries and size classifications which employ large numbers of former students and which have exhibited subpar response rates to previous surveys. To increase response rates by targeted groups, the follow-up entity or its employer survey subcontractor should enlist the aid of influential industry associations.

In the long-run, the best solution would be to enhance the UI reports submitted quarterly by employers by including occupational titles, hours worked in the quarter, and worksite Zip codes for all covered employees. These refinements, by and large, would eliminate the need for an employer survey. Inclusion of these additional elements would allow follow-up entities and other stakeholders and their customers access to a much richer source of labor market information.

**Addendum 1**

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**Any State's Automated Placement Information Program  
Response Analysis Survey**

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Analysis for Survey Period: (date)

Interviewer: \_\_\_\_\_ Interview Date: \_\_\_\_\_

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**I. General Information**

*Introductory Statement:* I represent the \_\_\_\_\_. Your firm recently responded to a request about the job titles (and any other information) about several former students who were in your employ for the period \_\_\_\_\_. This is the form (*show the form that was sent by the follow-up unit*). Were you the person who filled it out? (**If no**, "Can you direct me to the person who filled it out?") I have a few questions about the processes you used to complete the information on this form so that I can verify the information.

*To be filled out prior to the Interview*

A. Name of Firm: \_\_\_\_\_

B. Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

C. Telephone/Fax: \_\_\_\_\_ / \_\_\_\_\_

D. Contact Person: \_\_\_\_\_

E. SIC Classification: \_\_\_\_\_

F. Number of Employees: \_\_\_\_\_

---

**II. Firm Information**

A. Person Interviewed: \_\_\_\_\_

B. Telephone Number: \_\_\_\_\_

C. Type of Business: This firm is in the (standard industrial title) business. Ask for more information about the primary goods and services that are provided.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

D. Other Goods and Services: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

E. When a request such as this is received by your company, to whom is it referred for a response? \_\_\_\_\_

F. Is your firm regionalized (in or outside of the state)? \_\_\_\_\_

\_\_\_\_\_

G. How do you deal with requests for information when they affect different regional units? \_\_\_\_\_

\_\_\_\_\_

**III. Human Resource Management Information Systems**

A. Are your personnel and payroll information systems integrated? Please generally describe the systems in terms of their location within the organization.

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B. Are your personnel and payroll systems automated? Manual? \_\_\_\_\_

C. Does your firm make use of an accounting firm or reporting firm to handle reports required by the federal or state government? *If yes*: What information do you regularly provide to that firm for that purpose? \_\_\_\_\_

---

D. How long do you retain records of terminated employees and how are they maintained? Are they accessible for use in responding to requests such as this one?

---

---

E. What types of automation are used in maintaining data about your employees? \_\_\_\_\_

F. What information items are maintained in your payroll/personnel information systems?

- Name \_\_\_\_\_ SSN \_\_\_\_\_
- Job Title \_\_\_\_\_
- Job Description \_\_\_\_\_
- Position Number \_\_\_\_\_
- Job Code \_\_\_\_\_
- Worksite \_\_\_\_\_
- Division or Section \_\_\_\_\_
- Wages \_\_\_\_\_ Pay period \_\_\_\_\_
- Benefits \_\_\_\_\_
- Promotion information \_\_\_\_\_
- Termination information \_\_\_\_\_
- Transfer Information \_\_\_\_\_

---

#### IV. The Follow-Up Survey

Here is a copy of the completed survey form you recently provided to us. I would like to ask you a few specific questions about your response. You will note that we asked for two items (in Florida) of information about this (these) employee(s) of yours from the period\_\_\_\_\_. Let's consider all of these items.

A. *Employee's name and Social Security number*: What information resource did you use to track down this (these) employee(s)? Did you find the employment record by using the Social Security number or the name?

##### 1. Information Resources

Personnel Records \_\_\_\_\_  
Payroll Records \_\_\_\_\_  
Integrated System \_\_\_\_\_  
Personal Knowledge \_\_\_\_\_  
Other \_\_\_\_\_  
\_\_\_\_\_

##### 2. Assistance in responding

Access to Automated Records \_\_\_\_\_by name \_\_\_\_\_by SSN \_\_\_\_\_  
Manual Review of Records \_\_\_\_\_by name \_\_\_\_\_by SSN \_\_\_\_\_  
Personal Memory \_\_\_\_\_self \_\_\_\_\_supervisor \_\_\_\_\_subject \_\_\_\_\_

B. *Data Items*: Of the items of information requested, which presented the most difficulty in developing your response? Please briefly explain why this was difficult.

1. Locating the subject employee \_\_\_\_\_

2. Providing a job title \_\_\_\_\_

3. Identifying the county of work \_\_\_\_\_

C. **<If this happened in the response.>** You indicated that you had no record of this employee (or that the name or SSN was incorrect), what efforts did you make to verify that this person was not in your employee during the subject period?

\_\_\_\_\_  
\_\_\_\_\_

D. The survey included a listing of job titles. Did you experience any difficulty in translating your firm's titles to those provided?

---

E. Does your firm's personnel/payroll system include job titles for employees? *If yes:* How were they assigned? Could I obtain a copy of the titles and descriptions regularly used by your firm?

---

F. Assume that one of the employees the survey addressed worked as a receptionist, filing clerk and secretary during the employment period. How did you determine the appropriate job title for our inquiry (*use a specific example, if possible, from the actual response*)? \_\_\_\_\_

---

G. Were the instructions on the request form clear and concise? \_\_\_\_\_

---

H. How long did it take you to complete the request? \_\_\_\_\_

I. How many similar requests does your firm receive in a year? \_\_\_\_\_

J. Can you tell me from whom these requests are received? \_\_\_\_\_

K. General Impressions \_\_\_\_\_

---

Thank you very much for the time that you provided both in responding to the original survey and to this follow-up visit. Your time and effort are greatly appreciated. As I attempt to summarize my notes from our visit today, I may encounter a few additional questions. If this happens, may I contact you for clarification?

---

## Addendum 2

### Modeling and Mapping Exercises

There's an old saying among systems analysts: "If you can't draw a picture of it, you don't know what you're doing." The logical corollary is: "You can't control what you can't envision." After doing background research, digesting input from focus groups, and reviewing process considerations, staff should be able to model follow-up services and activities. Four kinds of modeling may be necessary in developing a concrete and comprehensive action plan. Each kind of modeling serves a specific purpose.

Type of Modeling	What is modeled?	What question is addressed?
Argument Flow Diagram	Issues and stakeholder positions	Why are we gathering these data?
Physical Flow Charts	Data flow Roadmap to external databases In-house database structure	Where do we get the data? What do we do <u>with</u> the data?
Conceptual Modeling	Data definitions Calculations	What do we do <u>to</u> the data?
Project Management Calendar PERT/CPM charts or Gantt charts	Tasks and activities with: milestones; lead, lag and slack times; physical and human resource allocations and expenditures	Who does it under what resource and time constraints? What happens if a task isn't completed on time?

Examples of each type of modeling are offered below.

#### 1) Argument Flow Diagram

Some of the performance measures for which a follow-up entity collects data will be controversial. Operational definitions of controversial data elements, formulas for calculating performance measures and decisions regarding when and where to apply them may be the product of elaborate and intricate compromises. Eventually, the lead agency will have to explain controversial data elements and performance measure calculations to stakeholders that were not privy to the original compromises. The lead agency also will have to translate the original parties' thought processes into decision rules to be used in auto-coding data, computerizing performance measure calculations and/or writing the data processing subroutines necessary to generate required reports or output files.

It is important to keep track of controversial elements because they are especially suscep-

tible to change. Some parties to the original compromise may leave office. Others may change their minds or may be compelled by overriding mandates to change their official position. As stakeholders' positions shift, changes will ripple through a follow-up entity's entire data handling process. Keeping track of the issues and stakeholder positions, therefore, not only will help the lead agency explain outcomes information to others but also will help staff inside the organization quickly modify their automated data coding, calculation and report generating subroutines as necessary.

Edward Yourdon provides a useful way of visually depicting argument flows.<sup>6</sup> In fact, computer-assisted software engineering (CASE) tools are available for diagraming complex argument flows; e.g., *gIBIS* or graphical issue-based information system. For most purposes, however, a simple argument flow diagram (tracking issues, arguments and positions rather than data flows) probably will suffice. A simple illustration using three closely related issues is provided on pages 178 and 179. (For a more detailed explanation of the particular issue, see *Special Issues Addendum #1: Training-Relatedness of Post-Exit Employment*.)

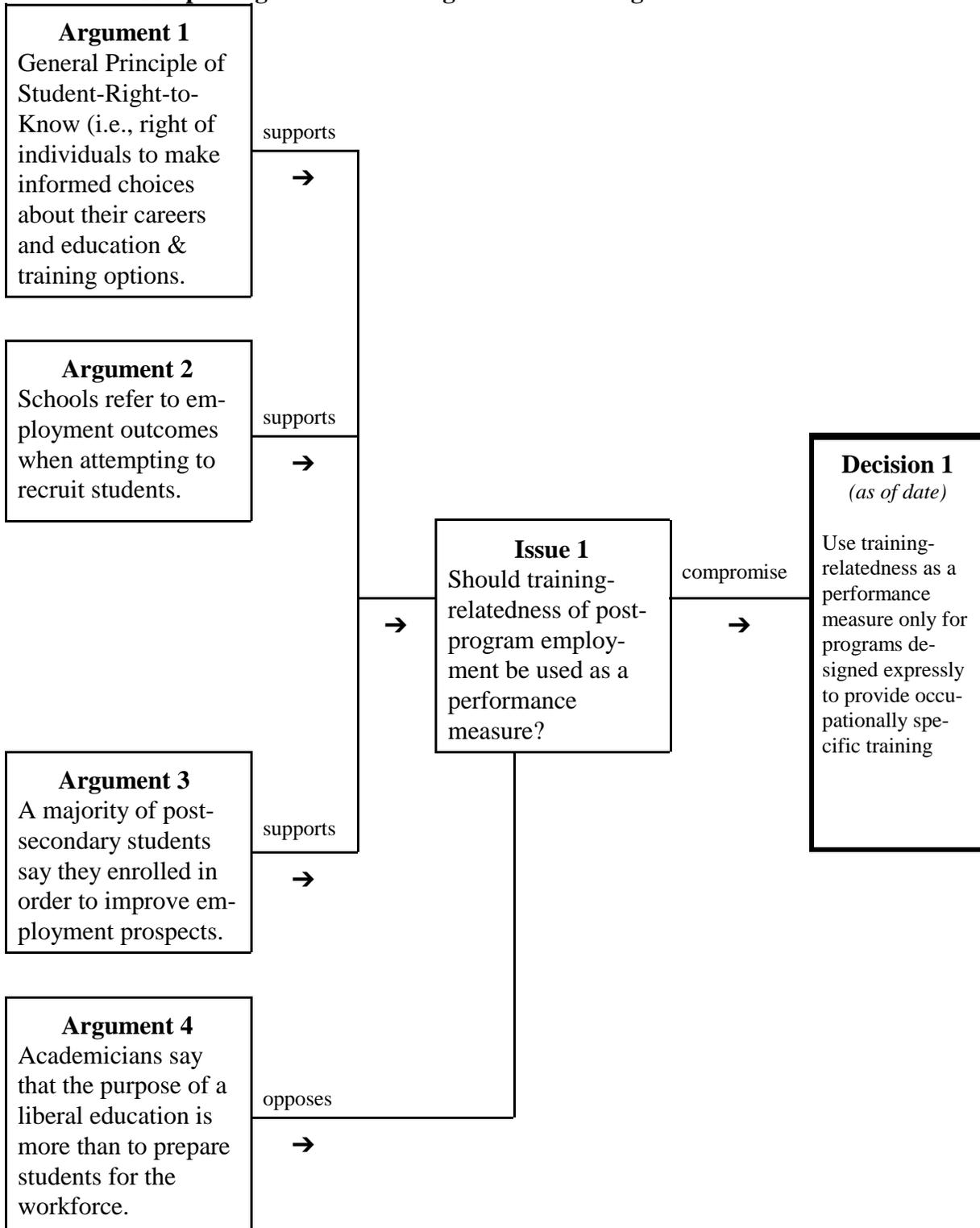
In the sample flow, arguments and questions or valid concerns as voiced by stakeholders are arrayed on the perimeter of those two pages when viewed side by side. Moving from the perimeter toward the center, each argument is connected to a key issue (or process consideration) that must be resolved by the central follow-up entity in collaboration with partner agencies and service providers from the employment and training system. Each line connecting an argument to an issue indicates whether it supports, opposes or merely questions an issue as worded. (Plus signs, minus signs and question marks can be substituted for notations such as “*supports*,” “*opposes*,” and “*valid concern*” respectively.

Issues are worded in ways that express the central follow-up entity's preferences.

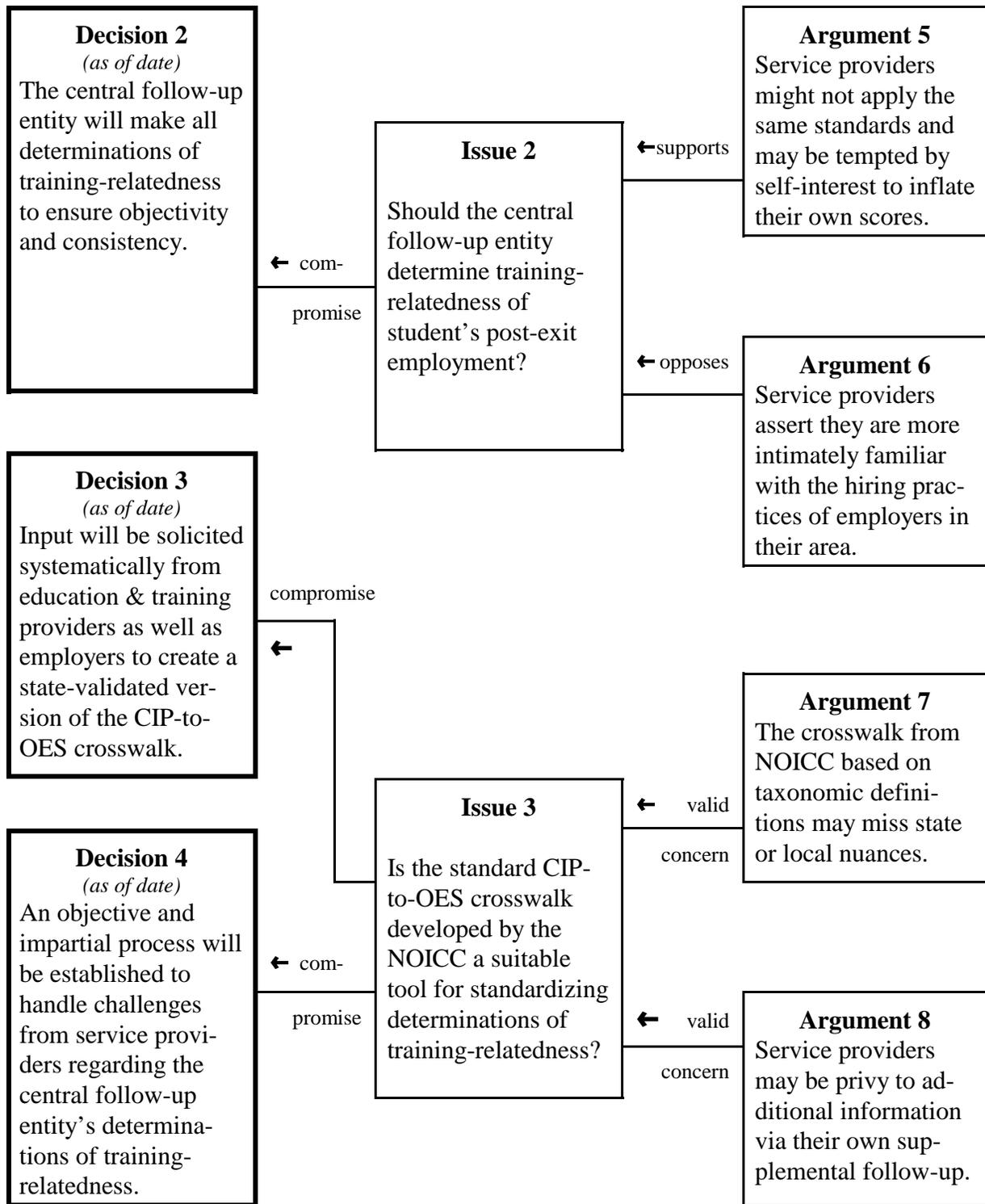
Decision (framed in broad lines) at the center of the argument flow diagram reflect stakeholder consensus or workable compromises. These decisions, in turn, serve as points-of-departure for detailed data flow charts. While it may be tempting to leap into flow charting, it is best to get a firm grasp on the issues and major decisions first because such a broad conceptual understanding will serve to resolve or explain subsequent data flow questions.

Note that each decision is flagged with an “*as of date*” so changes over time can be tracked. This is a good habit to adopt. It will help follow-up staff maintain a historical record. A well document paper-trail eventually will prove to be important as staff members are asked by stakeholders and customers to explain what otherwise might be perplexing or confusing changes in the follow-up entity's activities and services or apparent discrepancies in their findings from one program year to the next.

**Sample Argument Flow Diagram for Training-Relatedness Issues**



**Argument Flow Diagram Illustration -- Continued**



**2) Physical Flow Charts**

A master flow chart will serve as a road map for the physical transmission and storage of

date. The master flow chart will consist of at least five building blocks: a) a representation of the file structure of the various partner agencies' management information systems used to store input variables for seed record production; b) a depiction of the resource databases tapped for outcomes information in generating enhanced output files; c) a roadmap for the employer follow-up survey; d) a file layout for storing data at the follow-up entity; and e) a representation of the ways data are released both to the general public and back to partner agencies and/or service providers. All the above should then come together in a generalized flow chart. A broad, general flow chart for operations common to Texas and Florida is presented on page 189. The illustrations preceding the general flow chart are provided below to show how detailed building blocks were developed.

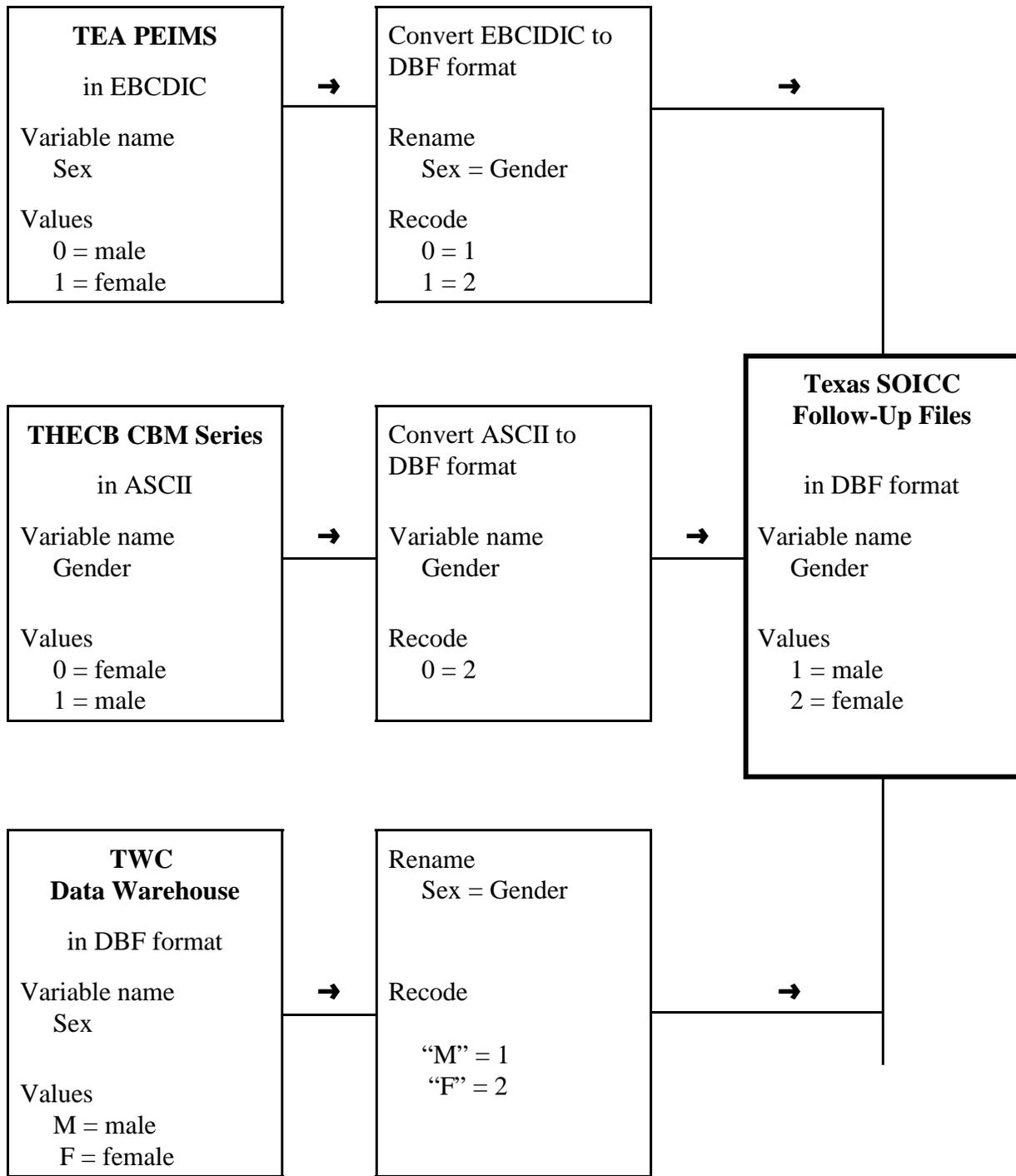
***a) Partner agency management information systems tapped to generate seed records***

In all probability, a central follow-up entity will not have direct access to its partner agencies' management information systems (MIS). Rather, those agencies are likely to provide MIS data documentation to follow-up staff.<sup>7</sup> Each partner agency in every state probably will use a unique combination of hardware and database management software for its in-house MIS with unique variable naming conventions; therefore, the permutations and combinations for all states are too varied to inventory in this *Guide*. To help others develop this building block, we can offer two emphatic recommendations and one illustration.

***Recommendation #1: obtain copies of data documentation manuals from all partner agencies and every annual update.*** These items are essential materials for every follow-up entity's resource library along side data dictionaries for the *Occupational Employment Statistic*, the *Classification of Instructional Programs*, the *Dictionary of Occupational Titles*, and the *Standard Occupational Code* (all to be replaced ultimately with file specifications for O\*NET) and the *Standard Industrial Classification* (to be replaced with the *North American Industrial Classification System*). Especially where a follow-up entity is dependent upon its partners to generate seed records, staff will have to know the variable names used in each agency's MIS in order to draft succinct work orders.

***Recommendation #2: develop crosswalks that translate common data elements from the formats in which they are maintained in partner agencies' MIS into the format that will be used by the follow-up entity itself for their storage and processing.*** The illustration below looks at a single variable (gender) that Texas includes in the seed records for all partner agencies. Even with such a common variable, one can see that substantial thought must be given to get the data to flow properly. More complex variables require more effort as is the case, for example, in translating course codes unique to Texas public education into their CIP equivalents.<sup>8</sup>

### **Establishing Gender as a Common Seed Record Variable**

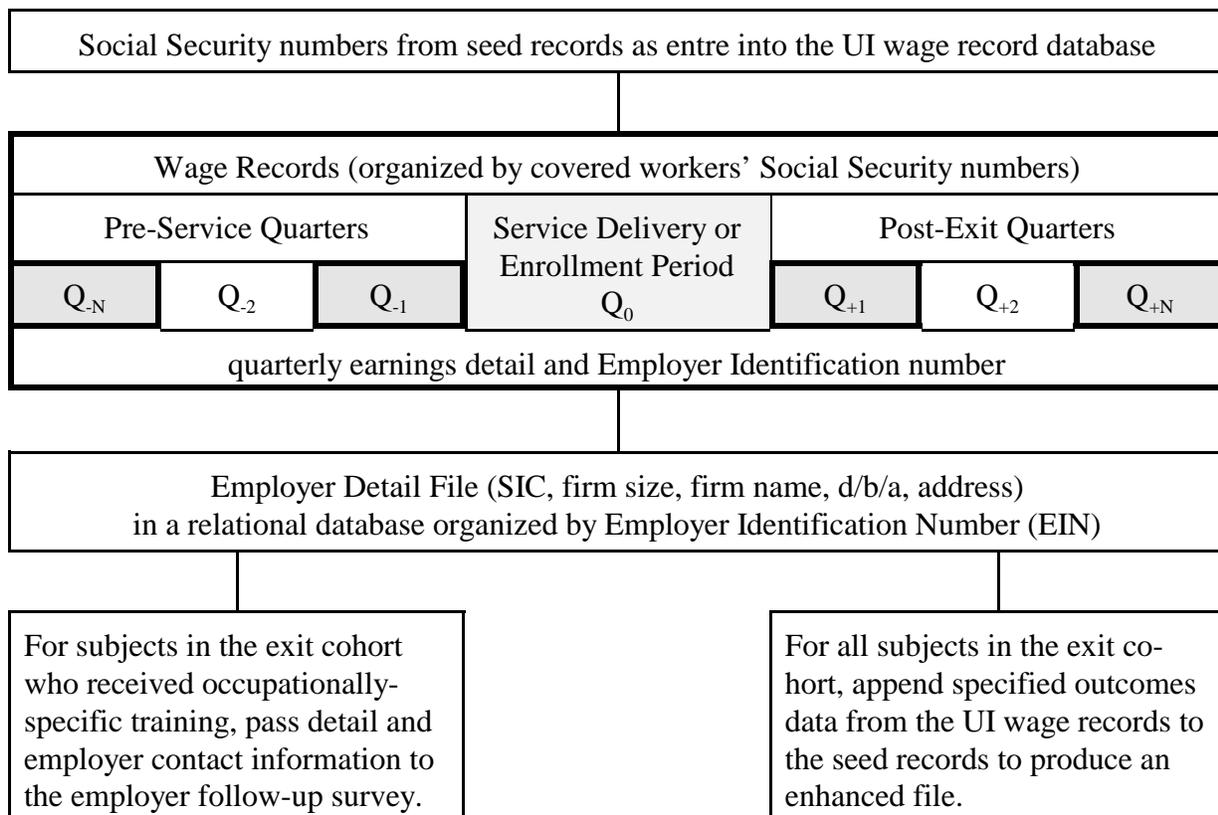


***b) File structures of external databases tapped to generate enhanced output files***

A central follow-up entity may or may not have direct access to the resource databases tapped to enhance files with information about the post-exit outcomes achieved by members of the employment and training program cohorts being studied. Information about the file structure, format, variable names and values for each variable therein will be important to follow-up staff for writing match-and-append routines or clear and succinct work orders.

The example below represents a road map to Texas UI wage records. Note that it establishes a naming convention for each quarter of data where:  $Q_0$  represents the quarter (or quarters) during which an exit cohort received employment and training services from a designated partner agency;  $Q$  with a positive subscript represents successive post-exit quarters in ascending order; and  $Q$  with a negative subscript represents antecedent pre-service quarters in descending order. Note that this naming convention is crucial to keeping comparison periods straight when computing pre-service/post-exit earnings gains or earnings gains over multiple post-exit periods. (See the Logic flow diagram for computing return on investment on page 188.)

**Example: Road Map to the State’s Unemployment Insurance Wage Records**



***c) Employer follow-up survey data flows***

States' lead agencies will differ in the way they handle any auxiliary employer follow-up survey. A flow chart depicting the processing flow in Florida is provided on page 151 of this *Guide*. If a survey subcontractor or the lead agency itself uses information about payroll titles submitted by employers to update an automated Lay Title-to-OES thesaurus, that flow also should be mapped out shown in the Technical Appendix on Special Issue #1: *Training-Relatedness of Post-Exit Employment*.

#### ***d) In-house file structure***

Of all the building blocks, two probably are more crucial than all the others put together: the in-house file structure and the data dictionary (see page 187). If asked by partner agencies or service providers for data documentation, these two pieces probably will suffice.

The file structure depicted on page 184 helps staff for the Texas follow-up entity and its stakeholders conceptualize and keep track of all the data elements according to variable type, location, linkage type and field type as explained below.

#### Types of variables

*Core variables* are those obtained from all partner agencies and/or service providers for all participants regardless of the type of employment and training services received. For example, to help determine what services worked for whom, the lead agencies in Texas and Florida obtain gender and ethnicity information for all participants systemwide.

*Program-specific variables* are those unique to a particular program. For example, services to persons under the Job Training Partnership Act are funded under a variety of titles. Therefore, a portion of the seed records obtained for JTPA follow-up should include a flag to differentiate, for example, those served under Title IIA from those served under Title III. Furthermore, under Title III, additional flags may be necessary to distinguish participants served as part of rapid response to a mass lay-off in contrast to displaced homemakers, dislocated workers served under the Trade Adjustment Act as amended by the North American Free Trade Transition Act, or moved into Title IIA under the *10% window* option. Such variables are program-specific because they probably are irrelevant to other stakeholders despite their crucial importance to JTPA administrators, service providers and eligible participants.

*Provider-specific variables* are those that are collected neither systemwide nor consistently for all participants eligible for employment and training services under a specific program. Student intent and grade-point averages would be classic examples of provider-specific variables insofar as they probably constitute variables within secondary and postsecondary MIS but are not present

## In-House File Structure

To be included in: (location)		Type of field	Type of Variable		
			Core (Systemwide)	Program Specific	Provider Specific
<b>Seed Records</b>		Header			
		Key field			
		Variables	SR <sub>V1</sub> . . . through SR <sub>VN</sub>		Facilitate reverse linkages
<b>Enhanced Portion of the Record</b>	Primary Linkages (e.g., UI wage records & higher edu- cation master enrollment files)	Header			
		Key field			
		Snapshot variables	EPS <sub>V1</sub> . . . through EPS <sub>VN</sub>	Supple- mental Follow-Up?	Supplemental Follow-Up?
				EPS <sub>VX</sub> thru VZ or <i>ad hoc</i>	<i>Ad hoc</i>
			Longitudinal variables	EPL <sub>V1</sub> . . . through EPL <sub>VN</sub>	Supple- mental Follow-Up?
			EPL <sub>VX</sub> thru VZ or <i>ad hoc</i>	<i>Ad hoc</i>	
	Auxiliary Linkages (e.g., DoD, USPS, OPM, State Depart- ments of Human Services, Corrections, and the employer follow-up survey, etc.)	Header			
		Key field			
		Snapshot variables	EAS <sub>V1</sub> . . . through EAS <sub>VN</sub>	Supple- mental Follow-Up?	Supplemental Follow-Up??
				EAS <sub>VX</sub> thru VZ or <i>ad hoc</i>	<i>Ad hoc</i>
			Longitudinal variables	EAL <sub>V1</sub> . . . through EAL <sub>VN</sub>	Supple- mental Follow-Up?
			EAL <sub>VX</sub> thru VZ or <i>ad hoc</i>	<i>Ad hoc</i>	

in the JTPA, JOBS or ES participant files. They are provider-specific because, despite the likelihood that they are available, say, for all community college students served with Perkins dollars, there are such significant differences in the way they are defined or computed from one institution to the next as to defy standardized interpretation across all community colleges in any given state. Despite any lack of standardization across service providers, such variables explain much of the variance in outcomes achieved by former participants who exited programs operated by specific service providers. (See notations regarding *reverse linkages* below on this page.)

### Location within the follow-up entity's file structure

The *seed record portion* of the files are those variables obtained as inputs from partner agencies and/or service providers. The *enhanced portion* of the output files consisting of variables appended whenever there is a match between a key field in a seed record in an input file and a record in one of the outcomes resource databases. This distinction is important because it helps everyone understand who provides which variables in what sequence.

### Types of linkages

*Primary linkages* are those which, in most states, will account for the vast majority of *hits*; namely, the state's own UI wage records and master enrollment files for in-state public post-secondary institutions. (States in the Northeast may have lower in-state *hit rates* because they are smaller and more closely packed together.) Because both employment and continuing education outcomes are vitally important outcomes for most programs under study, primary record linkages probably will be done on the entire universe of each exit cohort.

*Auxiliary linkages* are those used to fill in the gaps where outcomes could not be documented through primary linkages. Auxiliary linkages commonly are done on an *exceptions-only* basis rather than for an entire universe of an exit cohort. Auxiliary linkages may include but are not necessarily limited to: other in-state agencies' MIS (e.g., criminal justice, human services, vital statistics); federal databases (i.e., DoD, OPM, and USPS); national data clearinghouses (such as the ITSC or the NSLC); and an employer survey response database (electronic or traditional).

*Reverse linkages* commonly are used to connect provider-specific variables to data returned or made accessible to service providers. To conserve storage capacity, important but relatively unique explanatory variables are not harvested systematically by each follow-up entity. Rather, as each service provider wishes to do statistical analysis using provider-specific variables, it may be necessary to allow them to pass SQL inquiries to the follow-up entity's enhanced files or to give data back to service providers along with detailed file specifications so they can link enhanced files to data in their own MIS. These are called "*reverse linkages*" because they connect the data harvested by the follow-up entity back to information possessed by the service providers responsible for initial data entry of items that comprise the seed records.

### Types of fields

A *header* usually is a single byte field that identifies the record type by source and or location. In Texas, for example, the first byte in each file contains a single alpha field. A “**J**” in that field, for example, signifies that those in the cohort file were served under **JTPA**; “**H**” represents the secondary education or **high school exit cohort**; “**C**” stands for the **Job Corps exit cohort**; etc.

*Key fields* are those contained in two or more databases and serve as the conduit between them. For example, SSNs in most cases are the unique identifiers that permit seed records to be linked with outcomes resource databases. Similarly, the employer identification number (EIN) is the common field in relational UI databases containing workers’ quarterly earnings detail and background information (address and SIC codes) for their respective employers.

*Variables* (in the seed record portion) are those believed to have some capacity to explain results achieved by former participants once their outcomes can be documented through record linkages and/or an employer survey and appended to the input file. In the vernacular of empirical research methods, these are antecedent and independent variables.

In the depiction, the  $SR_{VN}$  notation stands for **S**eed **R**ecord **V**ariable **N**umber; **E** = **E**nhanced; **P** = **P**rimary; **A** = **A**uxiliary; **S** = **S**napshot; and **L** = **L**ongitudinal.

*The sample file structure, truncated vertically for illustration purposes, should have one row for each variable  $SR_{VI}$  through  $EAL_{VZ}$ .*

*Variables* (in the enhanced portion of the files) constitute the dependent variables or outcomes to be explained. They are comprised of both *snapshot* and *longitudinal* variables. The former are those where a measure or observation is taken at one and only one time -- such as “SIC of employment in first full post-exit quarter” or “quarterly earnings in first full post-exit quarter.” The latter consist of those requiring two or more readings or observations -- such as “pre-service to post-service earnings gains” or “employment retention between  $Q_{+1}$  and  $Q_{+13}$ .”

### Options

**If a state’s rules permit**, some data may be supplied by service providers themselves through *supplemental follow-up* using traditional survey methods to locate those for whom outcomes could not be documented *via* either primary or auxiliary linkages. (See Technical Appendix, Special Issue #2 of this *Guide* for a more detailed discussion of supplemental follow-up.) Other data elements unique to either a specific program or service provider may be included in *ad hoc* studies (i.e., studies not conducted as part of a follow-up entity’s annual or biennial statement of work -- usually handled under separate agreement with interested stakeholders.) For a detailed discussion of *ad hoc* studies see Chapter VI of this *Guide*.

### 3) Conceptual Modeling

Conceptual modeling can be divided into two parts: the data dictionary and more detailed specifications for each variable or performance measure that must be computed.

#### *a) Data Dictionary*

Of all the documents drafted at this stage, the data flow chart and data dictionary will be used most often in explaining follow-up to stakeholders and data-literate customers. They also are the most critical pieces of the puzzle for staff because they are at the heart of data exchange agreements, statements of work, interagency work orders, and internal software programming specifications. The sample below illustrates the kind of information that should be recorded for each data element in a follow-up entity's repertoire.

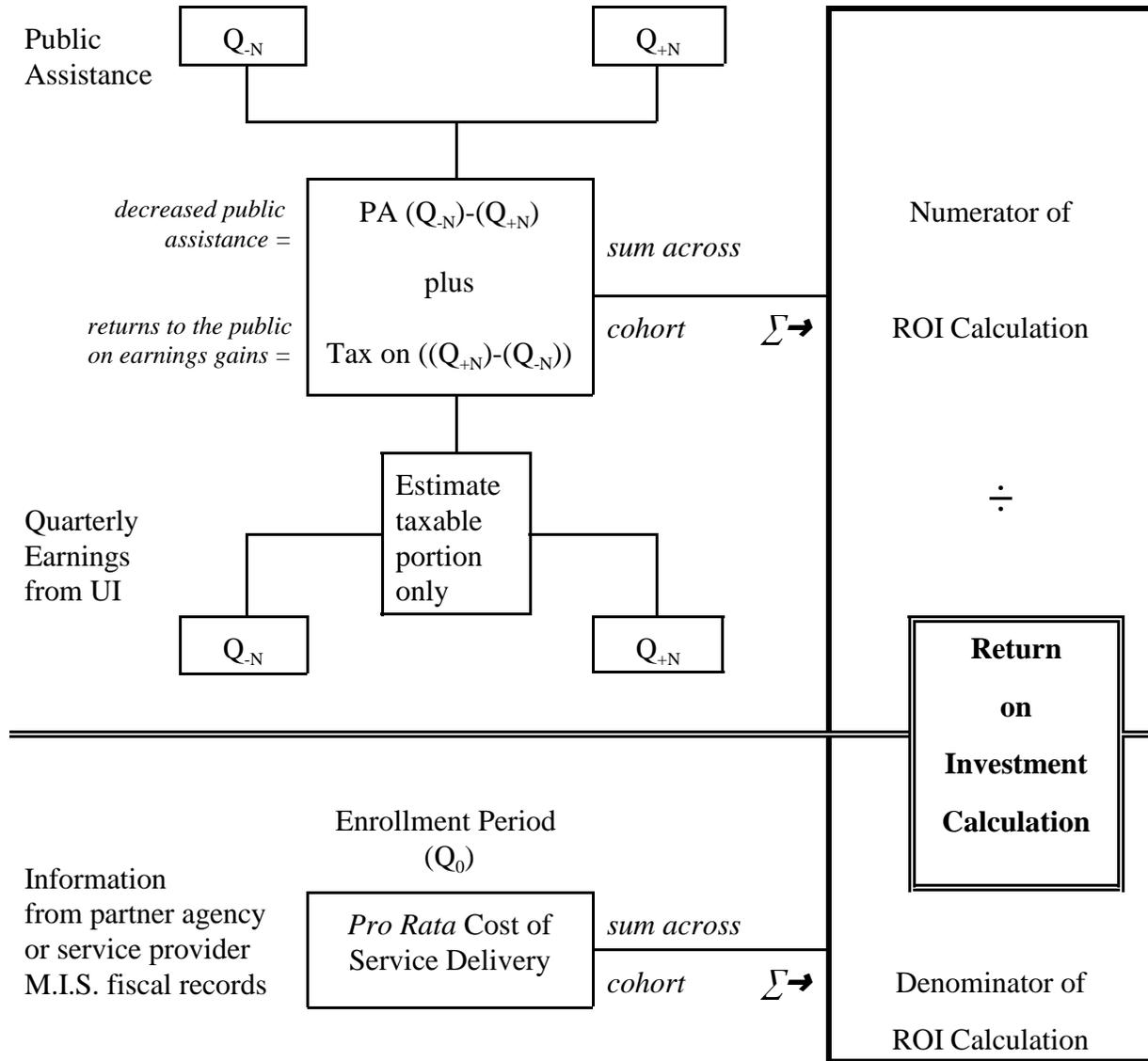
#### Sample Entry for an Element in a Data Dictionary

<u>Example</u>	<b>Data Dictionary Elements</b>
TEA_Code	Identification (unique name)
School identifier	Definition
Alpha-numeric	Type
School Code	Alias (e.g., extended name when used in printout)
County (3 digits), District (3 digits) and Campus (3 digits) specified in lookup table	Composition (subcomponents)
Co_Dist	Values -- specify for each
Disaggregating ISD data	Parents (objects in which variable is a component)
TEA in 1985	Rules for using the element
TEA - annually	Who/when created
TEA only	Who/when last updated
Updated as of 09/01/96	Whether/by whom it can be updated
School Year 1996-97	Status
Round Tape #1234	Version number
Pub_Ed seed record	Where it is stored physically
at bytes 3 through 7	Where it is stored logically
Used in SAS routines to: generate data disks for ISDs VOC116 reports for each ISD	Children (routines in which this variable is used)

**b) Calculations**

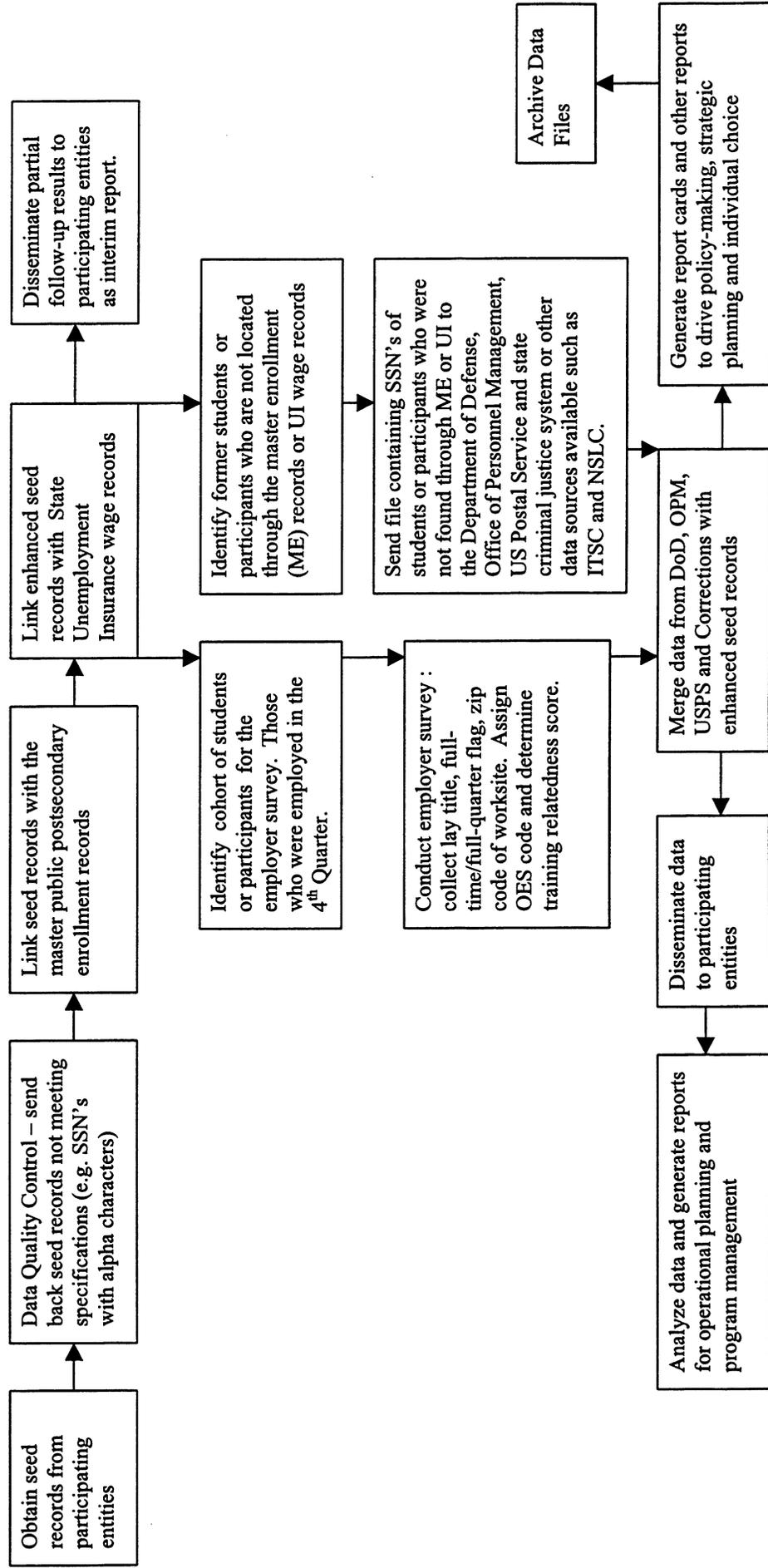
The illustration provided on this page shows how data elements used in performance calculations might be mapped. All other calculations in a follow-up entity's repertoire should be rendered into comparable visual depictions.

**Example: Return on Investment Calculation**



Where Q = the pre- or post-service quarter as specified in the subscript.

## Automated Follow-up Process Flow



#### 4) Project Management

The purpose of project management is to plan, organize and control tasks and resources to accomplish a predefined objective within given time and resource constraints. A schedule of tasks and an estimate of the resources required to complete them on time will be essential to developing annual/biennial budgets and statements of work to be attached to interagency agreements or contracts and for keeping the whole follow-up enterprise on track. There are several tools for automating project management. Regardless of their brand names, most software packages in this genre rely on one or more traditional project management models.

The *Critical Path Method* (CPM) was developed in the 1950s by Dupont and Remington Rand to calculate total duration of large scale projects and to identify those tasks within each project that are most critical.

The *Program Evaluation Review Technique* (PERT) was developed by Lockheed when it served as the prime contractor for the U.S. Navy on the Polaris missile project. PERT uses statistical probabilities to forecast project duration and is used widely because of its capacity to display task relationships graphically in what are known as “network diagrams.”

Another approach -- named for its developer, H.L. *Gantt* -- is noted for its capacity to show project activities graphically across a timescale, track them, manage them and print periodic reports on progress and resource consumption.

All three approaches have several things in common. Each breaks a project (for example, in the case of a follow-up entity’s contractual obligations for any given program year) into discrete tasks each having a scheduled start date and completion date. Necessary resources (e.g., workers, units of work, funds, equipment, and physical inventory) are assigned to each task. All three approaches are concerned with fundamental questions:

- *What needs to be accomplished?*
- *When?*
- *By whom?*
- *Using what resources?* and
- *What happens if any particular task isn’t completed on time and on budget?*

Most automation tools for project management have certain common features. A base calendar can be used to block out periods such as holidays and weekend where work might not be done on various project tasks. While staff probably will factor in weekends and major national holidays, it is easy to overlook events unique to a particular state or to partner agencies and service providers within the state.<sup>9</sup> Similarly, recurring events can be inserted and *rippled* through a project schedule automatically.<sup>10</sup> Milestones<sup>11</sup> (significant events) also can be inserted and accentuated graphically to stand out in on-screen displays and hardcopy reports. Discrete tasks are then overlaid cross the

base calendar, recurring tasks, and milestones. Each task has a projected start date and completion date, resource allocations, and contingency provisions (i.e., lead time, lag time, slack time and slippage).

There are many advantages to automating project management.

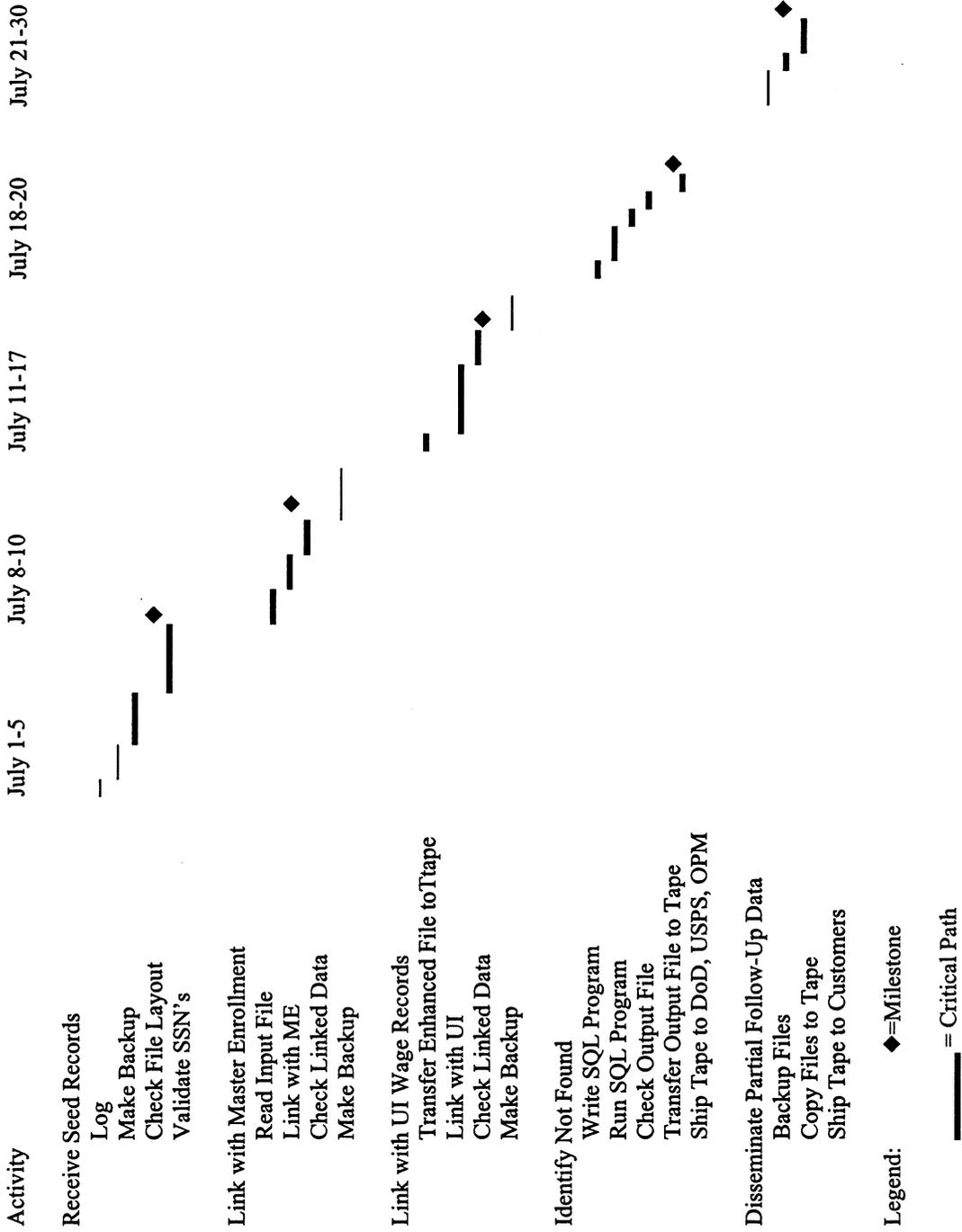
- First, a project schedule can be tied electronically to human resource files, budgets, and physical inventory files. Consumption of these resources and expenditures can be computed on the fly according to the duration (work units, dollars and supplies committed) and elapsed duration of each task. Planners and managers can be alerted to any scheduling miscalculation that would result in over-allocation of resources.
- Secondly, automation makes it easier to engage in *what-if* logic to adjust schedules if excess slippage requires moving resource commitments from less critical to more critical tasks as lead, lag and/or slack time estimates for the respective tasks allow.
- Thirdly, automated project managers facilitate generation of up-to-date progress reports and variance reports.
- Fourth, they usually have a *roll-up* feature (i.e., the capacity to generate graphical displays both at a summary level such as milestones and tasks in the critical path only and at successively higher levels of detail).

**Example 1**  
**Summary Level Roll-Up for Follow-Up Activities in Texas (July only)**

*ME = Master (public postsecondary) Enrollment*  
*UI = Unemployment Insurance (wage records)*

**Example 2**

**Example 2: Detailed Gantt Chart for Follow-Up in Texas (July Only)**



## ENDNOTES

- <sup>1</sup> The Texas Education Agency, for example, abandoned the CIP system and invented its own course-coding system. This would pose no problem if the TEA codes could be crosswalked to CIP codes before applying CIP-based tools for assessing training relationships of job placements or the degree of articulation between secondary and postsecondary education and training programs. Unlike the CIP structure, TEA course codes are not hierarchical; therefore, they cannot be truncated to represent fields of study by program or major nor can they be translated easily into CIP equivalents. See Marc Anderberg, "*Final Report of the Automated Student and Adult Learner Follow-Up System for Program Year 1994-1995*" (Austin, TX: Texas SOICC; November, 1995) pages 6-10 and Marc Anderberg and Dr. R.D. Bristow, "*Final Report on the Career Majors Project*" (Austin, TX: Texas State Occupational Information Coordinating Committee, 1996).
- <sup>2</sup> Dr. James J. Glass and Melinda M. Ephraim, "*ALMIS UI Wage Record Study Consortium Subtask Report: Non-Coverage in Unemployment Insurance Wage Records and Alternative Database Resources*" (Austin, TX: Texas State Occupational Information Coordinating Committee 1996).
- <sup>3</sup> On behalf of a consortium of states, Texas has proposed pilot-testing an enhanced quarterly report that would include occupation, hours worked in the quarter and the postal Zip code of the primary work site.
- <sup>4</sup> The Bureau of Labor Statistics is particularly concerned that other efforts to gather labor market information not disrupt their efforts. The BLS carefully cultivated employer support for the collection of data used in the analysis of gross economic trends. The utility of their data depends upon a high response rate and consistency in data element definitions in the time series. Thus, the BLS does not want to see employer response rate declines because of perceived excessive survey burdens do to the data collection efforts of others nor do they want to see the needs of other labor market data users result in the alteration of elements critical to the BLS time-series. JTPA makes express reference to reduction of employer survey burden. See also the Paperwork Reduction Act and proposed Statistical Confidentiality Act.
- <sup>5</sup> The Texas SOICC commissioned Chris King from the Center for the Study of Human Resources at the University of Texas to analyze the response-set biases encountered in the state's employer survey. Results of Dr. King's study were reported in an unpublished report and adjustment procedures recommended therein are being incorporated in the SOICC's data analysis procedures. See Christopher King and Jerome Olson, *Employer Non-Response Bias: Analysis and Recommendations*. (Austin, TX: Center for the Study of Human Resources/LBJ School of Public Affairs/University of Texas at Austin, 1996).

- <sup>6</sup> Edward Yourdon, *The Decline and Fall of the American Programmer* (Englewood Cliffs, NJ: Prentice Hall/Yourdon Press, 1993) p. 171.
- <sup>7</sup> In Texas, for example, the central state agency for public education, the Texas Education Agency, supplied the lead follow-up agency with a four volume set called *Data Documentation for the Public Education Information Management System* and a companion *Texas School Directory YYYY-YYYY* of detailed County, District and Campus coding detail and average annual enrollments by grade that is updated each school year. The Texas Higher Education Coordinating Board has a two volume set called *Policies and Procedures for Automated Data Processing*.
- <sup>8</sup> See the Technical Appendix D in Anderberg and Bristow, *op. cit.*. The fifty page TEA-Code-to-CIP crosswalk was developed by Dr. Bristow over a six month period of painstaking desk-top review guided by his own twenty-three years' experience in the Career and Technical Education Division of TEA as well as reviews of each pertinent section by instructional area specialists then on staff at the TEA.
- <sup>9</sup> For follow-up projects, it will be especially important to combine the calendar of state holidays as well as the secondary and postsecondary academic year calendars into a base calendar since state agency personnel and education and training providers are among the lead agency's primary customers/stakeholders. The program year for a state's JTPA grant recipient and sub-grant entities may not coincide with the calendar year, the federal fiscal year and/or the academic school year. In Texas, for example, the deadline for submission of JTPA Title IIA plans to the state by respective SDAs usually falls at a time when high schools and community colleges are closed for Spring Break or Easter; *ergo*, a peak-load period for delivering technical assistance to the SDAs on follow-up issues but not a good time to schedule meetings, say, with postsecondary institutional researchers.
- <sup>10</sup> The Texas SOICC, for example, might back up files across its local area network from 7:30 to 8:30AM each Friday morning and access to UI wage records might not be available for a four hour period while the TWC mainframe is down for internal diagnostics and utilities. Under these circumstances, the central entity in Texas would block out times accordingly.
- <sup>11</sup> For follow-up, milestones might include: a) the four dates each year when the respective quarters' of UI wage record data are certified for public release (and, *ergo*, transmission to the follow-up entity) by the SESA; b) the drop-dead deadline for submission of SDA plans to the state's JTPA grant recipient entity; c) the drop-dead deadline for the submission of annual applications to the state's central education agency by local school districts for Perkins career and technology education dollars.

## **CHAPTER V: MARKETING FOLLOW-UP SERVICES**

### **Synopsis**

Whether mandated in top-down fashion by legislation or executive order or initiated in the field on an exploratory basis, most central follow-up entities start on a relatively small scale. In their early years they can expect to struggle on limited budgets to prove their worth, expand their services and make those services an integral part of planning, evaluation and accountability across a wide variety of programs. Significant attention must be paid to marketing and public relations to ensure that efforts to establish a central follow-up entity result in more than a noble but short-lived experiment. Even those lead agencies which are brought into existence by legislation or executive order must be ever mindful that repeal or insufficient appropriations perpetually remain distinct possibilities. Rarely will all stakeholders immediately recognize the value of automated follow-up. Rarely will a state pass the necessary authorizing legislation and provide an annual appropriation from the outset to fully implement comprehensive and integrated follow-up. Until the value of outcomes information has been demonstrated and automated data collection methods are accepted as legitimate, any follow-up entity will find its continued survival precarious.

This chapter identifies several critical factors in legitimating and institutionalizing automated follow-up. Different stakeholder groups have different interests in and expectations of automated follow-up. It is essential to identify those interests and expectations then develop a strategy and a reasonable timetable for meeting varied customer demands. Above all, the central follow-up entity must deliver on every promise it makes in a timely, professional, and even-handed fashion.

### **Background**

Automated follow-up will yield more reliable outcomes data at a lower cost than conventional post-program/participant-contact surveys. Nonetheless, it obviously takes money to provide follow-up services. Automating the process is at first a novel idea -- either as a new policy initiative of state leaders in the legislative and executive branches or as an innovative idea promoted in the field by progressive service providers and local administrators. During the planning and piloting phase, therefore, it is relatively easy to attract start-up dollars. In some instances, federal agencies, foundations and professional associations will fund demonstration projects, capacity-building activities and feasibility studies when a concept like automated follow-up offers a credible promise of improving the delivery of important services. In other cases -- especially in the after-glow of an electoral victory -- state officials, believing themselves armed with a mandate from the people, will push for appropriations to fund the activities and services they promised during the campaign season. Follow-up in Texas illustrates the former; Florida the latter. (Foundations and charitable trusts are conceivably another source of start-up funds; however, the co-authors know of no states that have used foundation grants to launch any automated follow-up initiative.)

Texas used federal dollars set aside under the Carl D. Perkins Career and Technology Education Act (Perkins) for demonstration projects and capacity-building, plus JTPA 8% coordination funds to pilot-test record linkage techniques for gathering outcomes information on behalf of partner state agencies through integrated and centralized follow-up. This combination of capacity-building dollars was used to fund automated follow-up in Texas from Program Year 1992-1993 through Program Year 1994-1995. However, there is a three year limit on the use of Perkins dollars for such purpose.

In Program Year 1995-1996, the Texas follow-up entity began using dollars from the state's *One-Stop* implementation grant from the Employment and Training Administration (ETA) to fund services based on pilot-tested techniques. Continued use of federal *One-Stop* dollars for capacity-building and demonstration activities was permissible because significant modifications were necessary to adapt service delivery to fit the changing operating environment. (Legislation consolidated several education, training, workforce development and welfare-to-work programs under a new state agency, fine tuned their collective mission, and restructured their administration at the local level .) While pilot tests during the first three years of operation demonstrated the cost-effectiveness of automated record linkage techniques and the usefulness of data acquired thereby, additional capacity had to be built to provide services to newly identified stakeholders and to deliver follow-up information through newly created channels.

While federal entities might provide seed money to help build such capacity, follow-up essentially is a state activity that cannot be funded *ad infinitum* with federal dollars. As under the Perkins Act, administrative rules typically limit the duration federal funding for capacity-building and demonstration projects and strictly forbid using federal dollars to supplant state dollars to fund on-going activities. Follow-up is an activity every state ultimately must fund on its own.

***Follow-up essentially is a state activity that cannot be funded ad infinitum with federal capacity-building dollars. Follow-up is an activity every state ultimately must fund on its own. The decision to implement a centralized and integrated follow-up system has long-term fiscal implications. The state must not only authorize the dollars necessary to get the system off the ground but also it must commit to fund follow-up for the foreseeable future because federal dollars cannot be used later to supplant state dollars to finance an on-going activity.***

At some point, each state must assume responsibility for funding activities from which its constituents derive significant benefits and returns. Standardization of data elements and centralization of follow-up efforts to achieve economies of scale, detachment, and objectivity make the collection of

outcomes information a necessary and proper function of some state entity.

The same logic would hold for any follow-up entity which acquires start-up dollars from foundations, charitable trusts or professional associations (hereinafter referenced collectively as "*foundations*" for simplicity sake). Like federal agencies, foundations may provide seed money but they are not in a position either financially or philosophically to underwrite an essential state activity on a permanent basis. They are approached constantly to fund other worthy causes. Thus, they tend to award grants on a time-limited basis and spread their seed money around rather than putting all their eggs in one basket. Often foundations will ask that matching funds be provided. This is done not only to leverage maximum effect for the dollars contributed but also to put grant recipients on notice from the outset that they cannot depend solely on the foundation for permanent

funding. At some stage, any follow-up entity which uses a foundation grant or federal dollars to get started must wean itself from external funding and rely instead on an annual appropriation of state dollars.

In Florida, the central follow-up entity was established through legislative action and was funded from the outset with a state appropriation. Nonetheless, funding has been a perpetual concern as increasing demands for services are placed on the lead agency by an ever growing number of partner agencies and programs. The lesson from Florida is that once the idea of centralized and integrated follow-up catches on, a bandwagon effect occurs and funding must keep pace.

Based on our experiences, the co-authors assume that the central follow-up entity in every state will face similar situations -- regardless of their sources of start-up dollars. Namely, at some point, each follow-up system -- either directly or indirectly through a fiscal agent -- must make a request to its respective state legislature for annual appropriations large enough to cover the costs of providing basic services and necessary overhead.

To secure adequate annual appropriations, a follow-up entity probably will have to put together the following:

- a statement of work including a calendar of significant activities and deliverables (services, automation products, reports, etc.);
- a budget;
- a narrative justifying each line item in the budget and explaining proposed expenditures in relation to the deliverables and activities in its statement of work; and
- a set of indicators the legislature's budgetary oversight unit can use to assess whether or not the dollars allocated for follow-up activities and services are being expended legally and effectively.

Precise details regarding the format for drafting appropriations requests and necessary supporting documents, channels for directing appropriations requests to the legislature, arrangements for providing testimony at related hearings and the logistics of fund transfers will vary from state to state. We urge attention to detail and conformity to state-specific protocols to ensure that appropriations requests are not rejected because of a technical defect.

In addition to assembling supporting materials, it probably will be necessary to identify a champion who will shepherd a request for appropriations through the legislative process. While most states expressly prohibit employees of state agencies from lobbying, legislators often request the assistance of administrative staff in drafting appropriate language for both authorizing legislation and appropriations bills. Care must be taken to abide by applicable rules and protocols.

This *Guide*, however, is not the proper place to inventory the wide variety of state-specific budgetary and appropriations procedures; rather, this chapter examines the groundwork that can be laid to help ensure that a central follow-up entity's appropriations requests will be approved. The co-authors' basic premise is that technical compliance with the state's public budgeting process protocols is the price of admission merely to get a fair hearing before the decision-makers. Technical compliance alone, however, will not be sufficient to ensure that a follow-up entity will be awarded every appropriation it requests.

***When competing for scarce dollars during the appropriations and public-budgeting process, nothing should be taken for granted. Special care should be taken to guard against the smug assumption that the legislature will fund automated follow-up because it makes sense to the central entity's staff and its primary customers. A broad base of support is necessary to ensure that the legislature will pay attention to a follow-up entity and allocate the funds it needs.***

Because many worthy programs compete for scarce public dollars, state legislatures are not able to fund all of them fully. One must assume that programs competing with the central follow-up entity for scarce dollars will be equally diligent in complying with every protocol of the state's budgetary process. Therefore, few -- if any -- will be dismissed for technical reasons. Each follow-up entity should assume that it must compete for scarce state revenues with other worthwhile programs on the basis of its relative merits. The focus of this chapter, therefore, is on strategies that can be used to ensure a follow-up entity's survival. Namely, how do you market, legitimate and institutionalize automated follow-up?

### **Above all else, address the needs of the stakeholders**

Step one in gaining widespread support is to assess the needs of all prospective customers and design the follow-up entity from the outset to be responsive to them. This seems axiomatic but all too often staff assigned to a new entity get evangelical about its mission or its methods before having studied all the nuances and potential pitfalls. The first temptation often is to approach stakeholders with theoretic explanations of the benefits of automated follow-up. Considerable effort should be invested first in devising a plan of specific services and activities to meet the anticipated expectations of the stakeholders based on a needs assessment. Whereas theoretic explanations of benefits and unsupported speculation about cost-savings will fall upon deaf ears, a follow-up entity's prospective customers will find concrete examples regarding specific deliverables and activities and realistic appraisals of their costs more persuasive. The genuine selling points will not be clearly established until a thorough and exhaustive needs assessment has been completed. (A variety of techniques are suggested in Chapter IV for turning what staff can glean from scanning the environment into concrete plans for meeting customers' needs and expectations.)

***No effective strategy can be devised to market follow-up services and activities if they fail to address customers' needs.***

## Focus on comparative advantages

Ironically, the idea of centralized follow-up has come on the scene in an era when government is being downsized. Public services are being privatized in the name of “reinventing government.” Services also are being decentralized in the name of devolution and local control. Moreover, there is widespread skepticism and distrust of government in general. In this milieu, follow-up must be marketed like other services. Different customer groups will have different levels of receptivity and resistance. Various types of customers will have different kinds of hot buttons. It will be necessary to size up these disparate customer groups first then determine how to sell automated and centralized follow-up services and activities to each.

The table below may help managers of follow-up entities think about various customer types and how to approach each.<sup>1</sup> Timing and sequencing different marketing efforts may be crucial. All customer groups will not become converts over night. Develop realistic expectations and be prepared to face significant resistance. Create a bandwagon effect by bringing the easy converts on board first then be persistent in order to win over those who are harder to sell.

***All customers groups will not become converts over night.***

### Stages of Acceptance

Stages	Actors	Probable Hot Buttons	Cumulative Adoption
Pioneer	Innovators	strategic advantage	5%
Early Expansion	Early Adopters	strategic advantage and value-added	15%
Take-off	Popularizers	value-added	30%
Bandwagon	Followers	cost avoidance/cost displacement	85%
Late	Conservatives	cost avoidance/cost displacement	95%
Terminal	Resistors	paradigmatic imperative	100%

Simply put, adoption of automated and centralized follow-up represents a genuine paradigmatic shift. There will be leaders and laggards in this process and they won't necessarily respond to the same selling points.

### *Strategic Advantage*

Typically, innovators and early adopters are proactive. Not content with meeting performance standards; they want to exceed standards. They may be on the periphery of the mainstream

-- looking to identify a suitable niche in the employment and training system, fill it quickly, and expand their market share by being more responsive to customer needs than other providers. They understand intuitively that using a new approach or adopting a new paradigm will allow them to improve programs. They may embrace the principles of Total Quality Management as they look to improve all aspects of their organization's efforts. To them, documenting participant outcomes is only one of several fronts on which they seek to improve. They will be persuaded that data gathered through record linkages can be used to guide management decisions. They probably will jump on board as soon as they are given a conceptual explanation of automated and centralized follow-up. Unfortunately, innovators probably constitute no more than 5% of a follow-up entity's customer base; early adopters moved by a strategic advantage argument may comprise another 5%.

### *Value-Added*

Some early adopters (5% of the customer base) and popularizers (15% of the customer base) probably will see that benefits of automated and centralized follow-up outweigh the cost of doing traditional follow-up. To reach them, explain the comparative advantages of automated follow-up based on concrete examples and realistic estimates of the costs and time factors involved.

- Compute the current per record cost of follow-up for each partner agency that uses a conventional approach to follow-up. Prepare a comparison for each partner agency of its current per record costs *versus* the per record costs of having automated services provided by a central follow-up entity.

For comparative purposes, the cost per record for automated follow-up should be computed for each of several different scenarios. What, for example, would be the per record cost if all potential partners subscribe for joint services? What would be the cost per record for any combination of potential partners subscribing jointly? What would be the cost per record for each agency subscribing separately? If significant cost-savings for economies of scale can be offered, the central follow-up entity can provide additional incentives to entice potential partner agencies to work together in integrating and centralizing follow-up activities.

- Additional cost savings can be achieved through economies of scale. For example, if all potential partner agencies subscribe together, concur on a common seed record (input file) format and agree to receiving follow-up services on the same timetable, then record linkages can be facilitated by the lead agency in single batch mode. Batch-processing will be cheaper than doing multiple computer runs for each partner's programs separately. Popularizers will use this argument on a follow-up entity's behalf to persuade laggards to jump on the bandwagon.

- In states where automated, integrated and centralized follow-up is mandated by legislation or administrative rules, partner agencies will have no choice but to collaborate and participate without regard to cost-savings. Every central follow-up entity is advised, nonetheless, to calculate cost-savings achieved both in absolute dollars and as a per record rate. Information about the cost-savings achieved should be presented to each agency -- especially those that initially were reluctant to join -- as evidence of benefits derived from joining centralized follow-up. Partner agencies' support should be cultivated in this way even if they had no choice about relying on the central entity for follow-up services.

### *Cost Avoidance/Cost Displacement*

More than half of the customer base (55% or so) will be comprised of followers and some of the conservatives (maybe another 5% of the customer base) who operate in compliance mode. The former will jump on the bandwagon as they see others around them embracing an automated and centralized approach to follow-up; the latter will accept (but not necessarily embrace) a new approach when told to do so. They may not appreciate either the strategic advantages of automated and centralized follow-up nor the value such efforts can add to program evaluation and management; however, they probably understand that the new approach is a cost-effective way to obtain data essential to the compliance reports they are required to file. Eventually, even stalwart fiscal conservatives understand that they may save money and effort in the long run even if they have to expend some resources up front preparing the way to use follow-up data from the lead agency -- even if they also have to abandon some of the resources they've sunk into old systems pre-dicated on an earlier paradigm.

### *Paradigmatic Imperative*

Some die-hard conservatives and resisters (perhaps as much as 10% of a follow-up entity's customer base) will hold out until they sense that all their professional peers have left them behind. Many may seem invulnerable to evidence and logical arguments for the longest time; still others may engage in a rear guard action until they simply die out or move on without being converted. Thomas Kuhn put it this way,

“Still, to say that resistance is inevitable and legitimate, that paradigm change cannot be justified by proof, is not to say that no arguments are relevant. . . . Though a generation is sometimes required to effect change, scientific communities have again and again been converted to new paradigms. . . . Though some scientists, particularly the older and more experienced ones, may resist indefinitely, most of them can be reached in one way or another. Conversions will occur a few at a time until, after the last hold-outs have died, the whole profession will again be practicing under a single, but now a different, paradigm.”<sup>2</sup>

The point is to set realistic expectations about what can and cannot be achieved then tailor a sequence of activities that fit the common pattern detected by Kuhn, Yourdon and others in analogous paradigm shifts. No matter how hard it might be to convert key stakeholders first, avoid

the temptation to go directly and immediately to the general public with information about the services and benefits of automating the collection of outcomes data. Secure the buy-in and support of partner agencies and local service providers before engaging in a campaign to inform the general public. While a central follow-up entity has nothing to hide from the public, there are good reasons for starting with an effort to inform partner agencies and local service providers first.

- State agency staff and local service providers are easier to reach and mobilize. Moreover, they are the practitioners on the front lines where data are collected and coded -- where data quality control and privacy are most vulnerable.
- Local service providers are the ones in the trenches who must figure out how to improve direct services in response to follow-up information. Remember: the benefits of follow-up are indirect; i.e., derived from the uses **made by others** of data collected by a central follow-up entity.
- Once they buy into of the idea of automated and centralized follow-up and develop a sense of ownership, state agency personnel and local service providers can assist in an outreach effort to the general public.
- The public may be more receptive to follow-up's message if it is delivered and reinforced by regional and local officials. (Remember: even after follow-up is centralized at the state level, an average citizen is more likely to call local officials than he/she is to contact the lead agency to “*get it straight from the horse's mouth.*”) Conversely, if they have a sense that they were left out of the loop, partner agencies may feel blind-sided and might come to resent the central follow-up entity.

**Devise a professional development plan and render technical assistance to partner state agency personnel and to local education and training service providers.**

Strategic planning for centralized follow-up most likely will be done by policy-makers with the authority to commit their agencies (in principle and financially) to implementing an integrated accountability system. Legal counsel from participating agencies, aides to key legislative sponsors and workforce development policy specialists from the governor's office usually are consulted. Several subordinate hardware and software specialists or database management experts may serve as technical advisors. Line and staff members of participating state agencies and substate field offices as well as administrators working for education and training service providers should not be overlooked. They have integral roles to play in implementing centralized follow-up and tying it to an overall performance accountability system.

It is wise to include several practitioners from the field to provide a *ground-level reality check* on the feasibility of the follow-up entity's grand design. Inclusion of practitioners on a follow-up advisory board also will be important for symbolic reasons. Their peers in the field are in a position to *stonewall* or even sabotage operations if they feel their input was ignored or if they are left to assume that automation and centralization will create more burdens than benefits. Equally important, practitioners from the field can help the central entity: a) translate theoretic principles and rules into operating procedures their peers can understand and execute; and b) help devise an effective professional development plan for informing peer practitioners in the field about their roles and responsibilities as follow-up activities are integrated and centralized.

***Whereas the focus groups used to scan the environment may have been large -- for the sake of symbolic inclusion, diversity and breadth of viewpoints -- the advisory group of practitioners should be small and hand selected for their acumen and expertise. Large advisory committees are too unwieldy and may impede rather than facilitate progress.***

During the start-up phase, the general public is apt to be unaware of or indifferent to the follow-up entity or to the larger accountability system. Agency and service provider personnel, on the other hand, may be bombarded by rumors and misinformation. In Texas, for example, there were widespread fears that centralized follow-up would create more paperwork and onerous reporting burdens. As one school district superintendent (who shall remain unnamed) put it, "*One more damned compliance report the district will have to file?!? With any luck, I'll be retired or daid before y'all have this here follow-up thing up and running.*" Some are apprehensive about more than just the potential workload. That is, they fear follow-up and accountability will be used to: a) to control the delivery of services by limiting local autonomy; b) to sanction service providers with low performance ratings; and/or c) to provide an excuse for reducing their funding.

Rather than contact knowledgeable staff at the central follow-up entity who could dispel unfounded rumors and calm their fears, partner agencies' line staff and field personnel or service providers call each other for rumor-confirmation and mutual commiseration. A professional development and technical assistance plan devised with practitioner input will go a long way in reducing their peers' anxieties and winning support in the field. The impact of public outreach activities can be magnified if they are preceded by an effort to inform and cultivate the support of public servants who work for partner agencies and for the services providers who have a large stake in follow-up.

***Work through the practitioner-advisory committee to understand the needs of their stakeholding peers and to devise strategies for addressing their concerns. The checklist in Addendum 1 (pp. 219-222) lists several topics which should be covered at a minimum.***

## **Practitioners in the field are intermediaries between follow-up and the general public.**

If provided adequate professional development, practitioners from state agencies and local field offices as well as staff working for education and training service providers can be a follow-up entity's most vital links to the public. As far as the general public is concerned, the follow-up entity's staff is comprised of unfamiliar faces stationed far away in the state's capital. Partner state agencies' or education and training service provider staffs will be much more familiar. Their tenure most often will predate creation of a central follow-up entity. Thus, by comparison, members of the follow-up team may be relatively unfamiliar, anonymous and remote. The average citizen may be accustomed to or more comfortable seeking information about follow-up from practitioners closer at hand. As far as the average citizen is concerned, answers provided by *anyone* presumed to be in an official capacity are considered definitive and authoritative even if the answers given are incorrect. Therefore, public perceptions of the follow-up entity rest on the degree to which practitioners at partner agencies and education and training institutions understand and can explain its *bona fide* purpose, services, safeguards and benefits accurately.

*In this section we assess the impact of individual agency personnel or service providers as intermediaries in the follow-up system's efforts to address public concerns about data privacy. Later in the chapter we will turn our attention on these stakeholders, per se, and examine follow-up issues as filtered by their perceptions of their own missions and objectives.*

### **Special cases.**

Special care must be taken to reach and win the support of certain kinds of practitioners. Two particularly troublesome types (perhaps overly stereotyped) are characterized below with suggestions for handling the special problems they pose. For illustrative purposes, we will call them the *old hands* and the *reluctant dragons*. Be advised that it is not uncommon to find some individuals exhibiting both characteristics.

Automated, centralized and integrated follow-up in most states will be preceded by a mix of separate programs each doing its own nominal follow-up -- usually through traditional post-exit surveys of former participants. The substate offices of partner agencies and service providing entities may be staffed by persons whose tenure predates the current accountability movement. These *old hands* may be accustomed to doing business the way it has been done since time immemorial. Their reactions to centralizing follow-up may range widely. Some, despite enthusiastically embracing the concept, simply may find it difficult to master new automation techniques. While not hostile to the concept, they impede critical activities because they are slow in adapting to automated procedures. Others may resist learning new techniques and procedures because they feel that the old way of doing business was good enough.

Part of the solution is to be sure the professional development and technical assistance plan is aggressive and thorough enough to get information about the purpose, procedures and new tools into the hands of all practitioners working for participating agencies and service providers. While providing professional development and rendering technical assistance, be sensitive to the emotional needs of practitioners who - quite understandably - are unsettled by change and the necessity of retooling themselves to handle new duties, tasks and expectations. It will be especially important to make them feel included and to give them a sense of ownership in centralized follow-up. One way to achieve this is to accentuate the multiple uses and levels of analysis of outcomes data. Stress that the essential function of a central follow-up entity is to improve everyone's capacity to describe what happened to participants after they leave education or employment and training programs. Remind them that results described by follow-up data still must be explained. Emphasize the fact that field practitioners remain responsible for explaining those results because: a) they are closer to the programs; and b) they have more detailed information at their disposal about the former participants and the services they received. Stress the fact that by assuming the burdens of collecting outcomes data and describing the results achieved by former program participants, the follow-up entity frees up the time of field practitioners. As a result, they will be able to focus their attention on explaining results and, more importantly, devising solutions to problems detected through the analysis of follow-up data.

The other part of the solution may be random spot-checks and audits of data quality control practices in the field. Such spot-checks and audits, however, should be done by the partner agencies served by follow-up or the state's equivalent of an OIG or the GAO. The follow-up entity more than likely will have its hands full delivering services, rendering technical assistance, providing professional development and mobilizing support. It probably will not have the resources or time to devote to auditing procedures in the field. **Moreover, the follow-up entity should avoid anything that even looks like an enforcement procedure (except within its own house).** Any follow-up entity that assumes an enforcement role or even the appearance of a combative posture might undermine its own efforts to mobilize external support. This is especially true where privacy and data ownership are at issue.

*While the follow-up entity should protect its own interests by participating actively in setting privacy guidelines, data quality control procedures, data handling practices, etc., partner agencies should be responsible for policing their own constituent members by doing data quality control audits and enforcing sound data security practices. Partner agencies must serve as a buffer and spare a follow-up entity from even the appearance of taking an adversarial position. The follow-up entity's intention to keep data quality control and data security rule-setting functions separate from any enforcement function should be made clear to partner agencies and to service providers from the outset.*

Simply put: the *old hands* can be won over by patience, courteous professional assistance, the efficient delivery of services that help them do their own jobs more effectively and a steadfast avoidance of confrontation.

The other archetype is the *reluctant dragon*. Whereas *old timers* generally accept automated follow-up in theory but are slow to adapt to change, *reluctant dragons* fundamentally oppose centralization and/or automation of follow-up activities. Several factors may account for their opposition.

Some may be ego-invested in and have a proprietary sense of ownership over all outcomes information about the former participants their institutions or agencies once served. Implementation of centralized follow-up probably will insert new players into their bailiwick. Rather than seeing automated follow-up as freeing them from onerous data collection activities and enabling them to devote more attention to explanations and problem-solving, they may see a central entity as invading their domain and usurping their authority and prerogatives while undermining their prestige and importance.

Others may fear what the data will say about program performance and, indirectly, about their prior program evaluations based on data obtained through more traditional methods or which rested solely on anecdotal information. Automated record linkages replace participant self-reporting as the primary means of data collection. Data become available for almost the entire universe of program completers and leavers rather than merely for a self-selected group <<usually highly successful>> that voluntarily responded to traditional follow-up surveys. Past practices of selective reporting on only the stellar performances of extraordinary program completers now may be counterbalanced under universal follow-up by public disclosure of overall performance ratings. Data collected through automated follow-up may be more representative of what was achieved on average by those who exited programs along side the stellar performers. Negative outcomes (such as incarceration, unemployment, decreased earnings and continued welfare dependency) may be documented along side successful results achieved by subjects in any exit cohort. Thus, program performance as described by the central entity based on automated follow-up may stand in stark contrast to previous reports by partner agencies or service providers whose analysis was based on anecdotal information or data gathered through traditional follow-up techniques.

Consequently, *reluctant dragons* may sense that their own credibility is at stake. The conclusions they reached and the recommendations they once made on the basis of traditional follow-up or anecdotal information may now be challenged on the basis of new data. That is not to say they were wrong; it says only that better data are now available. Nonetheless, they may take any criticisms personally. This may be especially true where traditional techniques had to be criticized by follow-up staff in order to illustrate the benefits of automated record linkages. While such criticisms were directed at the old techniques and processes, the *reluctant dragons* may take them as a personal affront.

Fear may be deep-seated as service providers and program administrators anticipate how outcomes-based performance data will effect their funding. Automation of follow-up activities usually coincides with increasing demands for accountability and with the transition from input and process measures of performance to outcomes-based program evaluation. New performance measures may be imposed on programs or higher performance expectations may be set as the accountability bandwagon gathers steam. Meanwhile, talk of transitioning from enrollment-driven funding formulas to performance-based funding will be in the air. A convergence of these factors understandably may breed anxiety and resistance -- particularly among service providers whose programs have consistently high enrollments without producing proportionate numbers of successful labor market outcomes. Although implementation of automated follow-up is a logical response to demands and supports from the external environment (i.e., a symptom rather than a cause), the central entity may become a lightning rod for the whole accountability system. A follow-up entity simply may be more visible than advisory councils and interagency management teams that make fundamental policy decisions behind the scenes that affect service delivery.

Some *reluctant dragons* are in a position to stonewall or even sabotage implementation of automated follow-up. In its simplest form, reluctance is manifest in foot-dragging at the field level. In this respect, the behavior of *reluctant dragons* initially may appear no different than that of the *old timers*. Local data systems are not brought up to speed to get information recorded, edit-checked and forwarded to the follow-up entity in time to be included in seed record files processed during a narrow window of opportunity for automated record linkages. In more severe cases, some *reluctant dragons* (instead of enthusiastically promoting the change) undertake active campaigns to resist implementation of automated follow-up. Some may do so openly by publicly voicing their objections. In some instances, they will make a frontal assault by criticizing the known limitations of automated follow-up. In other cases, the attack may be more oblique. That is, some *reluctant dragons* know that public anxieties about data privacy are aroused easily. Stirring the hornets' nest is an effective way to keep the lead agency entangled in on-going and redundant defenses of the automated follow-up process.

Others may work behind the scenes to oppose automated follow-up. For example, they may encourage program participants (or their parents and guardians) to exercise the right of refusal under informed consent provisions.<sup>3</sup> (As one school district superintendent reminded a graduate student working for Texas's follow-up entity put it, most experienced educators have weathered several rounds of well-intentioned reforms without changing the way they operate. If they want to, they can find ways around this chage as well -- e.g., by getting parents to withhold permission for anyone to use their school-aged children's Social Security numbers for district record keeping.

A *phase-in* strategy probably is the best method for bringing *reluctant dragons* into the fold. Follow-up services probably should be offered first on a volunteer basis. In Texas, for example, services were provided to carefully selected education and training institutions during the pilot phase. While basic follow-up services were mandated by enabling legislation in Florida, that state's central follow-up entity reached out later to deliver comparable services to other related constituencies and stakeholder groups. In both cases, service-provider organizations and institu-

tions with pro-active, progressive leaders were the first to volunteer for participation in centralized follow-up activities.<sup>4</sup>

In all probability, each state will find that the first to volunteer will be those who are committed to Total Quality Management (TQM) and accountability. In all likelihood, the first volunteers will be those entities that were already good at doing their own traditional follow-up (albeit at greater expense and with legitimate concerns about their reliance on self-reported behaviors). They tend to be justifiably proud of their program performance records. They volunteer as pilots because they fully expect automated follow-up on their former participants will provide even more exhaustive and powerful evidence of their programs' successful outcomes at a much lower cost per record.

In each subsequent program year, the first set of voluntary participants likely will:

- spread the word about the cost-effectiveness of the automated data gathering techniques;
- express gratitude for being relieved of the data collection burdens and for having their time and resources freed up to be devoted to data analysis and problem-solving;
- explain the utility of outcomes data for driving program management, planning and evaluation; and
- give their peers assurances that the follow-up entity's rules and procedures thoroughly safeguard confidential data (i.e., *the implicit message being that their peers can entrust the follow-up entity with sensitive data*).

In both Texas and Florida, the number of organizations and institutions volunteering to participate in automated follow-up increased in each successive year. **At a certain point, an irresistible critical mass is reached.** Interested constituents who are aware of the cost-effective and useful follow-up services being provided to neighboring organizations and institutions will demand comparable services. *Reluctant dragons* in their midst eventually will have no choice but to sign up to receive services under pressure from their own constituents.

*If faced with a large number of reluctant dragons, a state should avoid legislation mandating compulsory participation in automated follow-up. Compulsory participation is best left as a mere legislative formality after the majority of stakeholders in a constituent class have already volunteered to participate and can't imagine how they did without automated follow-up services.*

## Complications in serving multiple *attentive publics* simultaneously.

Interest in and concern over the growth of government is more intense in some quarters than among others as is attention to the implications of governmental growth on privacy rights and/or tax burdens. The public in general, however, may have little interest in follow-up activities and services *per se*. Accountability - in principle - is something the average citizen demands but has neither the time nor expertise to pay attention to the technical details by which it is achieved. Generally speaking, the details of data collection and analysis (aside from the privacy issue) are of low salience. They are, at best, faint blimps on the average citizen's political radar screen compared to such headline-grabbing issues as the death of Princess Diana or mudslinging in electoral campaigns -- or even when compared to such mundane concerns as getting potholes on their street filled.

On the other hand, *attentive publics* (as political scientists call them) are subsets of the general citizenry who take time to study an issue and develop strong, informed opinions -- usually because they are affected more directly by a set of related policies. Farmers and grocers, for example, are more likely than an average citizen to follow debates about dairy price supports or the impact of trade embargos on foreign grain sales. They would be defined as *attentive publics* for policies issued by the Departments of Agriculture and Commerce. Yet these same groups of citizens probably remain relatively inattentive to actions taken, for example, by the Federal Aviation Administration or Housing and Urban Development. Despite paying close attention to policy issues that affect them directly, even the most politically attentive subsets of citizens care little about a bunch of statisticians doing follow-up.

Nonetheless, automated follow-up will have its own *attentive publics*. For the purposes of this *Guide*, *attentive publics* are lumped into two key groups: 1) service providers; and 2) stewards of public funds (e.g., strategic planners and administrators in state agencies and substate offices). Each group has a vested interest in follow-up, yet each may have very different expectations. Often the interests and expectations of these two key *attentive publics* are at cross-purposes. Again, it is essential that the central follow-up entity strike a delicate balance between and among the competing interests they serve. Before it can strike an appropriate balance, a follow-up team often must cut through surface verbiage and bureaucratic rhetoric to uncover unexpressed expectations and hidden agendas.

Earlier in this chapter, we discussed how *old hands* and *reluctant dragons* might impede efforts to legitimate the follow-up system. Old hands and reluctant dragons clearly will be found among *attentive publics*. They were treated separately above, however, because the problems they pose stem largely from individual bad habits, resistance to change or obstinate personalities. In this section, we consider problems posed by partner agency personnel and service providers not because of idiosyncratic personality traits, but rather because of their understandable and very predictable perceptions -- as *attentive publics* directly affected by follow-up policy and practices -- of differences between their own mission and the mission of a central follow-up entity.

In addition to coping with difficult persons among stakeholder groups, the follow-up entity will discover that problems may arise due to differences between its mission and the goals and objectives of its customers. Despite the best intentions of providing customer service, a follow-up entity, on occasion, will find itself at odds with the customers it is supposed to serve. It is impossible to be both totally objective and totally customer-oriented. When those two principles collide, follow-up staff must maintain their objectivity and understand that, in doing so, they might not entirely please all customer groups at the same time.

### **Balancing the needs of diverse *attentive publics*.**

While the principle of local autonomy and site-based management may give providers wide latitude to determine how their services are delivered, it appears clear that responsibility for identifying expected outcomes will remain a strategic planning function residing at the state or regional level. Responsibility for holding service providers accountable for those expected outcomes also will remain a state-level function.<sup>5</sup> Ultimately, a state's central follow-up entity will serve both sets of customers: a) delivering information and technical assistance to service providers to help them manage and improve programs; and b) delivering hard data -- sometimes not always flattering of local providers -- to state/substate entities and community groups for strategic planning and program evaluation. It is essential to realize that while the expressed aims and desires of both sets of customers will appear identical, a follow-up entity often must navigate treacherous cross-currents and the sharp edges of hidden agendas.

In education and training programs, for example, both attentive publics ostensibly will agree on one thing; that is, follow-up data are necessary to help improve the match between the training supply and the demand for highly skilled workers. State/substate entities and employer groups come at this issue from the demand side. They tend to pay close attention to follow-up data because they see educated, well-trained workers as essential to economic development and community prosperity. Education and training providers (and the professional associations representing the education community) come at this issue from the supply side. They pay close attention to the performance of programs they offer. They genuinely are interested in continuous improvement in order to remain responsive to labor market demands. Both sides purport to be concerned about the return on the investment of tax dollars in education, training, workforce development and welfare-to-work programs used to balance the supply-to-demand ratio.

The hidden tension lies in the two attentive publics' notions of what to do with follow-up data -- or, more to the point, what to do when a particular program exhibits poor performance outcomes. Each side has a different bottom-line mentality. "How will follow-up data affect my budget and my workload?" Service providers, for example, have a vested interest in keeping programs operating, in-coming revenues flowing and existing staff employed. They constantly fear they will be asked to do more with less. Consequently, their instinctive reaction to poor performance data is to develop strategies for accessing more funds in order to revise the curriculum, enhance classrooms and laboratories, obtain professional development for their instructional staff and -- ironically -- to increase enrollments.

***The irony in education and training programs is that service providers have long operated on the basis of enrollment-driven funding. They have been judged on the basis of input and process measures rather than outcomes. Some unscrupulous ones may attempt to stimulate enrollments then cite “growing student demand” as rebuttal to criticism (and possible budget cuts) based on sub-par performance outcomes.***

Those on the other side of the fence constantly fear they will be asked to spend more -- even as the taxpayers they represent are decrying what are widely perceived to be decreased returns. To stewards of public funds, maximizing returns on investments instinctively means closing ineffective or redundant programs to save taxpayer dollars rather than pumping good money after bad into programs with low performance evaluations.

In short, service providers hope that hard data will provide guidance to them in marketing their best programs and saving or salvaging poorly performing ones. Meanwhile other stakeholding groups hope that hard data will give them sufficient evidence to terminate programs and cut budgets. Any follow-up entity that gets entangled in these debates can anticipate constant criticism from one side or the other -- or, more often than not, from both sides simultaneously. Such criticism poses a constant challenge to the marketing and legitimacy of any follow-up entity. To the extent possible, a follow-up entity should remain neutral while serving all interests evenhandedly.<sup>6</sup>

Certain practices help preserve that essential neutrality:

- If possible, the follow-up entity should be housed somewhere apart from the partner agencies responsible for either the strategic planning or operational oversight of service delivery. (See Chapter II regarding the pros and cons of housing a follow-up entity in various places within state government.)

***All parties at the table should have the sense that the follow-up entity will depoliticize disputes and, to the extent possible, resolve all issues through a data dialog governed by the principles of scientific research methods, the rules of statistical inference, and the logic of causality.***

We recommend that you include members from both the service provider community and state or substate representatives of partner agencies in strategic planning to ensure that none feels their needs and concerns have been ignored. However, each stakeholding group represented at the table must understand that it does not have a unilateral veto over joint follow-up activities and services.

- The follow-up entity should market its services and activities solely on the basis that it will deliver valid, reliable and useful data in a timely fashion at a reasonable cost.

For example, while one purpose of follow-up is to promote economic development **indirectly** through improving the match between training supply and occupational employment demand, the factors causing or hampering economic development are almost too numerous to count. The follow-up entity can avoid being blamed for downturns if, from the outset, it does not make exaggerated claims about its potential **direct** impact on the economy and refrains from taking credit for any fortuitous economic gains.

In a similar vein, another purpose of follow-up is to improve service delivery but a follow-up entity can only do that **indirectly** by pinpointing where problems exist and by identifying programs which exhibit higher rates of successful outcomes when serving a comparable mix of students under similar labor market conditions. Problems facing education and training service providers did not develop over night and can not be cured over night -- and most certainly will not be cured merely by collecting and analyzing data. Ironically, the best way for the lead agency to avoid being blamed for problems that continue to linger after automated follow-up is implemented is to avoid taking credit for innovations and improvements driven by the data it collects. Again, both credit and blame should go hand-in-hand to decision-makers rather than to a central follow-up entity as the data collector and messenger bearing either good or bad news.

- The lead agency should not promise or in any way implicitly suggest that follow-up activities and services will result in either the termination or salvation of marginal programs.

Action may indeed be taken on the basis of follow-up data, but the action itself must **not** be done by the hand of the follow-up entity. Rather, any action made necessary as the result of follow-up must be taken by partner agency administrators or by the service providers themselves.

- While follow-up staff may give advice on operational definitions of performance measures, data collection techniques, data analysis and the use of data to set baselines, they should not be involved directly in setting standards on any performance measure.<sup>7</sup>
- A follow-up entity should give identical data (though perhaps in different formats tailored to different end-users' needs or cognitive styles) to service providers and to state/substate entities to avoid the appearance that it cooked the numbers to support the interests of one or the other.
- A follow-up entity should refrain from using judgmental terms to describe outcomes data. Persons for whom no outcomes can be documented through record linkages should be listed as "*not located*;" they should never be called "*unsuccessful outcomes*."
- A follow-up entity may be asked to rank-order programs on various performance measures, group results by quartiles and/or display outcomes achieved in graphical formats with reference lines displayed relative to some benchmark established by some other entity with the authority to set standards. Care should be taken, however, not to label any program below the benchmark as a "*failure*."

## **POLITICS AND PUBLIC ADMINISTRATION**

*Whereas performance measurement, benchmarking and standard-setting have very precise meanings to statisticians and public administrators committed to Total Quality Management and continuous (incremental) program improvement, those same notions take on a wholly different meaning in the political arena. It is very tempting in the heat of an electoral campaign, for example, to offer quick-fix solutions and engage in rhetorical oneupsmanship. Setting standards and holding service providers accountable can be presented as sweeping reforms that magically can cure all. Jumping on the bandwagon, each person campaigning for votes tries to outdo the other by claiming, "I will enforce much tougher standards than my opponent <while also holding the line on expenditures!>" Once the ballots are counted and the dust settles, however, the follow-up team -- as public administrators -- will inherit the unenviable task of trying to operationalize such campaign rhetoric. While answering to elected officials who have made bold and sweeping promises, follow-up staff must try to steer discussions about performance measures and standards back into the arena of statistics and Total Quality Management.*

*These differences between politics and public administration have profound implications for staffing a follow-up entity. It helps if a central entity is staffed by public administrators whose satisfaction comes from doing a job professionally while others receive more political attention and recognition for making sound decisions based on follow-up data. They may need to remind themselves and others constantly that both blame and praise belong to those who act upon follow-up data while the data collectors and analysts themselves toil as service providers.*

*The Texas SOICC Follow-Up Office, for example, has posted slogan for both staff and our varied customers to read:*

### ***DON'T SHOOT THE MESSENGER!***

- It should be permissible to give service providers formative evaluations and early warnings so they can take corrective action voluntarily when some program's performance seems to be declining. It also should be permissible for a follow-up entity to supply contextual data that might help pinpoint the causes of a program's apparent declining performance so long as comparable data are made available to all customers on an equal footing.
- Avoid singling out one entity -- except in pilot demonstrations/feasibility studies -- for special services. Other similarly-situated entities in need of comparable help are apt to get jealous.
- Don't pilot a service in one fiscal year unless you have a plan and anticipate having sufficient resources to provide that service to all comparable stakeholders in the following year should the pilot prove successful. Avoid creating expectations of future services and enhancements that you will not be ready or able to deliver.

- A follow-up entity should never get involved directly in program termination or sanctions, approving plans for corrective action or compliance monitoring of programs judged by other entities as below standard. Similarly, a follow-up entity should not be involved in awarding bonus and incentive dollars to programs adjudged by other entities as exemplary.

The bottom line to the perception and -- ultimately -- acceptance of a follow-up entity by attentive publics is its reputation for independence and integrity. These principles will be established if -- and only if -- the follow-up entity invites all parties directly affected to serve on its steering committee, listens carefully and understands their competing interests, and serves all parties professionally and even-handedly without being dragged into taking sides.

The Texas SOICC's Follow-up Office has posted another slogan that reads:

## **DATA ARE NEUTRAL.**

### **Informed Choice in Career Decision-Making by Program Participants**

There is one point on which every follow-up entity can and should take a firm stand; i.e., each lead agency should be a champion of informed choice by prospective program participants as they make decisions and select appropriate service options. A participant's *right-to-know* is the common denominator that can bind disparate stakeholders together.

*After all, program participants are the one customer group whose interests service providers, elected officials, state and substate agencies, and public administrators have in common.*

Emphasis on the *right-to-know* (or "*Truth in Training*"<sup>8</sup> as it is called in the education and training arena) creates a *win/win* situation for all parties.

- By championing the idea of informed choice, the lead agency places the *right-to-know* on a par with data confidentiality. In doing so that strengthens the case for using a balancing test in response to advocates of an absolute data privacy position. (See the Technical Appendix on Special Issues for a more detailed analysis of the balancing approach to data privacy.)
- Education and training providers can not complain about student *right-to-know* without leaving an impression that their recruitment efforts rely on creating false expectations. If service providers are, in fact, using follow-up data to drive program improvements, then they will be confident that informed choice can boost rather than hurt recruitment efforts. If not, the knowledge that information about their performance histories will be made public should move service providers to take follow-up data seriously and to be scrupulously honest in their marketing and recruitment.
- If state/substate administrators, economic development specialists and taxpayer watchdog

groups do their jobs properly, prospective participants guided by performance data will be more likely to choose programs identified in their respective strategic plans as providing satisfactory returns on investments. Even if they heretofore have not used training provider performance data to drive strategic planning and procurement of services, knowledge that their own performance ratings as strategic or operational planners will be made public should move them to be more faithful to data-driven planning guidelines. Hard data will give them the ammunition to resist political pressures put on them by well-entrenched and self-serving parties.

### **Engage in public outreach to explain and cultivate support for follow-up.**

After building a foundation of support among practitioners in the field, a follow-up entity can broaden its support base by reaching out to the general public. Local practitioners should be able to identify leaders of business, industry, labor and community-based organizations who, in turn, can help stimulate attendance at outreach meetings. Their direct efforts can be supplemented with meeting notices posted in local circulation newspapers and community service spot announcements. (A sample is offered in an addendum to this chapter.)

At public outreach meetings, the audience is more likely to be concerned with privacy rights than with technical aspects of record linkages used to gather outcomes information. Their concerns should not be addressed in an adversarial fashion. Ask the audience to hold their questions until the end of the presentation. That will allow some control of a situation where advocates of an absolute position on data privacy hope to use your informational meeting as a forum to promote their own agenda.

Sequence presentations to accentuate every benefit the public will gain from centralizing and automating follow-up. Explain the follow-up entity's *bona fide* need to access individually-identifiable information in order to render the best advice possible for program management and continuous improvement. Acknowledge that there are risks associated with any use of individually-identifiable information, then carefully explain the rigorous and extraordinary measures the central follow-up entity takes to protect privacy rights. Conclude on a positive note by reminding the audience that automated follow-up is a cost-effective response to the public's own demands for accountability in education and for a reasonable return on their investment of tax dollars in education, training, workforce development and welfare-to-work programs.

Do not avoid the privacy issue. Do not underestimate the public's anxiety. Balance the privacy issue with discussions about: 1) the safeguards; 2) the legitimate data needs of researchers, administrators, service providers and prospective customers; and 3) the benefits the public will enjoy as a result of automating follow-up services and activities.

When fielding questions after a presentation, be prepared to respond to emotionally charged criticisms of the state's privacy policy. Nothing less than an *absolutist* position will satisfy some vocal and outspoken critics. First, such critics are apt to misquote The Law (e.g., falsely claiming that "*the Social Security Act prohibits use of Social Security numbers for follow-up purposes*").

Come prepared with the precise language of applicable statutes and administrative regulations to set the record straight.

Second, critics may use histrionic hypothetical scenarios to illustrate their worst fears. Be prepared to illustrate how rules enforced by the state will guard against the kinds of privacy violations any critic might hypothesize. Also be prepared to show that criminal and civil sanctions can and will be brought against any public official who violates the rules of privacy.

Third, remember that the word “tracking” has taken on negative connotations in the sense that some citizens fear their children may be placed in inescapable education and training tracks. Emphasize the distinction between “follow-up” and tracking. Note that follow-up is done for statistical purposes to drive program improvements and that the data will be used to better inform student and their parents as well as employment and training program participants about their career options and the performance histories of service providers. Follow-up should expand rather than constrict choices and, by no means is it designed to force a particular choice on any participant. (See footnote 2 in Chapter 1, page 24 of this *Guide*.)

Fourth, before adjourning always bring the discussion back to the benefits the public will derive from automated and centralized follow-up.

*Widespread general support is important because legislators (who vote on appropriations for follow-up activities) listen carefully to their constituents' opinions. In all likelihood, automated follow-up may be of low salience to those who are favorably disposed. Few of them will go out of their way to persuade their legislators to fund necessary services and activities. On the other hand, those opposed to automated follow-up are very likely to be quite vocal.*

### **Continuous Improvement of Automated Follow-Up Operations**

The need to cultivate support for automated follow-up is perpetual. A central follow-up entity cannot rest on its laurels and initial successes -- nor even upon well-founded theoretic justifications. Public perception is fickle. No matter how many cost-savings and program improvements were driven by follow-up data in each preceding year, both the general public and special attentive publics are within their rights to ask, “What have you done for me lately?”. Once public support for automated follow-up has been established, it must be maintained and enhanced through continuous improvement of activities and services. The key to continuous improvement of the follow-up entity is continuous self-assessment. The co-authors devote an entire chapter (Chapter VII) of this *Guide* to criteria for follow-up entities' self-assessment and continuous improvement.

Suffice it here to add two other recommendations. First, **document the good you do**. Remember that someone's ox may be gored as the result of reliance on the data you collect. Any

number of self-interested parties are apt to document their grievances against any follow-up entity as a lightning rod for the accountability system *writ large*. Their criticisms must be counter-balanced effectively with evidence of the good you do.

Also remember that a central follow-up entity's survival ultimately will depend on legislative appropriations. Legislators will find it easier to allocate the dollars needed for follow-up activities and services if the lead agency has garnered widespread general public support as well as the support of especially attentive publics. Try hard to win over the *older timers* and to at least neutralize the *reluctant dragons*. It will be especially helpful if, in the eyes of legislators, the lead agency has demonstrated continuous improvement of follow-up activities and services and if it has documented thoroughly the good it has done.

**It will also help immensely to have a strong vision of where the follow-up program is headed.** (The co-authors devote part of Chapter VII to that topic.)

### **The Very Bottom Line**

It is appropriate to conclude this chapter on marketing and legitimization with a few remarks about informed choice. That is the common bottom line among all stakeholders. The concept of informed choice can be invoked effectively to overcome stakeholders' differences of opinions about ancillary issues.

The co-authors of this *Guide* believe that if each state's central follow-up entity is committed to program participants' *right-to-know* and a firm belief that better decisions will be made by one and all in an *information-rich* environment, answers to any heretofore unanticipated questions and obstacles can be derived from those basic principles.

That brings us full circle to discuss the premises on which this *Guide* was commissioned by the Department of Labor's Employment and Training Administration (ETA). This *Guide* is intended as a companion to the Consumer Report System being developed by Texas under a grant from the ETA on behalf of all *One-Stop* implementation states. The essential purpose of the Consumer Report System is to get useful information into decision-makers' hands: planners and administrators, service providers, and - above all else - prospective students and adult learners. Under terms of the contract with ETA, this effort is guided by the principles of the *One-Stop* vision.

**A state's central follow-up entity -- just like *One-Stop Centers* -- should be:**

- 1) Performance-Driven;**
- 2) Customer-Satisfaction Oriented;**
- 3) Universally Accessible; and**
- 4) User-Friendly.**

*These points will be discussed in more detail in the section of this **Guide** devoted to the *Consumer Report System* as a primary vehicle for delivering follow-up information.*

Putting together this *Guide* has been rather like writing a hymnal. The point is not to suggest that every one should sing the same note; rather, the intent is to produce harmony with sufficient latitude for *ad lib* variations, embellishments, and *virtuoso* performances by individual states. However, everyone engaged in follow-up needs to be on the same page and singing in the same key if, collectively, we expect our follow-up activities and services to be accepted by the general public, attentive publics and customers as legitimate and worthwhile. To achieve that harmony, the co-authors of this *Guide* have attempted to paint with a broad brush the principles from which specifics may be derived as states grow their own organic systems.

While this section has outlined several common problems likely to be encountered when marketing and legitimating the central follow-up entity's services and activities, other unprecedented and unanticipated obstacles are sure to arise. While we are unable to supply ready answers to all potential questions and issues, the co-authors believe that the guiding principles highlighted in this chapter will assist our colleagues in establishing comparable entities in other states.

## Addendum 1

### Professional Development and Technical Assistance Plan

(Use the next four pages as a pull-out check list.)

**Develop a standardized workshop or seminar curriculum to explain automated and centralized follow-up.**

- ✓ Begin on a positive note. Preach to the choir by noting that follow-up plays an integral role in accountability by helping service providers and stewards of public funds document the successful results achieved by former program participants.
- ✓ Appeal to their sense of professional dedication by emphasizing how follow-up data can be used in a cyclical planning and evaluation process to promote continuous program improvement.
- ✓ Paint a picture of the process flow for collecting outcomes information and the eventual return of aggregate data to field practitioners in a format useful to them for managing programs and improving services to their customers.
- ✓ Portray data privacy measures as a matter of professional ethics rather than as a compliance issue. Present them as obligations to their customers (i.e., program participants); not as obligations owed to the state.
- ✓ Stress the fact that the central follow-up entity primarily assembles data collected by others and, therefore, is dependent upon field operations for data quality control; i.e., emphasize the themes of partnership and collaboration.
- ✓ Note that the public demands program accountability and that automated, cost-effective centralized follow-up will reduce, rather than increase, local data collection burdens.
- ✓ Ask for practitioners' help in promoting automated and centralized follow-up follow-up back in their respective constituencies.

**Mass produce standard hand-out materials and visual aides.**

- ✓ The process flow and the data privacy procedures may be so complex that practitioners will need to take home hard copies of materials to study at length and in greater detail.
- ✓ Provide samples of any new forms or reports they may have to handle in their day-to-day operations.

In particular, include:

copies of interagency agreements under which audience members' agencies and organizations will exchange data with the state's central follow-up entity;

a sample of the form recommended for securing informed consent in the field from participants or students and their parents; and

a copy of the standard data security agreement recommended for binding field staff to high standards of personal responsibility and ethics as a condition of public sector employment.

- ✓ To reduce dissemination of rumors and misinformation, make sure all hand-out materials include details about how to contact the central follow-up entity's staff directly for more detailed explanations.

**[ ] Develop a *train-the-trainer* curriculum.**

- ✓ Remember, there are more stakeholders than the follow-up staff can reach in person.
- ✓ If possible, develop a simulation, act out the roles that the follow-up entity's surrogates will have to perform, and/or lead them through a hands-on exercise which they, in turn, can present when marketing follow-up services to their peers on behalf of the central entity.

**[ ] Piggyback delivery of professional development services on other stakeholder-sponsored events.**

- ✓ It is more effective to target subgroups of stakeholders than to attempt to explain follow-up and accountability to a mixed audience whose members represent different stakeholding interests and whose levels of statistical literacy may vary widely.

When targeting and addressing stakeholder groups separately with tailored messages, be consistent. Tailoring the message is a matter of emphasis without changing the facts. Remember, members of any given audience may wear multiple hats. Many may attend additional follow-up conferences. Depending on the number of different functions each individual performs on behalf of his/her organization, he/she may hear representatives of the central follow-up entity several times. Each time the core message must be the same - altered only as a matter of emphasis as appropriate to hold the attention of the audience and to drive home the key points using illustrations that best fit the average listener's experiences.

- ✓ Maintain a master calendar of annual statewide conferences sponsored by partner agencies and the professional associations of key stakeholding groups.

- ✓ Contact event organizers early to secure places on their agenda for presentations by follow-up staff to the general session and/or during breakout sessions.
- ✓ If possible, team up with a supportive member of the sponsoring agency/organization for conference presentations. The audience will be far more receptive to one of their own; i.e., a trusted peer.
- ✓ Where appropriate, arrange in advance for those attending any breakout session to receive professional or continuing education credit. (This will instill a sense of individual responsibility and reinforce the connection between follow-up and their individual professional development.)
- ✓ Review and revise standard workshop curriculum and materials as necessary to tailor presentations to the special interests and average level of statistical literacy of each target audience.

**[ ] Be prepared to render technical assistance one-on-one.**

- ✓ Designate a lead person within the central follow-up entity to field requests for technical assistance.
- ✓ Anticipate questions that partner agency or education and training service providers are most likely to ask. It is our experience that the most frequently asked questions from the field involve:

Under what legal authority was the central follow-up entity established?

What are the mission and objectives of the follow-up entity?

What impact will follow-up activities have on funding for my program?

What impact will follow-up have on my paper-workload (day-to-day, at the end of a Program Year, and during fiscal year close-out)?

- ✓ Note that questions from the audience may be accompanied by specific requests:
  - for more detailed explanations and/or assurances on data privacy guidelines; and
  - for more detailed procedural guidelines on data coding and quality control.
- ✓ Prepare well-researched and clear responses to anticipated questions then file them in such a way that all other staff members can provide a consistent response in the absence of the lead technical assistance person.
- ✓ Do not shoot from the hip when fielding unanticipated questions. Instruct staff that, rather than provide an answer *ad lib*, they should log each unanticipated question and give a *date-certain* when the requesting party can expect a well-researched response.

- ✓ Provide a considered response by the *date-certain* after staff does its homework and collaborates on an appropriate answer.
- ✓ Add the new response item to the technical assistance reference file for future use.

**[ ] Develop an infrastructure to handle technical assistance electronically.**

- ✓ Often more time is spent traveling to remote sites than is spent actually delivering technical assistance. This is particularly true in large states like Texas (or an elongated one like Florida) and in states where weather, traffic congestion or the absence of major commercial air transportation hubs increase travel times.

Electronic delivery of technical assistance should reduce travel-related expenditures greatly.

Because electronic communications reduce response times, customer satisfaction should improve.

- ✓ Establish a World Wide Web-site on the InterNet where you can post announcements and progress reports.
- ✓ Set up an InterNet list-server, electronic bulletin board and/or group-wise facsimile broadcast procedure to deliver messages targeted to groups of service providers and partner agencies' key personnel.

*It is especially important to have an efficient mechanism for rapidly disseminating information about rule changes and issues critical to all affected stakeholders.*

- ✓ For discussions one-to-one with remote stakeholders, consider using desktop video conferencing.
- ✓ For discussion with a small group of stakeholders who are scattered across your state, consider using teleconferencing.
- ✓ Balance the efficiency of electronic communications with sensitivity to the natural desire of stakeholders for individualized attention.

If for no other reason than providing symbolic personal attention, do not substitute electronic interaction for regularly scheduled face-to-face meetings with key stakeholders.

Reserve electronic techniques for providing technical assistance to customers with specific questions requiring quick responses.

## Addendum 2

### SAMPLE TEXT FOR PUBLIC MEETING NOTICE

- PURPOSE:** To inform parents and community leaders about the features and benefits of the Automated Student and Adult Learner Follow-Up System
- SPONSORS:** Texas Education Agency  
Texas Higher Education Coordinating Board  
Texas Department of Commerce  
Texas State Occupational Information Coordinating Committee  
Amarillo and Hereford Independent School Districts  
Amarillo College  
Panhandle Quality Work Force Planning
- WHEN:** December 19, 1994 (7:00 - 8:00 PM)
- WHERE:** Amarillo Public Library  
Central Branch, Room B  
413 East Fourth Street  
Amarillo, Texas
- SPEAKER:** Marc Anderberg, Follow-Up System Director

The Automated Student and Adult Learner Follow-Up System is in its third year as a demonstration and capacity building project. The system is operated by the Texas State Occupational Information Coordinating Committee and is funded with federal vocational education dollars by the Texas Education Agency and the Texas Higher Education Coordinating Board. For three years, community and technical colleges (such as Amarillo College and TSTC - Amarillo) have piloted the use of record linkage techniques to determine what happened to their students after graduation. Last year, Amarillo and Hereford Independent School Districts were among the first eight volunteer districts selected to pilot-test the use of the same techniques to identify results for high school graduates. This year they will be joined by twenty-three other districts as we move closer to statewide implementation.

The information gathered by the follow-up system is used in program planning and evaluation by the Texas Council on Workforce and Economic Competitiveness, state education agencies, regional Quality Work Force Planning Committees, Tech Prep consortia, Private Industry Councils, colleges and school districts. By using cost-effective record linkage techniques, the Automated Follow-Up System provides these groups with the information they need to determine what kinds of jobs their former students get and where they go as they seek work or additional training and education. These data will drive planning to improve coordination among training and education programs to meet labor market demands and to lay the foundation for regional economic development in the Panhandle region. That will result in more efficient use of tax dollars. Outcomes data also will become part of an Automated Career Information Delivery System to help students make informed career choices in collaboration with their parents and counselors.

Interested parents and community leaders are invited to this informative meeting. Your views and opinions will help shape statewide implementation of the follow-up system in July 1996.

## Addendum 3

### SAMPLE COPY FOR HOST-CITY MEDIA COVERAGE

Amarillo and Hereford Independent School Districts have been selected as two of twenty-five pilot sites for a study to determine what happens to students after they leave high school. Two years ago with the consent of their Boards of Trustees, Dr. Wilson (Superintendent of Amarillo ISD) and Dr. Greenwalt (Superintendent of Hereford ISD) volunteered their districts to represent the Panhandle planning region in the first round of the pilot study. Their requests were accepted by the Texas State Occupational Information Coordinating Committee (SOICC), a state research unit. The SOICC, at no expense to the pilot districts, collected data on the results achieved by their 1992 graduating classes. First round pilot districts were invited to participate again in this year's study. Both Amarillo ISD and Hereford ISD accepted the invitation.

Pilot sites, in addition to receiving follow-up data, are voting members on the committee that will advise the Automated Follow-Up System as it moves toward full statewide implementation during the 1995-1996 school year. Lucy Walker and Marvin Hart will represent Amarillo ISD as members of the site-based committee for the Panhandle region; Corky Lockmiller will represent Hereford ISD. Dr. Stan Adelman of Amarillo College, Teresa Isbell of TSTC-Amarillo, Deborah Pickering of the Panhandle Quality Work Force Planning Committee, and Leanne Vogel of the Panhandle Tech Prep Consortium also are on the site-based committee.

The Automated Student and Adult Learner Follow-Up System is now in its third year of operation at the Texas SOICC. It is funded with federal vocational dollars through the Texas Education Agency and the Texas Higher Education Coordinating Board to demonstrate the cost-effectiveness of using record linkage techniques to collect outcomes data. The Texas SOICC electronically links student records with various public databases to see what kind of jobs they entered after graduation and where they went as they searched for work or to continue their education and training. In the past, traditional mail and telephone surveys were used to obtain that kind of follow-up information. But those techniques are very expensive with estimated costs at \$13 to \$20 per response. The SOICC's automated system, by comparison, was able to collect follow-up information on Amarillo College graduates for the class of 1992 for less than 50¢ per student. Similar cost savings were achieved for Amarillo ISD, Hereford ISD and other participating first-round pilot school districts last year when record linkage techniques were tested for follow-up on high school graduates.

The Texas SOICC will conduct an informational meeting to explain in more detail how the automated follow-up system will help administrators plan and evaluate the delivery of workforce development programs. The meeting will be held on December 19, 1994 from 7:00 to 8:00PM in Room B of the Amarillo Public Library (Central Branch), 413 East Fourth Street. Special emphasis will be placed on Amarillo College and TSTC-Amarillo's three years of participation plus Amarillo ISD and Hereford ISD's first year as secondary education follow-up pilot sites. After an explanation of the follow-up techniques used, the meeting will be open for public comment. The views and opinions of interested parents and community leaders will be used to guide statewide implementation of the follow-up system in July 1995.

## ENDNOTES

- <sup>1</sup> The table is adapted from the work of Everett Rogers, *Diffusion of Innovation - 3rd Edition* (New York City, NY: The Free Press, 1982) and Thomas Kuhn, *The Structure of Scientific Revolution - 2nd Edition* (Chicago, IL: University of Chicago Press, 1970). Concepts borrowed from Rogers and Kuhn were used by Edward Yourdon in describing how new products are accepted in the computer industry. See Yourdon's *Decline and Fall of the American Program* (Englewood Cliffs, NJ: Prentice Hall/Yourdon Press, 1993) p. 117 and 161.
- <sup>2</sup> Kuhn, *op cit.*, p. 152.
- <sup>3</sup> While Oregon found that roughly 90 percent of all participants in all the programs in its Shared Information System (SIS) voluntarily signed informed consent forms, there were a few substate areas where the refusal rate significantly exceeded the statewide average. Upon further study, SIS officials determined that a handful of case managers in those substate areas did not understand the importance of obtaining customers' informed consent for statistical uses of individually-identifiable information. Other case managers may have advised some of their clients to withhold their signatures. Refusal rates in those substate areas came in line with statewide averages after case managers were provided technical assistance and professional development. These observations were offered by Tom Lynch of the Oregon SIS in a personal conversation with co-author Anderberg at an LMI workshop in Scottsdale, Arizona, September 11, 1997.
- <sup>4</sup> Pilot projects should be selected with care and their results must be handled judiciously. Good ideas may fail simply because the initial pilot test was ill-conceived. To be of much use, a pilot test must be of moderate size. One that is too big will be unmanageable and there are apt to be so many exogenous variables that no firm conclusions can be drawn about the effectiveness of an intervention or service. On the other hand, if the scale is too small, no one will sit up and pay attention to results of a pilot project. To succeed, a pilot project must be important and visible and led by enthusiastic volunteers. Staff at the pilot site must be given thorough training; lead agency staff must hold their hands constantly. Pilot site and lead agency staff must document everything and widely publicize successes. (See Yourdon, *op. cit.* p.162-163 on conditions for successful pilot projects.)

Equal care must be taken to avoid hasty adoption of activities and services successfully piloted under reified (or rarefied) conditions. Always remember that volunteers are self-selected and usually are rightfully proud of their programs. Moreover success of a pilot project may be a function of enthusiasm plus novelty plus special attention rather than the merits of the basic premise. Other organizations under more normal conditions probably will not achieve equally lofty results. See Chapter VI of this *Guide* under the headings "misuse," and "hasty adoption" for more detailed discussions. See also John Lucas, "Research Support for Marketing," in Norman Uhl (ed.) *Using Research for Strategic Planning* (San Francisco, CA: Jossey Bass Publisher, 1983), p. 25.

- <sup>5</sup> We make this prediction based on our analysis of federal workforce development reform legislation initially proposed by Senator Kassenbaum and Representative Goodling. While their bills were not passed in 1996-1997, we feel the idea is still alive. During the presidential campaign season of 1996, the idea of bracketing local autonomy in service delivery with state/substate responsibilities for strategic planning on the front end and accountability responsibilities on the back end appears to have sufficient bipartisan support to shape policy in the next session of Congress. While Democrat- and Republican-sponsored education reform legislation differ on many points, there seems to be bi-partisan consensus on the idea of performance accountability.
- <sup>6</sup> The neutrality of the follow-up entity in relation to more politicized roles in program accountability are discussed in greater detail by Richard Froeschle and Marc Anderberg in “*Roles and Responsibilities in a Performance Measurement System: Description, Prescription and Policy-Making*” in the Beyond the Numbers Occasional Papers Series, Vol. 1, Number 4 (Austin, TX: Texas State Occupational Information Coordinating Committee; June 1997).
- <sup>7</sup> Ibid.
- <sup>8</sup> The concept of “*Truth-in-Training*” is analogous to “*Truth-in-Lending*.” The idea of “*Truth-in-Lending*” is that terms and conditions of a loan or other financial instruments should be made clear to all parties before they enter into a binding agreement. The principle should be apply in the same way to education and training providers as it does to financial institutions. If prospective program participants, students and their parents, and the tax-paying public are to invest significant resources in education and training, they have a right to know fully the terms and conditions (including expected outcomes) surrounding the services they are about to receive.

## CHAPTER VI: USING FOLLOW-UP DATA

(Subtitle: *Practitioners are from Saturn, Researchers are from Pluto.*<sup>1</sup>)

### *Synopsis*

Researchers commonly lament that the data they collect and the analyses they provide are not used or are misused by decision-makers. This chapter focuses on factors governing appropriate and effective uses of follow-up data. The co-authors offer suggestions for optimizing the use of follow-up information in data-driven decision-making and ideas for guarding against misuse of those data.

### **Introduction**

Nothing is more frustrating to researchers than having the data they've collected and the analysis they've done either ignored or, worse, misused. No matter how elegant a research design or robust the analysis, well-intentioned efforts may result in nothing more than a compilation of reports that gather dust unless sufficient attention is paid to promoting the use of statistically defensible findings to shape important decisions. Several factors affect the extent to which the results of follow-up research are used widely, effectively and appropriately or, conversely, whether they are ignored and even misused.

This chapter presents a framework for identifying and responding to factors governing the use (and misuse) of follow-up data. It is based to a large extent on an information-communication theory developed over the last decade by Peter Ewell, Senior Analyst with the National Center for Educational Management Systems (NCEMS).<sup>2</sup> While Ewell writes primarily to help institutional researchers promote reliance on empirical data and analyses by postsecondary administrators, his framework is based on sound premises and astute observations of organizational behavior. Hence, the framework can be applied to help follow-up units promote effective uses of their data and analysis by a wide range of stakeholders.

In this framework, appropriate use of information supplied by a central follow-up entity is determined by four factors of communications: 1) characteristics (or perceptions) of the information-transmitting entity; 2) characteristics of the decision-makers or organizations receiving the information; 3) the channels used to deliver such information; and 4) characteristics (or perceptions) of the information being communicated. All four factors must be taken into account by a central follow-up entity as it devises strategies to ensure effective use of its data and analysis. Unfortunately, all of these factors are not under a follow-up entity's total control. Strategies to promote effective use, therefore, will require acting appropriately to shape those factors a lead agency can control and adjusting expectations in light of factors it cannot control.

#### **Factors Affecting the Appropriate Use of Follow-Up Data**

- \* **Characteristics of the transmitting entity**
- \* **Characteristics of the receiving party**
- \* **Characteristics of the channels used**
- \* **Characteristics of the data transmitted**

## Factor 1: Characteristics of the Party Transmitting the Information (Transmitter)

The likelihood that others will use follow-up data to guide policy-making or individual choice will depend on two characteristics of the central follow-up entity: its authority and its reputation. By “*authority*” we mean the degree to which the lead agency is backed by the power of legislation and/or administrative rules requiring stakeholders to

use follow-up data in their decision-making processes; i.e., the lead agency’s official stature. Put very simply, decision-makers will sit up and pay attention to follow-up data if they are required to do so -- particularly if funding approval is tied to performance-based planning and evaluation. By “*reputation*” we mean the way a follow-up entity is perceived by others; i.e., the public esteem and regard it is accorded. Of the two characteristics, reputation probably is more important for the following reasons:

***Top Ten Reasons Why No One Listens to Researchers (Reason #9)***

***Numbers are important to practitioners only when preceded by a dollar sign.***

- 1) Some follow-up entities may not have a strong mandate from the legislature or administrative agencies requiring stakeholders to use the data it gathers. While Florida’s follow-up system was recognized officially by the Florida State Legislature from its inception, the follow-up system in Texas started as a service to organizations that volunteered to participate. While the latter received official recognition only after several years of operation, there are no guaranties that any follow-up entity initially launched on a voluntary basis will ever be backed by statutes or regulations compelling stakeholders to use its information. If and when mandates are issued, they may be weak; i.e., merely *suggesting* that stakeholders *consider* follow-up data among other -- often unspecified -- factors as they make decisions. While awaiting official recognition (and perhaps indefinitely), a follow-up entity may have only the force of its reputation to influence others.
- 2) Even in those states where statutes or regulations compel partner agencies to use follow-up information to guide policy-making, no state can or will even attempt to require private citizens (e.g., prospective students and workforce development program participants or taxpayers) to use that same information. In influencing individual choice, every follow-up entity stands solely on its reputation.
- 3) Authority notwithstanding, if a follow-up entity’s reputation is suspect, stakeholders probably will find ways to disregard the information it provides. Weakly worded mandates, for example, can be ignored and loopholes can be exploited. Ideally, the follow-up entity should have both sufficient authority and the reputation to influence the decisions of others. A sound reputation will do more to enhance the use of its information (even in the absence of any strong mandate) than all the authority on paper can do to overcome a poor reputation.

A follow-up entity's reputation will be established on the basis of its performance and by the behavior and attitudes exhibited by its staff. Foremost in the public's perception of a follow-up entity will be its reputation for professional integrity. Does it strive for accuracy, detachment and fairness? Are its dealings with all stakeholders ethical? Does staff add value to outcomes data by offering insightful and astute commentary based on substantive knowledge of and experience with the programs they are asked to study?

Those in key positions must be well versed in both empirical methods and research ethics. In all probability, many likely candidates for leadership and staff positions will have worked at one time or another for the very partner agencies or service providers

whose programs are to be studied. Thus, it probably will be necessary to reorient members of a follow-up team to the larger picture.<sup>3</sup> As new staff members are brought on board, each should be asked to do an honest self-evaluation of biases, professional loyalties or attachments, and personal agendas. Self-awareness is the first step in overcoming -- or at least curbing -- prior prejudices. To ensure detachment and fairness, reorientation should **stress loyalty to the data** (i.e., following outcomes data to their logical conclusions), **customer focus, professionalism** and commitments to systemwide **accountability** and **continuous program improvement**.

*Reputation-building begins with the recruitment of a respected leader and well-qualified staff.*

Staff professionalism must be reinforced constantly if a follow-up entity expects others to find its data credible and useful. Staff should periodically reassess themselves to be sure they don't slip back unconsciously into old professional loyalties or develop new prejudices. The lead agency also should invest heavily in professional development to keep its staff's program knowledge and research skills up-to-date.

The second important characteristic of a successful follow-up entity is the **attitude** of its leadership and staff. They must establish a reputation for **concern and helpfulness**. Information provided by a follow-up entity is more likely to be used willingly by others who feel the lead agency is a partner rather than an adversary. The co-authors have addressed the technical assistance role throughout this *Guide* and the need to emphasize program improvement rather than compliance and enforcement issues. An abiding commitment to program improvement is vital to legitimating and marketing the follow-up entity.

- This aspect of the entity's reputation can be enhanced and reinforced procedurally by inviting partner agency representatives and service providers into the initial planning process and by continuing to rely on their input through advisory committees comprised of practitioners. (See Chapter III on Scanning the Environment.)
- It also can be reinforced by tying individual staff performance reviews -- at least in part -- to the way they are perceived by the lead agencies' customers.

Third, a follow-up entity must achieve a **high degree of visibility**. An entity can enhance the likelihood that its data will be given considerable attention if its leaders and staff are genuinely involved in key forums such as intergovernmental and interagency discussions as well as national and statewide associations that address issues important to other stakeholding partners. Active involvement conveys the depth of concern a follow-up entity has for customers it shares with partner agencies and service providers. It also builds understanding on the part of follow-up staff for the barriers its partners encounter and empathy toward them because of the difficulties they face. Active involvement increases the likelihood of establishing informal communications networks, face-to-face contacts, and the mutual respect necessary to explore sensitive issues jointly in a trusting relationship.

*Professional empathy involves understanding the problems faced by partner agencies and sharing their commitment to improving the delivery of services to their customers. It does not, however, require the follow-up entity to suppress evidence of (or make excuses for) poor performance. The follow-up entity's credibility hinges on maintaining the delicate balance between professional empathy and detachment.*

Fourth, a follow-up entity can increase the likelihood that its data will be used by others if it develops an **aura of success**. Some partner agencies may be more inclined than others to use follow-up data to guide their decisions. Their appropriate and successful uses of follow-up data should be publicized widely with the partner agency given credit for rational decision-making. By promoting initial successes, a follow-up entity can create a *bandwagon effect*. Any reluctant stakeholders will feel compelled to give credence to follow-up data in order to be perceived as rational and responsive as other agencies and service providers.

Most important, the likelihood that others will use follow-up data to guide their decisions will increase if the lead agency is perceived as **dependable**. By promising no more than it can deliver and by delivering as promised, a follow-up entity can establish positive expectations on the part of its partners. They will expect useable data at critical points in their decision-making cycles. They will grow more comfortable relying on the information provided. Over time, the relationship between a follow-up entity and its partners becomes institutionalized or routinized. Using follow-up data to guide decisions will become part of partner agencies' and service providers' standard operating procedures.

## **Factor 2: Characteristics of the Party Receiving the Information (Recipient)**

Professional and ethical conduct on the part of a follow-up entity can establish a broad and general reputation. Nonetheless, the responsiveness of stakeholders may still vary for reasons beyond a follow-up entity's control. The mix of partner agencies and service providers constitute a follow-up entity's diverse audience. In *Communications 101*, students are advised to analyze their potential audience before preparing and delivering any speech. The same advice holds true for a follow-up entity trying to put its research findings into stakeholders' hands in ways that in-

crease the likelihood that such information will be used effectively and appropriately. While a lead agency can't control key characteristics of those to whom it delivers follow-up information, it can take those characteristics into account as it packages its findings for optimum impact.

Again, Peter Ewell has sound advice to offer based on his own experiences.<sup>4</sup> When preparing a report on research findings, Ewell asks himself the following questions: "Who wants to know? What do they want to know?" and "Why do they want to know it?". Or, to put it another way, "Who's asking?" and "What for?" Anyone can improve the probabilities of information use if they know:

- What level of decision-making authority does the recipient have within the partner agency or service delivery organizations?

Does the person receiving follow-up information from the central entity have the authority to take action unilaterally based on that information? Is that person in a position to command and control actions of the recipient organization? Do structural impediments prevent that person from making unilateral decisions? Is the recipient organization's management structure relatively flat? How extensive are the decision-making prerogatives of sub-units? Are those prerogatives protected by tenure and academic freedom, departmental autonomy, local control or site-based decision-making?

- Where is the recipient organization in its decision-making cycle?

Is the organization in the process of putting together a long-range strategic plan? Is it just now coming to the realization that a problem exists? Is it formulating a range of options or is it about to choose one alternative from a list of potential solutions? What is the organization's deadline for making a final decision?

- How contentious is the decision likely to be?

What is at stake (e.g., funding, reputation and status, staff positions)? What are the organization's sunk costs (i.e. what has already been invested -- financially and psychologically -- in programs or projects being evaluated on the basis of its customers' post-exit outcomes?) Are one or more parties on the "losing end" of the decision likely to consider their losses significant? How politically influential are the respective contending parties?

In the words of Marie Colombo, et. al., "Projects often have formidable sources of power undergirding them: strongly held political and social values linked to [influential] political constituencies and important coalitions. . . [T]hey draw strength from the reputation of [key] stakeholders [and are bolstered by the well-worn] rhetoric [that] permeates the belief that [important] goals are being achieved."<sup>5</sup>

- What is the decision-maker's level of sophistication and depth of understanding?

Is the decision-maker statistically literate? Does the receiving organization have the capacity in-house to translate raw follow-up data into useful information?

- Does the decision-maker have a sense of ownership of the data being provided?

Was the decision-maker or a representative of the organization involved in the follow-up entity's initial or subsequent environmental scanning activities? Is the decision-maker or a representative of the organization a member of the follow-up entity's advisory committee? Is the decision-maker or representatives of the recipient organization actively involved in the same professional associations and intergovernmental/interagency forums as are leaders of the follow-up entity?

- What is the information-receiving party's (individual or organizational) decision-making style?

Does the recipient fear or resent being held accountable to externally-set performance standards? Does the recipient value the appearance of rational decision-making (as opposed, for example, to valuing charismatic leadership and the appearance of acting in bold and decisive fashion)? Does the recipient value being perceived as innovative, or progressive or as a change agent? Conversely, does the recipient value stability, predictability, habit, familiarity and convenience? Does the recipient have the political will to make hard choices? Is service to external customers valued more than collegiality and consensus or unanimity within the organization.

Some of these characteristics are more susceptible to influence by a follow-up entity than are others. For example, a follow-up entity can improve the odds that its information will be used by giving recipients a sense of ownership in the data. This can be accomplished by involving them in initial environmental scanning activities and by allaying their fear or resentment of being held accountable to externally-set performance standards. (See Chapter III.) A follow-up entity also can overcome a recipient's lack of statistical sophistication through careful information-packaging (see below) and through systematically rendering technical assistance (see Chapter V).

### **Factor 3: Characteristics of the Channels Used for Communicating Information** (Channel)

The likelihood that follow-up information will be used to guide stakeholders' decisions is dependent, in part, on characteristics of the channels used by a lead agency to communicate data to partner agencies and service providers. Does the lead agency have the undivided attention of organizations and individuals receiving follow-up data? (The more direct access a central entity has to stakeholders, the more likely the latter are to use follow-up data to guide their decisions.) Leaders of a central follow-up entity need to ask several specific questions about their channels of communication and tailor their information delivery accordingly.

- Will follow-up data flow through intermediate filters before reaching decision-makers?

Will the data be manipulated further by persons inside the recipient organization or will it be contemplated by decision-makers in the format in which it is delivered by the follow-up entity? What are intermediaries likely to do as they filter follow-up data? Will they merely verify data? Will they aggregate the data in different ways or put them in different presentation formats? Will they add contextual data or do their own analysis in order to explain the results obtained? Are they apt to engage in spin control by suppressing unfavorable findings or over-emphasizing positive ones?

- What are the protocols regarding direct communications with external decision-makers?

Will follow-up staff deliver data in person to external decision-makers? Will follow-up staff be given an opportunity to explain their findings and respond to subsequent questions?

- Must follow-up data compete with other information used in the decision-making process?

Must the follow-up entity overcome the receiving organization's untested assumptions, bureaucratic mythology and institutional folklore? Does the receiving party have a history of using non-representative anecdotal information as it makes decisions? Does the information-receiving party take its own promises, marketing hyperbole and *ex cathedra* and *a priori* pronouncements at face value? Does the receiving party treat input variables (e.g., enrollment demand), process variables (e.g., workload ratios) or subjective opinions (e.g., customer satisfaction survey results) as evidence of satisfactory performance? Does the recipient organization conduct other kinds of empirical research on its own to gather decision-critical data? Does it use participant contact surveys? If so, does it survey the entire participant universe or only a sample? What response rate did it obtain? Does it convene focus groups to gather decision-critical information? How are the focus groups composed? How are the focus group sessions conducted?

In all likelihood, a central follow-up entity will have no direct control over the channel factor. The best strategies for helping follow-up data compete for decision-makers' attention are to be vigilant in maintaining the lead agency's reputation and to make sure the data are presented in a useful and attention-holding fashion.

Two other practices also may help follow-up data compete for decision-makers' attention:

- 1) Explain the methodology.

In addition to transmitting information to decision-makers, send a brief explanation of the methods used to gather and analyze follow-up data. Tailor explanations to the level of statistical sophistication of each receiving party. Emphasize the validity and reliability of follow-

up data relative to outcomes data collected through other techniques. Take care to phrase explanations of follow-up data's comparative advantages in ways that will not be construed as an affront to persons inside the recipient organization or as criticism of the organization's decision-making process.

2) Go public with the information.

Decision-makers don't operate in a vacuum. They're likely to be under the microscope of media attention as they deliberate. Knowing this, a lead agency can create an environment where decision-makers suppress, ignore or willfully misconstrue follow-up data at their own peril.

***Top Ten Reasons Why No One Listens to Researchers (Reason # 10)***

***Reader's Digest doesn't publish research.***

Within the parameters of data privacy rules, aggregate outcomes data and make them widely available. Publicize the fact that follow-up data are available to the general public. Avoid treating public dissemination of follow-up data as putting decision-makers over a barrel (i.e., as an *I-gottcha*); but, rather, treat dissemination as an obligation to meet the public's right-to-know and to make informed choices. If the public in general and the media in particular have access to and understand follow-up data, they will hold decision-makers accountable for any decisions that fly in the face of sound judgment based on evaluations of prior outcomes. (Such efforts to create an environment conducive to the use of follow-up information will be enhanced to the extent that a follow-up entity enjoys wide-spread public esteem.)

**Factor 4: Nature of the Information Being Transmitted (Content)**

The most important factor in determining the likelihood that follow-up data will be used by stakeholders to guide their decision-making is the nature of the findings and the way they are presented. No amount of reputation-building, audience analysis and strategizing will ensure that outcomes data actually will be used if they are irrelevant, inaccurate, untimely or incomprehensible. Unlike information-recipient factors and communication channel factors, many aspects of data quality and presentation are more directly within a follow-up entity's control.

Be advised, however, that a follow-up entity's ability to enhance the utility of its data is relatively small at the point of delivery. By and large, data utility is the product of careful up-front planning. Chapter III presents recommendations for scanning the environment. To reiterate our premise in that chapter, the primary purpose of an initial scan of the environment is to ensure that a follow-up entity's subsequent efforts produce information that truly is useful to its partners and stakeholders.

If an initial scan of the environment was done thoroughly and conscientiously, the data elements gathered by the follow-up entity will be decision-critical (i.e., relevant and important). This should be true for the outcomes data harvested through record linkages and auxiliary research, for

the explanatory variables included in seed records extracted from partner agencies' management information systems and for the exogenous variables used to explain findings in their appropriate context. Care must be taken during research design to ensure that potential users accept the operational definitions of the phenomenon to be measured or recorded. All potential users should fully understand the measures to be used and concur that they have *face-* or *construct-validity*. Where decision-critical factors defy direct observation, have useful proxy measures been devised? Have multiple indicators been devised to assess complex phenomenon by triangulation?

Timeliness of data delivery is crucial. No matter how relevant or cogently presented, data that arrive after a decision has been made are utterly useless. Data delivery needs to occur at a point early enough in the decision-maker's planning cycle that all stakeholders have sufficient lead time to digest the information and get responses to any request they might have for further explanations or additional data. Such details need to be worked out during the central entity's design phase -- preferably during the environmental scanning process when key stakeholders are assembled together and can be asked point-blank when they would prefer to receive follow-up data.

Data accuracy also is crucial if they are to be used in guiding stakeholders' decisions. However, to the extent that the central follow-up entity serves as an information broker, it is dependent for data quality control on its partner agencies' management information system personnel and the clerks who enter data into outcomes-resource databases. At best, the central follow-up entity can render technical assistance to its partner agencies to help them with the professional development of data-entry personnel and with automated edit-checks to capture obvious data-entry errors.

Above all else, data must be actionable. Again, the preconditions essential to get stakeholders to take action on the basis of follow-up data must be established during the central entity's design phase. Crucial outcomes must be defined in ways such that variance reflects degrees of effectiveness in achieving expressed goals and objectives rather than the results of manipulation and *gaming behavior*. At the same time, each outcome being measured ultimately must relate directly to actions or interventions through which service providers add value rather than to fortuitous circumstances. (See our discussion of value-added measures in Chapter III, pp. 80-81.)

At some point, however, outcomes data must stand on their own. The bottom line is: Do the data provide strong (unambiguous) evidence and compelling reasons for decision-makers to support one alternative over all others? Is the evidence irrefutable? Do the correlates to explanatory variables exceed reasonably robust levels of statistical significance? Were all plausible alternative explanations or scenarios tested and found to be unsupported by the data? Are the inferences drawn from the data strong enough to bring closure to deliberations? Lastly, do inferences drawn from the data point to viable solutions that the decision-maker is in a position to implement?<sup>6</sup>

***To be worth using, data need to be timely, relevant, accurate, actionable and inferences drawn therefrom must be virtually indisputable.***

## Packaging Data for Maximum Utilization (Presentation)

One factor a lead agency can control to maximize the use of its data is the way follow-up data are presented. In this section, the co-authors offer tips and hints on presentations that work to increase the usability of follow-up data.

### *No surprises.*

Decision-makers hate to be surprised with bad or embarrassing news. That is not to say that information about poorly performing programs should be suppressed or twisted around. We recommend giving partner agencies and service providers data about the performance of their programs and any reports to be issued before such information is released to the general public.

***Where data indicate programs are performing poorly, it may be useful to give affected partner agencies and service providers advance warning in the form of interim reports that are not designed for release to the general public. They may not like the bad news they receive, but they will appreciate any heads-up alert.***

It would be best if stakeholders are prepared as early as possible for the prospect that data on their program performance may not be flattering. In Chapter III, we discussed how an environmental scanning process can be used to get partner agencies and service providers to engage in worst-case-scenario imagining exercises. If done properly, such exercises can arm stakeholders with contingency plans that commit them in advance to act rationally (rather than defensively) in following unflattering performance data to their logical conclusions.

It is advisable to issue interim reports periodically just to affected partner agencies and service providers. They need and deserve adequate time to digest information -- especially if the news is bad -- and to form rational, measured responses. If put on the spot publicly without advance warning, decision-makers may react emotionally by digging in their heels, defending their programs and attacking the data (and the entity delivering bad news). Advance warnings, however, should not be couched in any way to signal that the follow-up entity will back down from eventually reporting news of poor program performance to the general public.

Advance warnings, on the other hand, can serve as good faith gestures of a central follow-up entity's genuine interest in helping partners in planning and evaluation for continuous program improvement. An offer to provide more in-depth data analysis and to render technical assistance in a conscientious search for possible contextual explanations can accompany a heads-up alert type of interim report. When delivering an interim report containing bad news, it may be appropriate to remind stakeholders of prior commitments they made during the planning phase to carry out-comes data to their logical conclusions.

## *Lay the foundation*

Actual decision-makers may have only vague impressions about the lead agency and how it obtained the outcomes data being thrust into their hands. Representatives sent by partner agencies and service providers to a follow-up entity's planning forums and professional development seminars may have been information systems specialists and technicians rather than key decision-makers. Information provided through ongoing outreach activities or in formal reports may not filter up to key decision-makers. To ensure that decision-makers use follow-up information, a lead agency needs to assure them that the data are valid and reliable. Their confidence in the data (and, thus, the likelihood that they will actually let it guide their decisions) will be increased if time is taken to explain the follow-up entity's role, its authority and how outcomes data were collected.

A simple way to accomplish this objective is to deliver follow-up information bracketed on the front-end with a cover letter and on the back-end with a brief statement of methodology. Tell decision-makers about the follow-up entity in a cover letter. Explain its authority for gathering data on program outcomes. Emphasize the follow-up entity's role in providing services designed to help its partners improve programs. Once the lead agency establishes a solid track record, accentuate its reputation. Don't get too technical but do offer additional technical assistance to help decision-makers understand the data and how to use them effectively. A statement of methodology should focus on issues of data validity and reliability.<sup>7</sup> Explain those concepts in lay terms. Offer to provide more detailed explanations of data collection and analysis methods. Both the cover letter and the methods statement should be brief. Ideally, neither should be more than one page long. Give decision-makers contact information so they can obtain any help the lead agency can provide.

Keep in mind how most organizations make decisions and who their customers are. Package information provided them in such a way that they can use the lead agency's reputation and the soundness of its methods to defend their actions to their constituents and customers. In the words of John Dunn, Jr.,

“Most decision-makers *satisfice* rather than *optimize*. Unlike the decision-maker in economic theory who always has perfect information and who pursues a single goal, administrators pursue multiple goals (perhaps even conflicting ones) and they have to make decisions with the best information that can be obtained at the time. . . [Often], the ‘right decision’ is a more or less satisfactory one that you can get the group to support.”<sup>8</sup>

Peter Ewell offers similar advice:

“The addition of concrete data about the problem under discussion may provide a degree of closure that goes far beyond the informational value of the data. . . Decisions may have already been made by the time concrete evaluative information is available. Its prime effect, therefore, is to increase the confidence of decision-makers and consequently their willingness to act. . . Once a particular decision has been taken, concrete information can become a powerful mechanism for selling the decision to those whose cooperation is needed in order to carry

it out. [Remember] mobilizing support, not decision-making itself, is the premier management activity. Information serves as a symbol that a decision was well-taken and makes it possible for opposing parties to cooperate by removing the need for one side to back down.”<sup>9</sup>

Bracketing data with information about the follow-up entity and the validity and reliability of its methods is especially important in situations where representatives of the lead agency do not sit at the table where decisions affecting programs and service delivery are being made.

### ***Tailor presentations for different types of decision-makers or practitioners***

Follow-up information can be used to support decisions at a variety of levels within partner agencies and service providing entities: case managers and counselors render concrete advice to customers about their education and training options; LWFDB procurement officers negotiate with service providers on performance-based contracts for off-the-shelf classroom training; executive officers of partner agencies and legislators develop the employment and training system’s long-range strategic plan. The kind of data needed at each decision point will vary as will the capacity of individuals to interpret and use the data they receive. To the degree that anything is known about the statistical literacy and level of understanding exhibited by recipients and their intended uses of follow-up data in specific instances, a lead agency should tailor information delivery and presentation formats accordingly.

Tailoring information delivery involves:

- deciding whether to send a decision-maker raw data (trusting the recipient to do his/her own analysis competently) or predigested data in a report format containing narratives explaining how outcomes data might pertain to a typical decision-making scenario;
- deciding how much explanation of the data collection process is necessary to secure an intended user’s understanding and acceptance; and
- deciding what level of language, presentation format, etc. is most appropriate given a recipient’s knowledge and prior experience.

Bloom and Jackson provide a useful way of dissecting the audience.<sup>10</sup> They look at both the recipient’s function and level of expertise when tailoring their professional development seminars. The same considerations are appropriate as follow-up staff think about the unique information needs of various customers.

The form on the next page may help follow-up staff organize their thoughts. It combines Bloom and Jackson’s approach to audience assessment with a taxonomy for seven levels of expertise identified by Meilir Page-Jones.<sup>11</sup> To simplify the assessment matrix, one could reduce Page-Jones’ seven categories of audience members to the three original types of knowledge offered by Bloom and Jackson: novice; abstract; and applied.

## Organizing Thoughts About an Audience's Information Needs

What is the role or function of the individual within the recipient organization?	How much knowledge or experience is the individual likely to have in using performance data?						
	Innocent	Aware	Apprentice	Practitioner	Journeyman	Master	Expert
<b>Front-line staff</b>							
• Counseling/case management							
• Labor Market Information (LMI) resource librarian							
• Job developer							
• Instructor job-search seminars adult basic education occupationally-specific classes							
• Other							
<b>Analyst/planner</b>							
• LMI specialist							
• Service procurement/contract officer							
• Monitoring or compliance officer							
• Other							
<b>Policy-maker</b>							
• Day-to-day field operations							
• Strategic plan/mission level							
• System level							

**Definitions**

- Innocent* someone who has never thought about using performance data to guide decisions
- Aware* someone who has at least heard about some sort of follow-up activities (automated or traditional)
- Apprentice* someone who has already attended more than one workshop or breakout session on follow-up methods and/or performance measurement issues
- Practitioner* someone who professes to be ready to use performance data to guide decisions
- Journeyman* someone who already uses performance data on the job
- Master* someone who has internalized performance-based accountability thoroughly
- Expert* someone who lectures on follow-up methods or performance-based accountability and who always looks for ways to extend the boundaries

**Instructions**

- Step 1:** Place an “X” in the appropriate cell representing the typical person likely to receive follow-up information (data or reported findings) from the lead agency.
- Step 2:** Develop various scales on data or report characteristics such as level of detail, amount of narrative explanation, and level of statistical sophistication.
- Step 3:** For any given intersection, visualize a multi-dimensional cell (example below) Pre-determine what scalar positions are most appropriate for each relevant characteristic of the information to be delivered. (Generally speaking, in moving from the bottom/right corner of the table on the previous page to the top/left, the more explanation one will have to provide and the more one should strive to use lay terms.)

*Example of multi-dimensional cell at the intersect of “Expert” and “System Level Policy-Maker”*

				<b>Expert</b>
				etc.
			level of language to use in narrative explanations	<i>enter annotation or scale number</i>
		expected degree of statistical sophistication	<i>enter annotation or scale number</i>	<i>enter annotation or scale number</i>
<b>System Level Policy Maker</b>	level of detail required	<i>annotation or scale number</i>	<i>enter annotation or scale number</i>	<i>enter annotation or scale number</i>
	<i>write note to self or enter appropriate scalar number</i>	<i>annotation or scale number</i>	<i>enter annotation or scale number</i>	<i>enter annotation or scale number</i>

- Step 4:** Before sending out an information package, review the materials to be sure they fit the intended recipients’ role and capacity.

## *Set the tone*

The primary purpose of providing follow-up information to stakeholders is to get them to use it. The purpose is not to dazzle an intended user with follow-up staff's mastery of technology, buzz words, esoteric issues or minute details. Efforts to dazzle may backfire by overwhelming or confusing intended users. All presentations should be straight-forward and on-point. If narrative text is provided along side data displays, strive for clarity.

### ***Top Ten Reasons Why No One Listens to Researchers***

***#7. Researcher's reports include words with more than two syllables.***

***#2. Researchers moonlight writing instructions for assembling children's toys.***

### ***Decision-makers won't use what they don't understand.***

Avoid putting intended users on the defensive. The primary purpose in preparing reports and delivering data is to inform, not to accuse. When put on the defensive, decision-makers are apt to think more about improving their image than about improving their services. The tone in any narrative accompanying performance data should not be adversarial. Avoid judgmental terms if possible.<sup>12</sup> Identify ways in which decisions based on performance data can create win/win situations with both service providers and customers as beneficiaries of every action to improve programs.

Don't over-sell the data. Aim to get decision-makers to use follow-up data *appropriately*. While staff should promote usage on the data's merits, they also should help intended users understand the data's limitations. For example, there probably will be gaps in data where automated record linkage techniques fail to document the full range of successful outcomes. Gaps in data should be acknowledged openly. Failure by a follow-up entity to acknowledge those gaps in pre-emptory fashion can backfire. In all probability, one or more affected stakeholders will be fully aware of existing gaps. They will alert their fellow decision-makers to those gaps and use any failure by the lead agency to disclose them fully and voluntarily: a) to cast suspicion on all follow-up data; or b) as grounds to ignore follow-up data altogether regardless of their merits.

Don't exceed the lead agency's authority or legitimate role as data collectors and analysts. Respect each information recipients' decision-making role and prerogatives. Remain ever mindful that performance data do not provide solutions; rather, treat outcomes data as performance indicators. The difference is subtle but very important. Performance indicators can be viewed as tin openers to unlock areas for further exploration.

As performance indicators, outcomes data can help assess problems along several dimensions.

- **Magnitude:** How big or severe is the problem? Is the problem acute? How many participants are affected? What percentage of the participants are affected?
- **Duration:** How long has the problem existed? Has this been a chronic/perennial problem?
- **Direction:** What direction is the program or service in question headed? Are there signs that the problem is being solved or are things getting worse?
- **Location:** Is the problem systemwide or relatively unique to a particular service provider or specific field of study? Does the problem affect virtually all participants of a particular program or are certain subpopulations of participants disproportionately affected?
- **Possible** determinants: What are the correlates of the problem? Which independent variables have the greatest capacity to account for variance in outcome variables? Can exogenous (contextual) variables account for some portion of the problem?
- **Possible location of solution:** Is there an empirically tested best practice worth examining further to get ideas for improving services and interventions?<sup>13</sup> Were participants served by another provider more likely to achieve desired results? Have simulations been run to forecast likely results for each proposed solution being considered?

Performance data can best be described as “useful” or “heuristic.” As Peter Ewell put it, “While information cannot make the decision, it can reduce uncertainty about the alternatives that show the greatest possibility of benefits while incurring the lowest costs.”<sup>14</sup> Follow-up staff need to keep that in mind. They may form strong opinions about viable solutions, but promoting them too aggressively may backfire if decision-makers sense encroachment or feel that their prerogatives are being usurped. Even a solution well-supported with sound data may be rejected if the decision-making process deteriorates into a contest. The functions of data collectors and analysts are to deliver information in ways that:

- help decision-makers draw their own inferences;
- devise solutions accordingly; and
- then defend or sell their solutions to their own constituents and customers.

Avoid unsupportable assertions of causality. While *cause* and *effect* are bandied about in casual conversation, those terms have very precise meanings in the research community.<sup>15</sup> Follow-up entities are not allowed to do classical experimental research (i.e., withhold services to eligible participants randomly assigned to a control group) to nail down causality. Moreover, the determinants of labor market outcomes are so varied that follow-up entities don’t have sufficient

resources to exhaust all competing alternative explanations and isolate tidy cause-effect relationships. Imprecise use of causal language may spark the same reactions as overselling data. Even if the strength of correlations in the analysis of follow-up data are strong enough to satisfy lay notions of causality, methodological purists (and decision-makers looking for any excuse not to follow unflattering data to their logical conclusions) may fixate on any imprecise language -- thus, overshadowing the genuine heuristic value of the data.

To avoid unsupportable assertions, it is best to frame presentations of follow-up data in terms of “*gross*” and “*net outcomes*” rather than “*cause*” and “*effect*.” A careful distinction between *gross* and *net outcomes* keeps language precise while still allowing decision-makers to draw useful (actionable) inferences for themselves in the absence of perfect data.<sup>16</sup>

To avoid getting sidetracked on language issues at decision-making time, a follow-up entity should address these issues during the design phase. As discussed in Chapter III, acceptance by intended users of follow-up data should be secured early during the environmental scanning phase through their active involvement in selecting outcomes to measure, contemplating adjustment factors, and ratifying a value-added approach to program evaluation.

### ***Time the release of data judiciously***

Knowing every partner agency’s planning cycle is crucial. Such information should have been gathered and recorded during the environmental scanning process. No matter how relevant and unambiguous, information received after a decision has been made is virtually useless. Perhaps not as obvious is the need to be cautious in delivering data too early in a customer’s planning cycle. Data diskettes tend to get misplaced; reports tend to get shelved or filed and forgotten -- sometimes without proper cataloging to facilitate ready access. Information that can’t be located at decision time is as useless as data that arrive after a decision has been made. Delivery should be scheduled with sufficient lead time for decision-makers to digest it and ask for additional clarification and technical assistance as necessary -- but not so far in advance that follow-up information will be shelved and long forgotten by the time they get around to making decisions.

***Data received after a decision has been made is of little use. Information that can’t be found easily at decision time is equally useless.***

Keep in mind that some decisions made by employment and training system customers will be *ad hoc*. If a customer’s planning cycle is not known or if some types of customers engage in continuous decision-making, deliver information to them as soon as all necessary data verification, edit-checks and preliminary analyses have been completed. Be advised that some customers may lose data before the time comes for them to use them. Have backup copies on hand (in hardcopy or on diskette) in order to respond promptly to customers’ requests for retransmission.

Other alternatives include maintaining a library of subroutines in order to regenerate reports for customers on the spur of the moment or simply post all standard reports at a Website where customers can pull down information on a *per need* basis.

### ***Edit-check and verify data before releasing them***

In a decision-making context, bad data may be worse than no data at all. A follow-up entity's reputation (and, hence, the likelihood that its data will be used) can be damaged severely if it has to retract a report because its data were wrong. Having customers catch a mistake before the follow-up entity catches and retracts it can be even more damaging. **Edit-checking and data verification are imperative!**

Step one in edit-checking and verifying data is to look for anomalies. In the context of follow-up, an anomaly is a current finding that is inconsistent with what was previously known or widely believed in the past to be true about a program's performance. An anomaly usually serves as a red flag signaling practitioners to treat follow-up data with healthy skepticism. Based on past experience and sound theory, seasoned practitioners usually can forecast each successive year's performance with reasonable accuracy. *Ceteris paribus*, most things change only incrementally. Any finding that is counter-intuitive or diverges radically from results documented through prior years' follow-up efforts warrant very close inspection.

An anomalous finding, however, is not necessarily erroneous. Any given program's performance may fluctuate over time. All other things are not always equal. In the world of employment and training, any number of factors may change from one follow-up interval to the next. Whole programs are reformed and missions are revised. Available resources fluctuate. Eligibility criteria and/or customer recruitment patterns may change. The labor market served may go through periods of boom and bust. Nonetheless, data and calculations performed thereon should be checked to separate out real changes and trends from incorrect inferences stemming from faulty data.

The simplest thing to do is to run a set of descriptive statistics: measures of central tendency (mean, median and mode) and measures of dispersion around the mean (deviation). For any given program, these should be fairly constant from one year to the next unless there has been some significant and substantial change in policies and procedure, resource allocation, customer mix or labor market conditions. If measures of central tendency and dispersion are markedly different than those obtained in previous years and if changes in those measures were not expected, check for the following:

- *Missing Data*

One year in Texas, for example, a major employer in the semiconductor industry laid off a significant number of employees then hired them back as contract workers. Other employers in that industry followed the lead of their largest competitor. While average annual openings in

the industry actually grew, the number of successful labor market outcomes achieved by exiting electronics technology majors appeared to drop. Those results were misleading because of missing data; *viz.*, those program exiters who found employment did so as contract workers and, thus, evidence of their employment was not included in the UI wage records.

- *Sources of Bias*

One Texas school district used optional district-generated identification numbers for some of its students when submitting records to the central state education agency's management information system. When that district began encouraging students to permit the use of their Social Security numbers (SSNs) as identifiers, most students complied. The nature of the results achieved by that district's successive exit cohorts appeared to change for no apparent reason; *i.e.*, the percentage of students obtaining employment in the post-exit target quarter appeared to drop even though the labor market served remained fairly stable and the education and training curriculum was virtually unchanged. The apparent change in results actually reflected a bias in prior years' submission of SSNs. When students were actively discouraged from using the optional district-generated identifier, only those in career and technology education were likely to volunteer their SSNs (in order to have their vocational instructors help them find jobs through internships and co-ops). Since that group was more likely to seek jobs immediately after high school, labor market outcomes for the district were skewed in a positive direction -- that phenomenon was not so pronounced in subsequent years as students enrolled in all types of programs voluntarily consented to the use of their SSNs.

- *Coding Errors*

Career and technology education instructors at one school district in Texas failed to flag any of their students as "Tech Prep" properly when submitting records to the state education agency's MIS. Because that district had received a sizeable Tech Prep grant, its return-on-investment appeared to be zero. The problem turned out to be nothing more than a coding error as the instructors had coded Tech Prep students with the alpha-character "T" rather than the numeric code "3" and, thus, all affected student records were treated as if they had missing data in the Type of Vocational Study field in the public education agency's MIS.

- *Inaccurate Data Entry*

A misplaced decimal point for one subject's earnings, for example, will throw off average earnings calculations for any cohort -- particularly when the cohort or disaggregated subpopulation being studied is small.

- *Outliers*

An outlier is an extreme value on a particular variable. An outlier could be the result of miscoding or inaccurate data-entry. It also might stem from false reporting. For example, one

individual in an exit cohort from a school district in the Rio Grande Valley had, according to UI wage record linkages, more than forty jobs in one reporting quarter -- twenty times the average number for his peers. Upon further study, the school district discovered that individual was permitting other members of his extended family -- undocumented workers from Mexico -- to use his Social Security number to obtain work permits. Once that individual's record was purged, the average post-exit employment rate and average total quarterly earnings for the district's exit cohort were recomputed. Revised results were in line with what had been anticipated on the basis of prior years' results.

An outlier, however, is not necessarily an error as the following example shows. An average quarterly earnings for exiters of a small computer technology program at a Texas community college shot up dramatically from one year to the next. Since only nine persons exited that program during the school year in question, a data analyst could inspect all the records easily. Record inspection caught an anomaly: whereas eight of nine exiters had post-exit quarterly earnings in the \$5,000 range, one individual had earnings in excess of \$15,000 in the target quarter. That one individual turned out to be a well-paid senior executive with a manufacturing firm who enrolled in computer science classes to learn more about business application software. In this instance, the contribution of one individual's quarterly earnings to the numerator of a performance measure significantly raised average quarterly earnings for that program's entire exit cohort. However, insofar as the relatively unique exiter consistently had higher earnings than his classmates prior to enrolling in Computer Technology, computations of average earnings gains for all nine exiters of that program proved to be more in line with prior years' results than did their average quarterly post-exit earnings.

In this instance the outlier was detected by eyeballing the data. Record-by-record inspection, however, may be impossible when the number of cases (N) is large. Other techniques for spotting outliers must be employed. When an outlier is present the mean will appear either much lower or higher than median and modal values. Measures of dispersion will show the data to be skewed. Perhaps the easiest way to detect an outlier is to plot the distribution of values for the variable in question graphically. Outliers should stand out clearly at the extreme margins or as "exceptional in the scatter."<sup>17</sup>

***Each outlier should be inspected to determine if it is an error or truly an anomaly.***

### ***Provide a frame of reference***

Raw data do not interpret themselves. Potential users need a frame of reference, an appropriate context for interpreting follow-up data. Raw outcomes data need to be translated into performance indicators by explicitly making meaningful comparisons. Most evaluation researchers agree with Banta and Borden on this point.

“Descriptive statistics [by themselves] lack worth (knowing whether higher values are better or worse) and context (knowing how the current value compares to those of previous times, other groups, stated intent e.g., mission/goals/objectives, and other statistics). . . Performance indicators [on the other hand] are empirical data which describe the way an entity pursues its goals -- related to both time and context -- when explicitly associated with goals.”<sup>18</sup>

Providing a frame of reference is more easily said than done because relevance and fairness are at issue. Such issues are best resolved during the environment scanning phase. Long before data are to be delivered, concurrence of potential users should have been obtained regarding the relevance and usefulness of various comparisons.

Three common approaches are used to put raw data into perspective: benchmarking, baselining, and adjusting the data.

- *Benchmarking*

Benchmarking consists of comparing results achieved by one exit cohort to some point of reference outside the entity that provided services. Commonly used benchmarks include: the *best practice* (i.e., those services provided in a program whose exiters had the highest rate of documented successful outcomes); an officially set state standard for the performance measure under inspection; the statewide or regional average; the average achieved by *peer entities*;<sup>19</sup> and the values achieved by the service provider’s *nearest competitor(s)*.<sup>20</sup>

- *Baselining*

Baselining consists of comparing results achieved by a set of program exiters to some point of reference internal to the service provider’s organization. Baselines can be theoretic targets such as a service provider’s expressed goal for a program year or its long-range objective. A baseline also might consist of the performance of prior exit cohorts from the same program (e.g., one, three or five years ago and/or running averages computed for the last three to five years).

Some evaluation researchers feel that baselining is more reasonable and meaningful than benchmarking. They contend, as does M.T. Greenway, that, “Even seemingly similar programs have meaningful differences in mission, target service populations, geographic jurisdictions, staffing levels, funding levels, etc. that must be considered when assessing effectiveness. . . In judging outcomes, the best comparison for a program is itself: Is the program improving? Is it learning from earlier findings, making adjustments, and achieving better results?”<sup>21</sup>

Other evaluation researchers agree but for a more pragmatic reason. Like Alexander Astin, they assert that benchmarking invites invidious comparisons and unnecessary conflict. That was the case in the days when institutional reputations and resources were the primary measures of program quality.<sup>22</sup> Comparisons between service providers put reputations and access to

resources on the line and created a zero-sum game. Gains by one service provider came as the result of proportionate losses of prestige and/or resources by others. On the other hand, under a value-added approach fostered by baselining (rather than benchmarking), each service provider can find its market niche -- cooperating with and learning from the best practices of peer institutions in an integrated and better articulated system.

- *Adjusting the data*

Any program's performance may be affected by factors beyond its administrators' control. Gross outcomes of education and training programs, for example, may depend as much on the antecedent characteristics of its customers as on the services they are provided.<sup>23</sup> In fact, the Job Training Partnership Act explicitly calls for the Secretary of Labor in collaboration with the states to devise a model for adjusting performance standards for each SDA.<sup>24</sup>

One common adjustment technique is to compute an expected value for each performance measure for meaningful comparisons to actual performance. This technique uses residual gain scores -- scores regressed on one or more input variables (e.g., demographics of the mix of customers served) and/or exogenous variables (e.g., labor market conditions). Such adjustments allow users to examine deviations from expected values rather than raw outcomes data.

Economists, for example, commonly make adjustments by converting raw financial or income data into *constant dollars*. They do so to take into account differences in the cost of living from one area to another and the impact of inflation or deflation over time.

JTPA administrators and postsecondary institutional researchers often use linear regression to assign different weights to inputs and exogenous variables in order to make more meaningful and fairer comparisons. The primary utility of regression-based adjustment models is that they partition the total variance in actual outcomes achieved in order to estimate the relative influence of each independent variable.<sup>25</sup>

The layout on the next page suggests ways to organize presentations of follow-up data to invite meaningful and fair comparisons. If possible, use a three-dimensional spreadsheet program to help depict outcomes data. Array performance indicators gathered by the central follow-up entity along the vertical axis. (For illustrative purposes, only a handful of performance indicators used in Texas are included in the sample layout.) Benchmarks, actual performance, and baseline figures can be arrayed along the horizontal axis. (Note that specific items provided in this illustration are intended to suggest a helpful presentation mode; they do not necessarily exhaust all possible ways of giving users a frame of reference.)

*Common Points of Reference.* Some benchmarks can be used in common for all service providers or programs in a particular genre. "Best Practice" and "State Average" can be derived from raw follow-up data. If the state has set a standard for any particular measure, it can be entered manually for the row in the column under the "State Standard" caption.

### Sample Layout for Establishing a Frame of Reference

Adjustment Factors												
Customer Mix (Input Factors)					Economic Conditions of Labor Market			Time-Series Factors				
Percentage Educationally Disadvantaged		Percentage Economically Disadvantaged			Unemployment Rate (relative to state unemployment rate)	Average Regional <i>Per Capita</i> Income	Cost of Living	Inflation Rate (constant dollars)		Comment Line (annotations on significant/explanatory policy changes or high impact events)		
Performance Indicator	External Points of Reference (Benchmarking)					Actual Performance	Internal Points of Reference (Baselining)					Expected Value
	Best Practice	State Standard	State Avg.	Peer Avg.	Closest Competitor		This Year's Goal	Long-Range	1 Year Ago	5 Yrs Ago	5 Yr. Avg.	
Post-Exit Employment												
Training-Relatedness (TR) Rate												
Post-Exit Earnings * all working * Full-Timers * T-R F-Ts												
Earnings Gains * pre-post * at Nth wave												
Higher Ed. Transfer Rate												
Etc.												

*Service Provider or Program-Specific Points of Reference.* Some benchmarks and all baseline figures will be different from one service provider or program to the next. Benchmarks for “Peer Average” and “Nearest Competitor” are derived from follow-up data filtered through lookup tables defining *peer* and *nearest competitor* respectively. A program’s goals for the current year and its long-term objective must be entered manually based on information supplied by each service provider. A program’s prior performance for specific referent years and/ or a rolling average can be derived from archived follow-up data -- assuming that the lead agency has been in operation long enough to have data going back as far as the referent year. (For illustrative purposes, the layout includes a column for five year old data and a five year rolling average. Other timeframes may be considered more meaningful by stakeholders in other states. The point is to secure consensus from stakeholders on appropriate timeframes for data comparison purposes during the environmental scanning process.)

In the sample layout, adjustment factors are arrayed in the background. (In a three dimensional spreadsheet, they are placed on a second screen.) Any given adjustment factor might not apply to all performance indicators. Cost of living and inflation/deflation information can be obtained from such sources as the Department of Commerce or the Bureau of Labor Statistics and should be factored into longitudinal earnings data (e.g., in computing “pre-service to post-exit earnings gains” based on constant dollars). Labor market specific *per capita* income, prevailing earnings information, and unemployment rates can be obtained from each state’s Census Data Center and/or the Research and Analysis unit of the state’s employment security agency. Relevant data about the mix of customers served (e.g., percent *economically* or *educationally disadvantaged*) probably can be extracted from partner agencies’ management information systems on a service provider-by-service provider or program-by-program basis. In the absence of desired data elements, proxy variables often can be devised. For example, to adjust for differences in the kinds of customers served by public and private postsecondary institutions, look at average ACT or SAT scores of their respective in-coming cohorts. (Again, the particular variables arrayed in this sample presentation layout are meant to be suggestive rather than definitive or exhaustive.)

Once consensus is reached on relevant adjustment factors and calculation techniques, they can be applied appropriately in the background (and preserved for documentation purposes) with results brought forward to the primary display area (i.e., the front layer of the presentation layout) as automated entries into the column marked “Expected Value.” Space is allotted for comments in the background layer. This space can be used to annotate significant events or policy changes that will be particularly useful in explaining why a program’s performance on any given indicator varied from one year to the next. For example, the 1992 amendments require JTPA programs to focus more on the *hardest-to-serve* and in 1997 states implemented Work First welfare reform under the Personal Responsibility and Work Opportunity Reconciliation Act of 1996.

### ***Don’t overwhelm the prospective user***

More data are not always good. Trying to fathom too much at one time can be overwhelming and debilitating. Avoid what Judith Hackman calls “cognitive overload.”<sup>26</sup> Focus on presen-

ting decision-critical information. Simplify information whenever possible. Provide executive summaries that cut to the chase. When determining how much information to deliver to stakeholders, remember that a follow-up entity doesn't have a monopoly on supplying information to stakeholders. Users will receive information from a vast array of other parties. A user's saturation point or cognitive overload threshold will be determined by the total volume of information received, not just on the basis of the volume supplied by the follow-up entity alone.

Having vested time and effort in collecting and analyzing outcomes data, staff may believe that every piece of follow-up information ought to be considered decision-critical by every stakeholder. At some point, strategic choices must be made regarding the amount of detail necessary for informed decision-making versus overload. Ultimately, a lead agency must have sufficient confidence in its own reputation. It must trust that when stakeholders want more detail they will turn to follow-up staff as professionals whose analytic skills and substantive knowledge are respected and valued.

There is tremendous value in letting stakeholders discover details through their own analysis of follow-up data. In addition to providing aggregate data displays and summary reports, a follow-up entity may want to facilitate discovery by providing stakeholders with: 1) data files -- within the parameters of all applicable data exchange agreements; 2) technical assistance in analyzing data for themselves; and 3) help in making reverse linkages between enhanced output files and data items from their own management information systems that were not part of the original seed records.<sup>27</sup>

To reduce the risk of stakeholder overload, consider using factor analysis to determine how several closely related performance measures might be combined into a smaller number of indices. One institutional researcher put it this way, "Even if there were independently useful information in each of fifteen tests, which is unlikely, the decision-maker will not be able to take advantage of this information in the raw."<sup>28</sup> Graph and data maps derived from geographical information systems (GIS) also reduce complex and voluminous data to manageable proportions.<sup>29</sup>

### ***Keep the end-user's psychology in mind***

It is a follow-up entity's obligation to make its data as understandable as possible. That means staff must keep certain fundamentals of human psychology in mind. For example, users are apt to construe higher values on measures as signs of positive performance or performance improvement over time. However, given the way they are stored in public administration databases for purposes other than follow-up, some decision-critical elements initially may be gathered as negative constructs -- such as the unemployment rate or the amount of public assistance received by subjects exiting JOBS and Food Stamp E&T programs. High numbers on these measures are not good. In such instances, a lead agency should use inverse constructs to translate raw data into their positive complements.

In Texas, the follow-up entity subtracts the amount of “*post-exit public assistance received*” from “*pre-service public assistance received*” to establish an easily interpreted performance measure. Presumably, if welfare-to-work programs succeed, pre-service amounts should be the larger of the two figures and the result of the computation above should be a positive number. When the computation is done for all subjects and averaged for a welfare-to-work follow-up cohort, higher numbers can then be construed positively as an indicator of *decreased welfare dependency*.<sup>30</sup>

Conversely, when computing *earnings gains*, the Texas follow-up entity subtracts “*average pre-service quarterly earnings*” from “*average post-exit quarterly earnings*” to produce what should be positive numbers. That way, increases in the performance indicator from one year to the next may be construed as signifying program improvement.

Drop-out rates are another example. While a particular intervention may be designed to reduce early exits, higher numbers on a drop-out measure from one year to the next means a program is going in the wrong direction. To construct a positive measure, one can subtract the drop-out rate from 100%. The result can be called the “*persistence rate*.” Higher rates of persistence from one year to the next can then be construed more easily as indicating program improvement.

It also is helpful to keep in mind that most people reason by analogy. Whenever possible, relate complex or sophisticated performance indicators to concepts stakeholders already understand. For example, the Department of Labor is using a business model to explain its recommended performance indicators to the employers it hopes will use the Employment Service (ES) to fill more and a wider range of their job openings. Most businesspeople understand how the inverse of *product return rate* can be an indicator of customer satisfaction. Therefore, it is relatively simple to help the employer community reason by analogy to understand why one would measure effectiveness of the ES by looking at average length of employment retention among job-seekers placed through its referrals.

Stakeholders may have short attention spans. To hold their attention, presentations should be as engaging and interesting as possible. Tufte, for example, offers a wide range of suggestions for using graphics to bring data to life.<sup>31</sup> Color and white space can be used effectively to hold a user’s attention; so will motion. The central follow-up entity in Texas makes extensive use of automated slideshows when asked to present its outcomes data in person to stakeholders. Some have called this technique “datamation,” in the sense that it animates information.

***Top Ten Reasons Why No One Listens to Researchers (Reason # 8)***  
***There are no pictures or cartoons in research literature.***

### ***Sequence the presentation of information from broad to detailed in order to emphasize patterns***

It may be necessary to release information piecemeal; i.e., to spoon-feed it at a pace and in a sequence dictated by each separate stage of a stakeholding group's decision-making processes. According to Peter Ewell, "Many decisions, especially group decisions, are not made all at once. Rather, they are the product of several discussion iterations, each of which may require additional information."<sup>32</sup> Decision-making usually follows a logical sequence: Is there a problem? How bad is it? Where is it located? How do we get a handle on it? Where might we turn for solutions? Each phase of the process may require a different kind of information. Providing the wrong kind of information at the wrong stage of deliberation may be as confusing to decision-makers as providing too much information or information that is too complex for them to digest. Typically, the logical sequence of information delivery should be from broad to detailed.

Ewell suggests the optimal pace of information release will vary according to the make up of the deliberative body. "As the size and diversity of the group increases, the number of iterations required to reach consensus increases."<sup>33</sup>

If permissible, it is wise to have follow-up staff on hand as a stakeholding group's policy discussion unfolds. Follow-up staff can anticipate stakeholders' next information requests. Better yet, staff can be proactive in suggesting the next piece of information that should be considered in logical sequence. Ideally, a staff member should be present on-site with the stakeholding group's performance data stored on a laptop computer along with appropriate software to facilitate *ad hoc* queries and statistical analysis. This is more a question of protocol and direct access to decision-makers or manpower and scheduling than it is a matter of data presentation formats.

### ***Strive for believability***

While it is generally advisable to keep presentations short and simple, follow-up staff will have to exercise good judgment in determining when to build users' confidence by providing them several, closely-related performance indicators. During the environmental scanning process, the follow-up entity should have made stakeholders aware of the *Fallacy of the Single Indicator* and, conversely, with the utility of multiple indicators.<sup>34</sup> In empirical research, multiple indicators increase confidence in one's findings by establishing convergent validity as users arrive at sound conclusions *via* logical triangulation. For example, even if a single measure is unambiguous, stakeholders may be reluctant to believe unflattering findings. However, two or more closely related measures that point in the same direction may be used to bring closure to an issue. An inference drawn from one measure can be reinforced by congruent inferences drawn from parallel measures.

Establishing believability also involves knowing when to use anecdotal information appropriately. As Timothy Bartik writes, "Anecdotal information, particularly for the statistically unsophisticated, may have heuristic value. In certain instances, a few good anecdotes might be as politically relevant as quantitative data."<sup>35</sup> Anecdotal information actually may help decision-makers visualize a problem (as opposed to assessing its order of magnitude, location or possible solutions).

Our suggestion regarding the *judicious* use of anecdotal information is not necessarily inconsistent with our general preference for empirical evidence over anecdotal information. There is a difference between *judicious* use of anecdotal information to illustrate a point supported by empirical evidence as opposed to *cavalier* use of anecdotal evidence as proof in the absence of hard data. Anecdotal information can be used appropriately under specific conditions: 1) Do all the data analysis first, then illustrate statistically significant findings with anecdotal information. 2) Let data -- rather than self-interest, foregone conclusions and personal or political agendas -- determine which anecdotes have heuristic or educational value. 3) Make hard data preeminent; relegate anecdotal information to a secondary or supplementary position. 4) Never rely exclusively on anecdotal evidence.

### ***Know when to quit***

Avoid what Glynton Smith calls the “paralysis of analysis.”<sup>36</sup> Ultimately, data don’t make decisions, people do. Some people, however, when reluctant to make hard decisions, will call for more data or more detailed analysis as a delaying tactic. (This tactic is discussed below under the heading “Misuses of Follow-Up Data.”) Follow-up staff must fully appreciate the limitations of outcomes data and should be empowered to respond appropriately to requests that exceed those limits. In particular, decision-makers -- in trying to pinpoint the location of a problem more precisely -- may ask that data be disaggregated to the point where cell entries are either too small to yield statistically sound inferences or are so small that they expose individually-identifiable information.

***There will come a time when follow-up staff should just say “no” to data junkies.***

### **Special Uses of Follow-Up Data**

Three particular uses deserve special attention because they illustrate both the advantages and limitations of follow-up data. Special issues have been raised by various stakeholders in conjunction with using follow-up data in JTPA performance-based contracting, consumer reporting, and *ad hoc* studies.

#### ***Performance-based contracting in the JTPA system***

##### *1) Procurement Issues*

PICs or LWFDBs enter into contracts with educational institutions, community-based organizations and individual employers to provide classroom or on-the-job training (OJT) to JTPA participants. Frequently, such contracts are performance-based. A portion of contract dollars is held back until the provider verifies that agreed-upon performance outcomes have been achieved by the participants they served. Performance-based contracting makes sense for JTPA program administrators. They are held to performance standards by a state’s JTPA grant recipient. In order

to achieve their targets, they are totally dependent on the performance of service providers. While they are bound by state and federal rules to procure services through a competitive process, they are not necessarily obligated to contract with the lowest bidder. Other factors may be taken into account. For example, information about a service provider's prior performance can be used as *prima facie* evidence that a vendor bidding to provide education and training services can meet future performance-based contractual obligations.

If follow-up data are to be used at the local level in evaluating competitive bids, the playing field must be level. Until recently, the playing field in Texas was not level. Public community and technical colleges participated in the automated follow-up system. Proprietary trade and technical schools did not. Data on the performance of programs of study offered by community and technical colleges were gathered through a rigorous process by the independent central follow-up entity and included information about results achieved by students who exited without earning a credential. Proprietary schools, on the other hand, provided data they collected on their own from small (and not necessarily representative) numbers of their graduates who self-reported outcomes they had achieved. Proprietary schools did not gather follow-up information on program leavers. Meanwhile, community-based organizations seldom did any follow-up whatsoever on their former students. Under such conditions, fair and meaningful comparisons could not be made by JTPA procurement and contracts officers. This dramatically drove home a key point: entities bidding to provide education and training services to JTPA customers should be brought into a state's follow-up system on an equal footing.

Leveling the playing field for existing education and training providers will not resolve all related procurement issues. For example: How can a new program compete in the procurement process on an equal footing if it has yet to have an exit cohort whose outcomes can be documented? How can entities that don't participate in the follow-up system document their performance capabilities to the satisfaction of procurement and contract officers? Will reliance on performance data from the central follow-up entity have a chilling effect on the willingness of education and training providers to experiment with innovative programs? Will it tempt JTPA administrators to ignore emerging fields with unknown opportunities for employment at high wages and to focus on education and training related to traditional occupations?

These strategic and operational planning issues are beyond a central follow-up entity's scope and authority. Nonetheless, the lead agency can be of help in some instances. For example, where a vendor bids to provide education and training in a field not previously offered, a follow-up entity may be able to provide some empirical data to help procurement and contract officers sort out competitors' performance claims and promises. A bidder's overall performance across all previously offered programs of study might be used as a proxy until data are available on outcomes achieved by exiters of the newly offered program. If the curriculum for a new field of study has been delivered elsewhere (to a comparable mix of students under comparable labor market conditions), performance data on the comparable program could be used as a proxy until data are available on the outcomes achieved by exiters of the new program. Ultimately, however, such issues must be resolved through policy decisions either by a state's JTPA grant recipient or by individual

PICs/LWFDBs. All parties should keep in mind that prior performance histories -- just like lowest bids -- are not the only factors to consider in procuring performance-based contracts.

## 2) *Payment Issues*

Consider a vendor that entered into a performance-based contract and delivered education and training services to JTPA participants. Typically, books will be closed on a performance-based contract within thirty to ninety days after the end of a program year or contract period. Vendors will expect to be paid any *hold-back* or *performance-contingent* contract dollars. What data count as proof that a vendor met contractually-specified performance objectives? Participant outcomes data probably will not be available from the follow-up entity in time to settle accounts between SDAs/LWFDBs and their service providers. Payments probably will have to be made on the basis of case management notes, management information system entries, and/or vendor-supplied documentation. Output variables may be used to demonstrate satisfactory performance in the absence of outcome variables. Under these circumstances, outcomes data provided by a follow-up entity might be used to document a contractor's non-performance if program monitors or auditors subsequently seek to recover disallowed costs. In addition, outcomes data can be used to keep subsequent waves of clients from entering the same program if labor market results decline over time.

## *Consumer Reports*

The same set of outcomes data for any given exit cohort can be used for both *formative* and *summative* purposes. The distinction is important. *Formative* uses of performance data involve diagnosing problems in on-going efforts to improve programs. *Formative* evaluations typically are provided to decision-makers responsible for program planning and implementation. *Summative* evaluations are best used in consumer reports where “the potential consumer has no hand in developing the product and has only a very indirect part to play in any possible future change in the product.”<sup>37</sup>

Reports released to the general public commonly are summative in nature. While citizens who read follow-up reports may not have a direct hand in designing and implementing employment and training programs, they have a vital stake in their performance. As taxpayers, they have a right to know what happened as a result of programs funded with their dollars. As prospective customers of publicly-funded employment and training programs they have a right to make informed choices and form reasonable expectations based on results achieved by those who received comparable services in the past. In summative evaluation, programs are taken as given and information is provided to persons on the outside to determine if they want to participate or continue investing in them.

The difference between formative and summative uses of follow-up information is important to a state's lead agency because it serves to distinguish two primary types of customers -- each with distinctive information needs:

Planners, managers and service providers who use follow-up data for diagnostic purposes and to drive program improvement need more detailed and sophisticated analyses. They are more likely to have sufficient resources and the expertise to do some sophisticated analysis for themselves. They also are more likely to have ready access to other sources of information. They are apt to have an intuitive grasp of the differences between competing sets of data and the relative information-value of each. They probably have greater capacity to understand and appreciate the reliability and validity of the inferences they draw for themselves. They also may appreciate the need to act quickly to head off problems before they grow worse. Thus, they may want to be informed even before data-based inferences reach a point of statistical significance or they may be willing to act on the basis of less robust tests of statistical significance. For example, while insisting that no inferences where  $p < .01$  be reported to the general public, stakeholders may want to be told through confidential interim reports about inferences where  $p < .05$ .)

An average citizen or prospective customer probably will have a greater need for clear and simple explanations of data collection methods and data limitations -- as well as advice on how to use follow-up data in making personal choices. They will not have as great a need for detailed analyses. They probably are less likely even to be aware that performance information is available. They also are apt to make decisions about their employment and training needs at any time during the calendar year rather than during relatively fixed windows in a planning cycle or program year.

Having two distinct sets of customers, in turn, will compel follow-up entities to slice, dice, document, explain and deliver outcomes data in two different ways. Many of the factors that determine how effectively planners, managers and service providers will use follow-up information for *formative* purposes also will determine how effectively taxpayers and prospective customers use the same data for *summative* purposes.

Equal care must be taken in:

- establishing and safeguarding the follow-up entity's reputation in their eyes;
- assessing their unique needs for and capacity to understand follow-up data;
- judiciously eliminating information that is extraneous to their individual decision-making; and
- purposefully packaging information in captivating ways without overloading their cognitive capacities.

In packaging and delivering outcomes information to the general public and prospective customers, extra attention must be devoted to several key factors.

The lead agency must understand that it has no authority to force individuals to use follow-up data to guide their personal choices. Tone and frame of reference, therefore, are critical. Follow-up information must be presented to citizens in the context of personal choice with all due respect to the autonomy or sovereignty of the individual.

Channels of communication are especially critical. Dealing with a large number of taxpayers and prospective customers is not the same as dealing with a fixed number of partner agencies and service providers. It will be impossible to include all interested citizens when disseminating reports or delivering data -- much less visit each in person as they make individual choices. A central follow-up entity will have to find ways to make outcomes-based performance information universally accessible.<sup>38</sup> The lead agency also will have to find ways to publicize the availability of follow-up information if it expects the general public and potential customers of the employment and training system to use it. Information must be presented in ways that will capture their attention because other organizations -- particularly service providers competing for their education and training dollars -- also will bombard prospective customers with information in slick, glossy and engaging formats.

### *Ad hoc studies*

From time to time, a central follow-up entity may be asked to conduct or participate in *ad hoc* studies. By “*ad hoc* studies” we mean those that are not part of a lead agency’s standard reporting or data delivery obligations. Special studies should be handled separately from the lead agency’s annual contract or biennial interagency agreement.<sup>39</sup>

A separate statement of work (SOW) should spell out all deliverables and a delivery timetable. In particular, it should denote the limits of the follow-up entity’s obligations: Will the lead agency’s role be limited to data collection? Is the lead agency responsible for all or only some data elements? If the objectives of a special study can’t be achieved by analyzing data already in the central entity’s repertoire, the SOW should specify what other data must be collected and who is responsible for collecting them. Will the lead agency do the actual data analysis or hand off its data to some other party? Will the follow-up entity have control over the research design and determine what hypotheses it will test? Will the lead agency be responsible for going beyond data analysis to recommend policy or programmatic changes?

If the supplemental statement of work requires the central follow-up entity to gather additional data elements or to pool its data with information possessed by other parties to a study, data exchange agreements should be written or amended as necessary to stipulate all parties’ new obligations and responsibilities.

A separate budget should be established to cover all costs of conducting or participating in any special study. *Ad hoc* studies often cost far more than anticipated because they usually are prompted by contentious political debates where stakes are high. Compared to issuing standard reports where elements, analyses and presentation formats can be predetermined by consensus through dispassionate discussion, every aspect of a special study may be hotly debated -- especially its deliverables. The lead agency may be asked to explain its methods and defend its findings repeatedly. While the urgency of an issue may lead to demands for information delivery on a very short timetable, ensuing debates over findings often are more protracted than originally anticipated. All parties to the debate probably will expect key follow-up staff to be on hand for the duration.

To bring closure to a heated debate, the lead agency may be asked to reanalyze its data in ways not anticipated from the outset. Where total costs are impossible to forecast, it may be necessary for the lead agency to insist on an *open-ended/cost-recovery* contract.

The budget narrative or contract language ought to spell out who is paying for the study, what interest that party has in the findings, and what procedures or protections will be put in place to ensure that the follow-up entity can operate at arms length. To safeguard its reputation, a follow-up entity must remain neutral and detached from the self-interest of other parties to any debate. That may be especially difficult when an organization funding a special study has a fiscal interest in the results. If a detached and neutral role can't be carved out and protected, it may be necessary for a follow-up entity to decline invitations to conduct special studies. Preserving the reputation it needs in order to fulfill its larger mission will be more important to a follow-up entity than any revenues it can generate by doing *ad hoc* studies.

Because special studies tend to be highly politicized, follow-up entities should limit themselves to narrow roles. They can help parties reach agreement on a research design that specifies what data are pertinent, how data elements will be operationally defined, and what would constitute *critical tests* of relevant hypotheses. The lead agency probably will be in a position to provide some decision-critical data elements and to help other parties determine how remaining decision-critical data might be obtained in the most cost-effective fashion.

The table on the next page illustrates how a follow-up entity can provide valuable services without getting embroiled in political controversy. A perennial debate commonly encountered involves competition between two-year and four-year institutions to fill demands for Registered Nurses. In many states, both associate degree earners and those holding a Bachelors of Nursing Science (BSN) can take the licensure examination. Two-year institutions assert that they turn out qualified nurses more efficiently. Four year institutions contend that BSNs are better prepared to handle the full range of duties and tasks performed by Registered Nurses. Since the demand for nurses is high and available sites for requisite practicum training are at a premium, competition for nursing education dollars tends to be a high stakes, zero-sum game.

Several stakeholders involved in this debate probably are already partners with each state's lead agency: two-year and four-year postsecondary institutions, the state's higher education coordinating board, intermediaries that help eligible persons pay for nursing education (such as the JTPA system), and major employers in the health care industry -- not to mention the taxpayers and prospective students. One or more stakeholding groups may ask the follow-up entity to conduct an *ad hoc* study to help resolve the issue. One or more of the stakeholding groups may implicitly or explicitly expect the follow-up entity to take sides before data are collected. The sample guide to a hypothetical study (below) serves as a framework to help follow-up entities think about their opportunities to be of service *vis a vis* the potential pitfalls of involvement.

**Sample Guide to Format a Hypothetical Study:  
Comparing Associate-Degree and Bachelor of Science Nursing Programs**

Type of Variable	Performance Indicator	Associate-Degree Nurses	BSN-Degree Nurses
Input or Process Variables	Selectivity of admissions, for example: % of applicants accepted average in-coming ACT/SAT scores		
	Average time to completion		
	Average total tuition and fees		
	Opportunity Costs (OC) Year 1 Year 2 ... Year N Sum of OC for Y <sub>1</sub> through Y <sub>N</sub> (where N = avg. yrs. to program completion)	Assuming that the student could have worked full-time at minimum wage, OC = ((actual annual earnings while going to school) minus (52 weeks X 40 hrs./week X minimum wage))	
Outputs	Graduation rate at 100% catalog-specified time at 150% catalog-specified time		
	R.N. licensure test passage rate	???	???
	Average student indebtedness at end of program	???	???
	Average rating of program by exiting students		
Outcomes	Post-exit employment rate		
	Training-related placement rate		
	Post-exit earnings at graduation + 1 year at graduation + 2 years ... at graduation + N years Sum of earnings over N years		
	Ratio of average annual earnings to average total tuition and fees paid average total student indebtedness	???	???
	Earnings gains (between waves 1 and N)		
	Employment retention rate (between 1st year and Nth year longitudinal wave)		
	Continued pursuit of higher education (% seeking more advanced degree thru Nth wave)		
	Qualitative	Average employer rating of applicants hired from program	

A lead agency can help stakeholders think about the kinds of data that would be pertinent without stepping on toes. Discussions (per column 1) about what constitutes inputs, processes, outputs and outcomes can be conducted dispassionately on a theoretic basis. Measuring program quality is a touchier subject. A follow-up entity might be on safe ground if it helps interested parties operationally define “quality” in terms that can be quantified and in helping them think through a process for developing appropriate proxy measures.

Discussion will become more contentious as it moves to the issue of choosing specific performance indicators (column 2). While leaving the choice of performance indicators and measurement timeframes to stakeholders, follow-up staff can be of assistance by helping them with operational definitions once specific data elements have been chosen. In particular, having explored its partners’ management information systems as part of its environmental scan, a central follow-up entity probably can tell stakeholders if requested data elements or suitable proxies already exist and where. A lead agency also can estimate the cost of and barriers to gathering the remaining data elements.

Grey shaded cells in the two leftmost columns indicate data that probably are already available from community colleges and universities and/or by the state’s higher education coordinating board’s MIS. Unshaded cells represent data items or calculations a follow-up entity can supply -- provided that it protects itself by securing agreement in advance to underlying assumptions (as in notations regarding calculations of *opportunity costs*). Question marks in several cells indicate data that a lead agency probably could access but which might necessitate new data exchange agreements and additional expenditures. Cross-hatched cells represent data the lead agency might be able to obtain if sufficient funds are made available. A follow-up entity is advised to venture into the cross-hatched areas *if and only if* all other parties to a special study agree in advance to proposed operational definitions and empirical data collection methods.

*The follow-up entity probably should avoid any involvement in determining what weight to assign to any given measure as stakeholders use these data to guide their decision. Assigning weights is the precursor to setting priorities -- a function that should remain solely in the hands of those who are funding the study.*

## **Misuse of Follow-Up Data and Findings**

Any set of data or research finding can be misused. By “misuse” we mean intentional acts rather than errors in data collection, shoddy analysis or inadequate presentation. This view squares with one widely accepted within the research community as articulated by Dial and Stevens in Preventing the Misuse of Evaluation: “Problems surrounding misuse are usually not methodological issues. Instead, misuse is an issue of human relations and often of political pressure. . . Misuse occurs when one alters the process or the findings to promote self-interests.”<sup>40</sup> Misuses include sins of omission as well as sins of commission. Suppression of unflattering findings is just as inappropriate as intentional misrepresentation of data.

Unfortunately, misuse probably occurs more often than we think. Before any research organization can figure out how to prevent misuse of its data or findings, it must understand the following: Why does it happen? Who is likely to misuse follow-up data and findings? What forms does misuse commonly take?

### ***Why does it happen?***

Data and findings may be misused inadvertently through ignorance or incompetence. That sort of misuse lies outside the strict definition above because of the lack of intent. Inadvertent misuse or incompetent uses may be cured through technical assistance.

Intentional misuse may occur -- particularly in the form of willful omission -- because some program administrators or service providers simply resent all forms of external accountability. Misuse is most likely when a program has difficulty showing that it achieved its goals and objectives or that its actions had a positive impact on targeted populations.

### ***Who is likely to misuse follow-up data and findings?***

Anyone who touches data or receives reports on a follow-up entity's findings is in a position to misuse them. The higher the stakes, the greater the potential for misuse. The greater an individual's or organization's direct interest in consequences stemming from the use of follow-up information, the greater the temptation. In descending order, the following parties may be tempted to misuse follow-up information.

#### ***Follow-up staff***

Individuals on staff may have personal agendas. They bring biases, preferences and professional loyalties with them -- especially if they were recruited from the ranks of organizations whose programs are being studied. They also may be tempted to structure data in a way that makes results look favorable for a key partner whose support is essential to continued funding. Such organizationally self-serving efforts can be a deadly trap. However, of all possible sources of misuse, staff misuse should be the easiest to cure through careful recruitment, resocialization of new staff to the ethos of follow-up, rigorous training and professional development, frequent reminders about the need to establish and preserve the lead agency's reputation, and periodic reviews of their individual job performance.

#### ***Program planners and administrators***

Employment and training agency staff naturally want to see their programs perpetuated because they are committed to serving their customers and to their own continued employment. Recent federal reforms and audit activities (and parallel activities at the state level) have made publicly-funded programs more accountable for results and, concurrently, forced them to compete with each other for resources. (Competition may become more fierce as resources decline relative

to the eligible service population.) In some programs (e.g., JTPA), bonus and incentive dollars are tied to outcomes-based performance ratings.

In the short run, the temptation may be strong to cook the numbers in order to make performance indicators look better -- especially if performance indicators are calculated in-house. Where some external entity calculates performance ratings, the short run temptation might be to engage in *gaming behavior*. In rare instances, conflicts of interest also may tempt program personnel to manipulate performance measures on behalf of service providers with whom they are too closely tied.

In the long run, commitments to their customers and to their calling tend to drive professionals toward continuous program improvement. Temptations for program staff to misuse performance data are reduced to the extent that: 1) performance ratings are calculated by an independent, external body; 2) data entered into management information systems are subject to audit and verification; 3) any perverse incentives for *gaming behavior* inherent in any single performance indicator are off-set by a multiple indicator approach; and 4) rules regarding conflict of interest are tightened and rigorously enforced.

### *Service providers*

Service providers face temptations similar to those facing program personnel. In the long run, they should be motivated by commitments to their customers and to their professional calling to use follow-up information appropriately for the sake of continuous program improvement. So, too, are their actions coming under closer scrutiny by program auditors and monitors.

Temptations to misuse follow-up data and findings may be harder to resist at the service-delivery level. At least program administrators have the option of changing service providers and deal at arm's length from persons affected when one vendor is replaced by another. On the other hand, performance indicators may directly affect the likelihood of success a service provider will have when bidding for contracts in subsequent years. Where employment and training referrals or contracted services to public entities constitute a major portion of a provider's business, performance indicators can have a direct impact on the livelihood of specific, non-anonymous staff members.

Service providers literally labor in the trenches. They're the ones who must figure out ways to improve services. It is far more difficult to actually improve programs in the field than to sit in a follow-up or agency office making pronouncements when data indicate a particular service provider did not meet its goals and objectives. Program improvement where the rubber meets the road may necessitate changing service strategies and substantive content of instructional programs. It may require deactivating programs that haven't worked and reassigning or dismissing ineffective staff. To a service provider, existing programs and current staff represent both fiscal and psychological sunk costs that are hard to abandon. Changing service strategies and/or the substantive content of interventions may be a provider's last resort.

Other ways of coping with unflattering performance data -- including misuse -- may afford service providers a line of least resistance. The graphic on the next page is adapted from guidelines established by a regional accrediting body to help postsecondary institutions address demands for accountability.<sup>41</sup> The box in the lower right corner is of particular interest. It appears to offer five ways to “improve” a program’s performance rating. Note that of the five approaches, only one involves changing program content, services, activities, or modes of delivery.

### *The media*

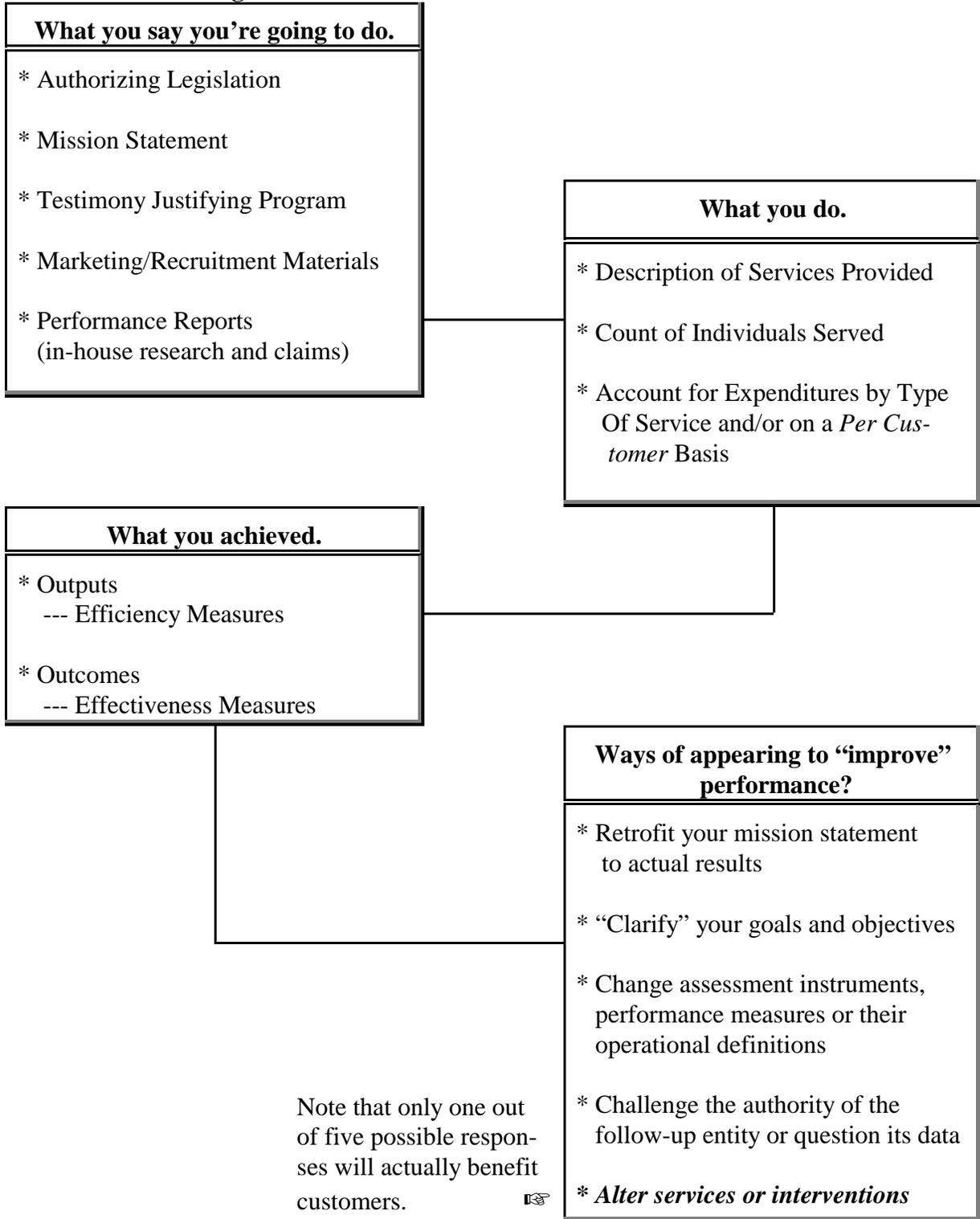
In the spirit of accountability and the public’s right-to-know, there is nothing wrong, *per se*, with the media reprinting summative aggregate reports by a follow-up entity. However, while performance data may be of utmost importance to program administrators, service providers and potential customers of the employment and training system, outcomes data are not particularly sensational. Information about programs that perform well may make it to the back pages of the metro section of a newspaper on slow news days. Performance information may be the topic of discussion once a year on a local PBS station or on public access cable television. Seldom will such information get prime time or front page coverage unless the news is bad. More headlines, column-inches and air-time are devoted to scandals and conflicts than to good news. Programs facing sanctions because of low performance are page one material.

Misuse, therefore, may occur when an excerpt is lifted from follow-up materials and reported out of context in a way that exaggerates or sensationalizes unflattering information. The follow-up entity is obligated to release aggregate, summative information to the media but it need not remain passive if materials are extracted and reported out of context. To preserve its reputation for integrity, a follow-up entity may need to be aggressive in demanding corrections when and if the media misuse its data.

Misuse can occur when the media publicizes information that was intended to be used for formative purposes only. *Formative* evaluations are done to shed light on a program, warts and all. Data often are presented in frank ways not so much to criticize current operations but to stimulate discussion of ideas for improving a program -- even ones that are performing at or above applicable standards. Given their desire to act before problems get out of hand, partner agencies and service providers may want to see *formative* evaluations before the results reach a robust level of statistical significance.

***While there is nothing wrong, per se, with the media reprinting summative information verbatim, a follow-up entity should be aggressive in demanding corrections if and when its materials are misquoted or are taken out of context. It also should take steps to protect its frank exchanges of formative materials with partner agencies and service providers. Above all, it must honor its data exchange agreements and protect the confidentiality of individually-identifiable information even where data pertain to a celebrity or a public official.***

## Getting Outcomes to Match Promised Levels of Performance



Taken out of context, materials intended for formative purposes could be misconstrued and sensationalized. Every follow-up entity probably will need to develop policies to differentiate between its *summative* and *formative* materials and to protect the latter more zealously against public release. To do otherwise may have a chilling effect. A follow-up entity and its partners may be forced to be more circumspect in their exchanges of *formative* information and, thus, eliminate the kind of frank and wide-ranging discussions that are essential to program improvement.

The media may want information about the education and employment backgrounds of celebrities and public officials. Quite apart from what the media would do with information about the employment and training of a famous person, any release of individually-identifiable information by a follow-up entity would be a form of misuse under the terms of its data exchange agreements. While persons in the public eye may have fewer privacy rights than an average citizen, a follow-up entity is no less obligated by its data exchange agreements to protect the confidentiality of data about them. Because a follow-up entity does not own the data it receives on loan from its partners, it probably can succeed in deflecting requests for individually-identifiable information issued under the Freedom of Information Act. The simplest thing to do is give the media the names of information release officers or legal counsel for the partner agency that originally transmitted sensitive information to the follow-up entity.

### *Competitors*

Potential for misuse is greatest where the stakes are highest. As employment and training dollars relative to eligible service populations decrease, competition among service providers is likely to increase. A service provider will be tempted to put a positive spin on its own data while trying to cast its competitors in a negative light. Again, a follow-up entity's obligation is to keep the playing field level. It should release information to the public in a fair and even-handed fashion. It should be both provider-neutral and venue-neutral. To keep the playing field level and to protect its own reputation for integrity, a follow-up entity may have to act aggressively to correct any misquotations or misuses of its data by service providers competing for scarce dollars or attempting to recruit customers from the same service-eligible populations.

### *What forms does misuse commonly take?*

Contributors to *Preventing the Misuse of Evaluation* (edited by Dial and Stevens) identified several forms of misuse. The list below should alert a follow-up entity and help it combat misuse.

#### *Misuse via the charge given to a follow-up entity*

Parties to a follow-up initiative may have ulterior motives. They may want to design follow-up operations from the start to support a foregone conclusion. They may engage in follow-up operations for appearance-sake knowing in advance they will ignore the results. Resenting the very idea of being held accountable externally, they may manipulate a follow-up entity into failure

by imposing an unrealistic timeframe or an unrealistic scope relative to resources. Such efforts can be combated by: a) housing follow-up in an independent entity; b) compelling partner agencies and service providers to arrive at a consensus about the follow-up mission in an open forum; and c) recruiting reputable professionals to serve on staff.

### *Misuse of process*

Misuse of process could come in the form of attempts to bias selection of cohorts to be studied. In studying performance of postsecondary institutions, for example, service providers will argue that outcomes data should be gathered only on their graduates. Meanwhile, advocates for taxpayers may argue that all completers and leavers should be followed so long as education and training providers spent public funds while serving them. (This kind of misuse of process may be exacerbated if resource limitations necessitate studying samples rather than entire exit cohort populations.)

Misuse can take the form of tinkering with the instrument by operationally defining performance measures to ensure a more favorable rating. For example, if “*percent of cohort working full-time in the target quarter*” is used as a performance measure, different results will be obtained if “*full-time*” is defined as “*forty or more hours per week*” versus “*thirty-eight*” or “*thirty-five hours per week*.” If survey research is involved (e.g., to get at customer satisfaction), service providers may attempt to bias results by coaching respondents.

Actions not of benefit to an intended service population (such as *creaming*) commonly are called “*gaming behavior*.” Gaming behavior would be considered a misuse of process. Performance measures are devised as incentives to get providers to improve services to their customers. If they are not carefully devised, performance measures may create perverse incentives for providers to “improve” performance through activities that do not necessarily benefit eligible service populations. For example, unless coupled with off-setting incentives to serve the most at-risk, performance measures based on labor market outcomes (e.g., “*entered employment rate*” and “*earnings at entered employment*”) may lead to *creaming* (i.e., concentrating on delivering services to those who are *most job-ready*).

Because follow-up processes are more technical than a lead agency’s mission statement and because procedural details are less likely to be hammered out in a public forum, misuse of process may be difficult to combat. The technical expertise, experience and professional integrity of follow-up staff may be the sole line of defense against misuse of process.

### *Misuse of findings*

Misuse of findings can range from flagrant to subtle. Flagrant misuse may consist of changing results to fit some individual’s personal agenda or an organization’s political agenda and fiscal interests. Misuse of finding could be slightly more subtle. *Spin control*, for example, consists of reporting unaltered data but attempting to alter their interpretation by exaggerating or

under-emphasizing their importance and/or introducing spurious factors to divert attention away from undesired inferences. Selective reporting of favorable data (unaltered) while suppressing unflattering data is an even more subtle form of misuse. Because it gives the appearance of being rational and deliberate, calling for additional data collection and analysis as a delaying tactic may be the most subtle form of misuse (if, in fact, data already on hand strongly support unambiguous inferences).

Misuse of findings may occur when an entity adopts a *best practice* despite the fact that its mission, service population or labor market conditions aren't analogous to those faced by a service provider from whom a best practice is copied. Hasty adoption of a best practice (as opposed to adapting a best practice to local conditions) may not work to the advantage of customers. Well-intentioned, hasty adoption usually can be curbed through technical assistance. If done for appearance-sake with knowing disregard for differing circumstances, hasty and inappropriate adoption of a *best practice* constitutes misuse.

The graphic on the next page arrays common reactions to follow-up information along two dimensions. The vertical axis differentiates between the acts of commission and acts of omission. The horizontal axis distinguishes abuse or misuse from appropriate use. Each example has already been discussed except for those in the lower right quadrant. Those examples deserve special mention.

There may be times when non-use (or *appropriate omission*) is a legitimate response to follow-up's data and findings:

- Discarding findings because the methodology was flawed.

Follow-up entities are not infallible. The hallmark of a mature follow-up organization is its willingness to admit any flaws or gaps in its methods. At the same time, a follow-up entity must be willing to experiment and innovate -- knowing full well that some of its experiments may fail. Hopefully, in its eagerness to serve, it will not rush into ill-conceived projects. Innovative techniques should be pilot-tested on a small scale. Results from test phases should be reviewed thoroughly before any new technique is adopted across the board.

- Calling for further study because the results were inconclusive or ambiguous.

Follow-up of employment and training programs involves complex, multi-causal situations. If statistically significant inferences can't be drawn from follow-up data, decision-makers legitimately can ignore them. In the absence of unambiguous findings, decisions based on the intuition of seasoned practitioners or on available anecdotal information can suffice in the interim while additional data are collected.

### Acts of Commission

<b>Abuse or Misuse</b>	<p>Releasing individually-identifiable or firm-specific data.</p> <p>Consciously distorting the data.</p> <p>Selectively perceiving the data to fit foregone conclusions/agendas.</p> <p>Rush to judgment; e.g. hasty adoption of best practice although the preconditions were not analogous.</p>	<p>Highlighting best practices for adoption and adaptation.</p> <p>Pin-pointing problem areas: order of magnitude, degree of progress or lack of progress, location, possible explanation.</p> <p>Setting a context for decisions (focus on what counts: depoliticizing via data dialogue).</p>	<b>Appropriate Use</b>
	<p>Calling for further study as a delaying tactic.</p> <p>Ignoring the data because they don't support preferred choices.</p> <p>Overt suppression of negative or unwanted findings.</p>	<p>Discarding findings because the methodology was flawed.</p> <p>Calling for further study because the results were inconclusive or ambiguous.</p> <p>Concluding that a current practice is the best response to an intractable problem.</p>	

### Acts of Omission

- When a project is the best response to an intransigent or intractable social problem.

In some cases, no best practice will ever emerge. Some interventions address complex and difficult problems in such ways that positive results may be delayed to a point beyond the timeframe in which data are collected. Just as stakeholders should be cautioned to avoid hasty adoption of unsuitable best practices, they also must guard against hasty termination of interventions whose benefits are delayed or long-term. Where all approaches fail to achieve publicly expressed desired results, delivery of services may have such symbolic importance to an eligible service population or to the conscience of the nation that an underlying program can't be abandoned. There may be a positive side to negative findings when dealing with intransigent problems; e.g., if data indicate that at least things aren't getting worse or a situation is not deteriorating faster than expected.

### ***How can misuse be prevented?***

Various recommendations for preventing misuse of data and findings have been offered throughout this chapter. Because this issue is so vitally important to the integrity and reputation of any follow-up entity, they bear repeating:

- **Make research ethics a top priority for follow-up staff.**

Recruit top caliber professionals. Secure their commitment to research ethics. Attend to their continuous professional development to keep their knowledge and skills at the leading edge. Make adherence to ethical standards a sizeable part of individual job-performance evaluations.

- **Guard against conflict of interest.**

Require full disclosure of stakeholding interests by all parties to any follow-up contract, interagency agreement, and statement of work for any *ad hoc* study. That includes follow-up staff, partner agencies and service providers. Make sure rules against conflict of interest are strictly enforced.

- **Secure commitments from all parties to use hard data to drive program improvement.**

Before collecting any data, bring interested parties to the table for a dispassionate discussion of the follow-up entity's purpose, methods and plans for release and use of outcomes-based performance information. Emphasize the lead agency's independence and detachment. Focus on program improvement as the follow-up entity's top priority then ask partner agencies and service providers to make the same commitment as the price of admission to receive follow-up services.

- **Avoid putting partner agencies and service providers on the defensive.**

While unflattering findings may be inescapable in some cases, a follow-up entity can spare partner agencies and service providers undue embarrassment by giving them early warnings. Avoid value-laden terms when describing program performance. Given advanced notice in descriptive, non-judgmental language, they are more apt to prepare a considered response rather than an emotional and combative one.

- **Be proactive.**

Provide technical assistance to help stakeholders make proper use of follow-up data and findings. Educate them to focus on performance and reinforce their commitments. Publicly recognize the successes of stakeholders who use follow-up data to drive program improvements.

- **Aggressively challenge misuses of follow-up data and findings.**

The reputation and, ultimately, the success of a follow-up entity depends on the integrity of its data and findings. Misuse by staff should be grounds for immediate dismissal. Misuse by parties outside the lead agency should be challenged and corrected publicly.

- **Disseminate research findings to the public.**

Within the parameters of all data exchange agreements, disseminate research findings to the general public and in particular to prospective customers of the employment and training system. Of all the methods, public disclosure is the best safeguard against misuse of the follow-up entity's data and findings by self-interested parties.

### **Concluding Remarks**

The co-authors wrote this *Guide* for use by a lead agency that is responsible for more than merely collecting outcomes data. For some readers, recommendations in this chapter may be overwhelming. However, unless someone is prepared to attend to this level of detail and care, data collected by a central follow-up entity will not be used. It is entirely possible that some states may assign only data collection duties to its central follow-up entity. Such an entity may hand off responsibilities for data analysis and dissemination of findings to partner agencies. Nonetheless, some entity, somewhere along the line, must attend to these functions; otherwise, resources spent on data collection will be wasted -- no matter how cost-effective and sophisticated the methods.

## ENDNOTES

- <sup>1</sup> Taken from the “*Top Ten Reasons Why No One Listens to Researchers*” list by Gary M<sup>c</sup>Lean, “*The Illusion of Knowledge*,” in *Human Resource Development Quarterly* vol. 8 #4 (Winter 1997) pp. 278-279. Throughout this chapter, other items from M<sup>c</sup>Lean’s “Top Ten List” are used for emphasis.
- <sup>2</sup> Peter Ewell “*Introduction*” in Peter Ewell (ed.) *Enhancing Information Use in Decision-Making* (San Francisco, CA: Jossey Bass Publishers, 1989).
- <sup>3</sup> In Texas, for example, staff initially were recruited from the Texas Higher Education Coordinating Board and the JTPA system. Those from the former confessed they had been conditioned by their prior professional socialization to believe that any failures on the part of post-secondary institutions were the result of students being ill-prepared by public K-12 education providers to do college level work. Those from the latter confess they saw institutions of higher education as reluctant to serve the hardest-to-serve in order to keep their performance ratings high. Both sets of preconceived notions have to be set aside in order for follow-up staff to serve the system as a whole in a detached and even-handed fashion.
- <sup>4</sup> Peter Ewell, “*Putting it All Together: Four Questions For Practitioners*” in Peter Ewell (1989) *op. cit.* p. 90.
- <sup>5</sup> Marie Colombo, Neva Neham and Phyllis Vroom, “*Confronting Ideology and Self-Interest: Avoiding Misuse of Evaluation*” in Micah Dial and Carla Stevens (eds.) *Preventing the Misuse of Evaluation* (San Francisco, CA: Jossey-Bass Publishers, Winter 1994) p. 49.
- <sup>6</sup> It is entirely possible that a performance-based program evaluation will be inconclusive; e.g., the program produced mixed results or none of the correlations exceeded levels of statistical significance. In other cases, analysis of follow-up data may produce strong evidence in support of an action that a decision-maker is not in any position to take. For example, there may be substantial evidence that the most at-risk/hardest-to-serve customers lack genuine capacity to benefit from any intervention a service provider is capable of offering. Such evidence might logically support a policy of *creaming* that would be politically untenable if not overtly prohibited. In still other cases, performance-based evaluations may show that results are most likely to correlate to factors beyond a service providers’ control. For example, during an economic downturn in a particular service region, labor market outcomes may fall below performance standards regardless of the type of customer served or type of intervention provided. Moreover, if all other programs offered in comparably depressed areas also fail, data may not indicate the existence of any *best practice* which administrators of subpar programs could adopt. In short, problems identified through analysis of performance outcomes data may be intractable -- defying any viable solution.

<sup>7</sup> To a large extent, follow-up entities will concentrate on promoting automated linkages as the most cost-effective data collection technique. At crunch time, decision-makers aren't particularly concerned with how much it cost to get performance data into their hands.

At decision time, they need to know that: 1) the data are valid and reliable; 2) the data-providing entity is reputable; and 3) its data collection methodology is defensible.

<sup>8</sup> John Dunn, Jr. "*Electronic Media and Information Sharing*" in Peter Ewell (1989) *op. cit.* 76.

<sup>9</sup> Peter Ewell, "*Introduction*" in Peter Ewell (1989) *op. cit.* pp. 11-13.

<sup>10</sup> Cheryl Bloom and Marilyn Jackson, "*Performance Measurement Training That Works*" in Kathryn Newcomer (ed.) *Using Performance Measures to Improve Public and Non-Profit Programs* (San Francisco, CA: Jossey Bass Publishers, 1997), p. 81.

<sup>11</sup> Meilir Page-Jones, "*The Seven Stages of Expertise in Software Engineering*," in *The American Programmer* July-August, 1990.

<sup>12</sup> In its reports, for example, the Texas follow-up entity identifies documented successful outcomes. The opposite of successful outcomes, however, is not "unsuccessful;" rather, it is simply "not located."

<sup>13</sup> A program or service with the highest performance levels is not necessarily the *best practice*. *Superior* results may have been achieved under circumstances that are wholly different than those faced by a program that is in trouble. Before rushing to emulate a program with higher performance scores, program administrators and service providers must look at net outcomes to see which programs genuinely provide the greatest value-added -- with adjustments as appropriate for exogenous (non-programmatic) factors.

<sup>14</sup> Peter Ewell, "*Introduction*" in Peter Ewell (1989) *op. cit.* p. 8.

<sup>15</sup> For a succinct discussion, see Hubert Blalock, Jr., *Causal Inference in Nonexperimental Research* (New York City, NY: W.W. Norton, 1961) Chapter 1.

<sup>16</sup> Gross outcomes may be a function of input variables. Private postsecondary institutions, for example, with selective admissions may recruit in-coming freshmen who are better prepared for college-level courses and whose family ties give them special inroads into high-wage careers. Gross outcomes also may be fortuitous; i.e., the result of external factors rather than a direct consequence of any specific intervention or service. Students from a community college in a district with low unemployment (ergo, with capacity to absorb large numbers of new labor market entrants and demand-driven upward pressure on wages) probably exhibit better post-exit employment rates and higher wages than will those who exit a community college located in an economically depressed area.

For a more complete explanation, see the discussion of the value-added model in Chapter III in this *Guide* (pp. 80-81). See also Alexander Astin, “*Value-Added and Academic Excellence*” in Diane Halpern (ed.) *Student Outcomes Assessment* (San Francisco, CA: Jossey-Bass Publishers, Fall 1987); Bobbie McCrackin, “*Education’s Contribution to Productivity and Economic Growth*” in *Economic Review* (November, 1984) pp. 8-23; and Kevin Hollenbeck, *Post-secondary Education as Triage: Returns to Academic and Technical Programs* (Kalamazoo, MI: W.E. Upjohn Institute, June 1992).

- <sup>17</sup> See Edward Tufte, *The Visual Display of Quantitative Information* (Cheshire, CT: Graphics Press, 1997). Tufte’s illustration on page 14 makes the point vividly. A graph easily reveals that a *wildshot observation* (i.e., an *outlier*) can dominate standard statistical calculations while hiding in the marginal distribution. However, it will show up clearly exceptional in a bivariate scatter.
- <sup>18</sup> Trudy Banta and Victor Borden, “*Performance Indicators: History, Definitions, and Methods*” in Trudy Banta and Victor Borden (eds.), *Using Performance Indicators to Guide Strategic Decision-Making* (San Francisco, CA: Jossey Bass Publishers, Summer 1994), p. 11.
- <sup>19</sup> *Peer entities* can be defined in many ways: e.g, entities having a comparable mission, size or caseload, admissions/eligibility criteria or customer mix, or expenditure level. If this factor is to be used in benchmarking outcomes data, agreement on a definition of *peers* should be reached entity-by-entity during the environmental scanning phase and recorded in a matrix form that can be automated and used to group relevant data for delivery to potential users.
- <sup>20</sup> *Nearest competitor* can be defined in many ways: e.g., in terms of geographic proximity or in terms of competing to enroll/recruit/provide services to the same potential customers/clients. If this factor is to be used in benchmarking outcomes data, agreement on a definition of *nearest competitors* should be reached entity-by-entity during the environmental scanning phase and recorded in a matrix form that can be automated and used to group relevant data for delivery to potential users.
- <sup>21</sup> Greenway, et. al. “*Outcome Measurement: Showing Results in the Non-Profit Sector*” in Kathryn Newcomer (ed.) *op. cit.* (San Francisco, CA: Jossey Bass Publishers, 1997) p. 26. (Underline added for emphasis by co-authors of this *Guide*.)
- <sup>22</sup> See Alexander Astin, *op. cit.*, pp.91-92.
- <sup>23</sup> *Ibid.*, p. 95; see also all other references cited in footnote 16.
- <sup>24</sup> For an easy to follow explanation of the logic behind the JTPA adjustment model, see Timothy Bartik, *Using Performance Indicators to Improve the Effectiveness of Welfare-to-Work Programs* (Kalamazoo, MI: W.E. Upjohn Institute, 1995), pp. 9-15.

- <sup>25</sup> Gary Hanson, “*Critical Issues in the Assessment of Value Added in Education*” in Trudy Banta (ed.) *Implementing Outcomes Assessment: Promises and Perils* (San Francisco, CA: Jossey Bass Publishers, 1988) p. 58-59.
- <sup>26</sup> Judith Hackman, “*The Psychological Context: Seven Maxims*” in Peter Ewell (1989) *op. cit.* p. 36.
- <sup>27</sup> For example, neither Texas nor Florida extracts information about student intent or grade point averages for their seed records because of inconsistencies in the ways those data are defined from one service provider to the next. Nonetheless, each service provider may trust data on such items in their in-house management information systems and may believe such vendor-specific variables have some capacity to explain variance in outcomes achieved by their former students. For a more detailed discussion, see Chapter IV of this *Guide*, especially the roadmap to an in-house file structure on page 184.
- <sup>28</sup> Judith Hackman, *op. cit.*, p. 41.
- <sup>29</sup> Tufte, *op. cit.*, introduces the concept of “information density” as a way of explaining the utility of graphs and data maps. “[G]raphical analysis testifies about the data far more efficiently than calculation.” (p. 24) “Computerized cartography and modern photographic techniques have increased the density of information some 5,000-fold in the best of data maps compared to the Haley’s pioneering efforts [*circa* 1686]. . . The most extensive data maps. . . place millions of bits of information on a single page before our eyes. No other method for the display of statistical information is so powerful.” (p. 26)
- <sup>30</sup> The performance of welfare-to-work programs often is measured in terms of post-exit employment and earnings. Nonetheless, it is entirely possible for a participant to obtain employment at or above the target wage at entered-employment yet remain eligible for public assistance payments -- albeit at a lower level than was received prior to receiving services. For example, a single parent who obtains full-time work at minimum wage may not earn enough to support several dependents at a level high enough to escape welfare totally. See Timothy Bartik, *op. cit.*
- <sup>31</sup> Edward Tufte, *op. cit.*
- <sup>32</sup> Peter Ewell, *op. cit.* (1989) p. 90.
- <sup>33</sup> *Ibid.*
- <sup>34</sup> Peter Ewell, “*Implementing Assessment: Some Organizational Issues* in Trudy Banta, *op. cit.*, (1988) p. 21. See also the co-authors’ discussion of multiple instruments and convergent validity in Chapter III, p. 81.

- <sup>35</sup> Timothy Bartik, *op. cit.* pp. 2-3.
- <sup>36</sup> Glynton Smith, “*Institutional Fact Book: Catalyst for an Integrated Institutional Research Program*” in Norman Uhl (ed.) *Using Research for Strategic Planning* (San Francisco, CA: Jossey Bass Publishers, 1983) p. 75.
- <sup>37</sup> Emily Prosavac, “*Misusing Program Evaluation by Asking the Wrong Question,*” in Micah Dial and Carla Stevens (eds.) *Preventing the Misuse of Evaluation* (San Francisco, CA: Jossey-Bass Publishers, 1994) p. 72.
- <sup>38</sup> The Texas SOICC, in collaboration with DoL/ETA and partner states, has developed a prototype Consumer Report System (CRS). *A stand-alone and networkable version has been developed for installation in One-Stop Career Centers where it will be used in facilitated-help mode* by customers with the assistance of case managers, counselors or LMI resource librarians. A second version will be mounted on the InterNet in Program year 1998-1999 to provide nearly universal access to the same information by individuals who can avail themselves of the graphical interface and drop-down comment screens to navigate the system in *self-help mode*.
- <sup>39</sup> In its “*Solicitation for Proposals for the Design and Operation of SB645 Performance-Based Accountability System,*” California’s Job Training Coordinating Council provides a very good set of guidelines for a follow-up entity or contractor in responding to ad hoc requests. See *SFP 80128/Exhibit C §H.1.* (Sacramento, CA: Employment Development Department/Office of Workforce Policy, April 1997) p. 21.
- <sup>40</sup> Micah Dial and Carla Stevens, “*What Constitutes Misuse*” in Dial and Stevens (eds.) *op. cit.* (San Francisco, CA: Jossey-Bass Publishers, 1994) pp. 1-2.
- <sup>41</sup> The graphic is adapted from the guidelines of the Middle States Association of Colleges and Schools. See Chart 2 in *Framework for Outcomes Assessment* (Philadelphia, PA: Commission on Higher Education - MSA, 1996) p.17.

## **CHAPTER VII**

### **AS THE WORLD TURNS: THE MATURATION OF FOLLOW-UP**

#### **Synopsis**

A follow-up entity's success ultimately will depend on its ability to plan its work and work its plan. Its aim should not be merely to survive; it should strive to grow and mature. To do that, a follow-up entity must be a learning organization. Not only must it adapt to changing external expectations and demands, but also it should endeavor constantly to improve its services and activities. While the pace of maturation will vary from state to state, most follow-up entities probably will evolve through comparable stages. This chapter offers a model of organizational maturation (or institutionalization) and suggests measures follow-up entities can use to assess their own progress. It concludes with speculative remarks by the co-authors concerning opportunities and challenges likely to disrupt the maturation of all follow-up entities.

#### **Introduction**

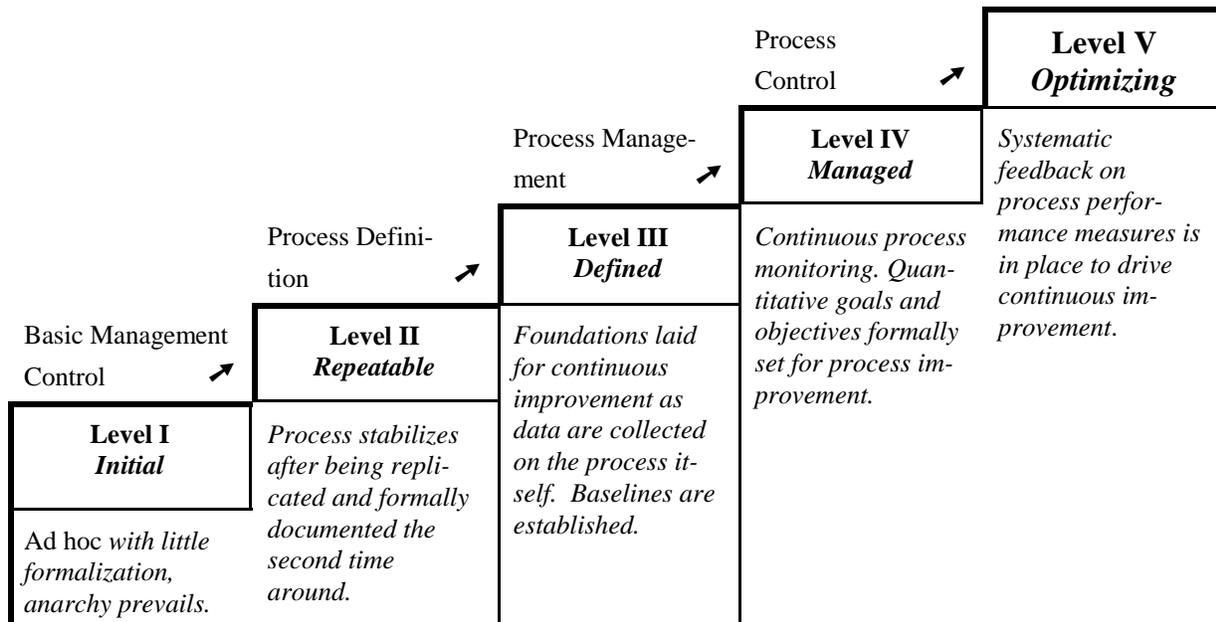
Follow-up is integral to holding employment and training programs accountable for results and for relentlessly prodding partner agencies and service providers to improve programs. *Ipsa facto*, the follow-up entity itself can be no less accountable than other stakeholders for results nor any less engaged in continuous program improvement. To survive, a follow-up entity needs to do more than document its prior accomplishments and sit complacently on its laurels. Rather, each needs to improve its existing mix of services while also anticipating and adapting to changing external demands and expectations.<sup>1</sup> To grow and mature, a follow-up entity has to have a sound strategic plan tied to a realistic vision of the future. It must set quantifiable goals and objectives for itself, work its plan, and monitor its own progress toward those goals and objectives.

This chapter offers a model of organizational development to help follow-up entities form realistic expectations about their own maturation. Progress inevitably will occur at an uneven pace along several dimensions. No single measure will suffice to depict its overall maturity; thus, several kinds of measures must be used to assess each follow-up entity's performance and progress. The co-authors suggest several dimensions along which a follow-up entity should assess its own progress. Lastly, we try to alert others to new issues not yet resolved by the lead agencies in Texas or Florida. We suspect entities that adopt the Florida-Texas model eventually will have to grapple with these issues.

#### **A Model of Organizational Development**

In the *Rise and Fall of the American Programmer*,<sup>2</sup> Edward Yourdon describes a process maturity model. The model is consistent with Thomas Kuhn's seminal analysis of paradigm shifts in the physical and social sciences<sup>3</sup> and Everett Rogers' observations on the diffusion of innovative ideas.<sup>4</sup> In the co-authors' experience, this process maturity model can be applied as well to the natural evolution of a follow-up entity's activities and services.

## PROCESS MATURITY MODEL



Phases or levels are named in the boxes comprising each individual stairstep. Chief identifying characteristics of the named level appear in the space below each box. Atop each step is a note indicating what it takes to get to the next level.

### ***Level I: Initial Phase***

An innovator or a small cadre of pioneers begins to experiment with a process or tool -- like electronic record linkages. Anarchy may prevail as things proceed by trial and error. The follow-up entity may be infected with *expectation slippage*. Without precedents to guide planning, its activities and services are just as likely to be significantly behind or ahead of schedule, drastically under budget or over budget. Hard pressed to meet ill-considered deadlines, it makes and repeats errors and compounds them rather than detecting and correcting them -- much less does it do anything to eliminate future occurrences of similar errors. Staff may struggle from one crisis to the next. The lead agency has difficulty prioritizing and sequencing activities because, without formal rules or precedents to follow, it can't always distinguish what is critical from what is trivial. Success is largely fortuitous, depending almost as much on the energy and enthusiasm of risk-takers initially attracted to a new project as it does on their program-content knowledge and research skills. The first follow-up leader's intuition and instincts, political savvy, and chutzpa will be especially important.

***Innovation often is coupled with near anarchy and chaos. A crisis mentality seems to prevail most of the time.***

The most perplexing question at this phase is: “Where to begin?”. As innovators and pioneers armed with new ideas and techniques look at old practices and legacy systems, they are likely to come away believing everything needs to be fixed at the same time. Follow-up staff’s expectations of others are unrealistic because, as evangelists, they can not fathom why their message doesn’t make converts of partner agencies and service providers immediately.<sup>6</sup>

*There is a tremendous temptation on the part of follow-up staff at this stage to bite off more than they can chew.<sup>5</sup>*

Consumed by service-related activities during the initial phase, no one on staff has time to record and document what worked and what didn’t. Prime requisites for staff at this stage are tolerance, the capacity to cope with uncertainty, a healthy dose of self-restraint and the self-discipline to stop periodically to take stock of what’s happening. At some point, someone has to step back for a moment to review what transpired. From that review, an abstract model emerges with rules of thumb informally established for estimating the scope of duties and tasks involved in each segment of the enterprise. Checklists are developed to keep things on track -- at least to prevent the most damaging problems encountered during the first run from recurring.

### ***Level II: Repeatability***

A handful of policies and procedures along the critical path are written formally. That gives staff a better handle on their duties and tasks. Most activities are still fraught with risks -- but the risks are calculated ones. Staff now has a sound basis for making fairly firm commitments, estimating costs, and setting reasonable schedules. Perhaps more important, a rational and dispassionate process is established that gives follow-up staff confidence enough to just say “No!” when asked to take on any assignments that exceed available resources.

*The founding cadre’s folklore and mythology are transformed into a methodology.*

The entity is now in a position for intentional, controlled growth. More attention is paid to quality assurance. Data and reports, for example, are reviewed systematically before information is delivered to stakeholders. Nonetheless, the focus is more on preventing defects than on achieving excellence.

### ***Level III: Defined***

As a follow-up entity learns from past experiences, ideas blossom for improving processes and products. Instead of relying on checklists just to avoid problems, staff begin to measure and establish baselines for key activities (i.e., the frequent or most costly activities). In particular, work products are not tested just immediately prior to release, rather they are assessed at several intermediate stages. Information verification becomes a formal requirement. Faulty data or misinterpretations are caught earlier in the process to correct them before they cause collateral damage.

All errors are logged systematically by type, source/cause, and location so patterns can be detected.

Staff size is likely to grow early in this phase and, as that happens, roles and responsibilities become better defined and more specialized. Specific individuals are held accountable within the entity for timely completion of specific activities. Conscious redundancies or failsafes are built into every process as staff members are given reciprocal responsibilities for checking each others' work. Error-checking still may consist of eyeball techniques but now there are two pair of eyes looking over each work product.

Exchanges of critiques and comments, even if scribbled in the margins, become the precursors of formal documentation. Gradually, eyeball techniques and rules-of-thumb are replaced with formal decision rules that theoretically can be automated. At least a manual equivalent of an expert system is in place to begin weaning a follow-up entity from depending totally on the exceptional knowledge and vigilance of individual staff members for quality assurance. Processes and procedures are automated enough that the lead agency can generate its own accounting and performance reports in routine fashion rather than having to halt normal day-to-day operations to respond to auditing or monitoring visits by oversight entities.

Even if the lead agency can't yet get its arms entirely around its own overall performance, it figures out how to measure and evaluate the performance of individuals on staff. Clear and detailed job descriptions can now be written to recruit replacements or to fill newly created positions. Individual performance review criteria can be established; thereafter, staff understand what is expected of them and they can be rewarded or disciplined accordingly. In fact, if required to do so at this stage, a follow-up entity could weather the departure of its founder or other key staff members with relative ease.

*The process of institutionalization truly begins as the follow-up entity starts to take on a life of its own that transcends the character, personality and tenure of its founding cadre.*

#### ***Level IV: Managed***

The follow-up entity has taken snapshots of its own performance at a sufficient number of intervals in the past that it can assess its own progress against baselines. Goals and objectives for overcoming major perennial problems are expressed quantitatively. Progress is reviewed frequently. Expectations increase and performance improvements occur hand-in-hand.

***In the managed phase, instead of improving things incrementally and haphazardly, improvements actually can be planned systematically.***

As one veteran public servant said after proof-reading a draft of this chapter, "You know you've arrived at Level IV when you can anticipate your equipment and supply needs far enough

in advance so purchase orders can be shepherded through the state's General Services competitive bidding and procurement process before the items specified become obsolete." There's a whole lot of truth in that observation: a mature organization consciously find ways to build more lead time into its critical path and more slack time into its overall calendar. As an electrical engineer might say, a follow-up entity learns to do more "parallel processing" instead of "serial processing."

### ***Level V: Optimizing***

The follow-up entity operates on a continuous improvement model by measuring every aspect of its own processes and work products at regular intervals. Self-assessment and progress reporting are highly automated. Changes are made systematically on the basis of feedback. Defects are prevented before they can occur. Improvements are made even in aspects of follow-up services and products that already exceed standards. Moreover, the lead agency works with partner agencies and service providers to help them with data quality assurance. It provides systematic technical assistance to help customers understand and use its products.

Things are so well organized that the lead agency anticipates customer needs for *ad hoc* studies and can respond to such requests by using information in its warehouse without incurring additional data collection expenses. In fact, attention is paid to potential reuse as routines are written in response to each new *ad hoc* request. Fewer and fewer *ad hoc* requests have to be treated *de novo*; rather the follow-up entity can retrieve routines<sup>7</sup> from an automated repository and reuse them by merely substituting a hand-ful of parameters in structured query language (SQL) routines.

***The lead agency succeeds in extending its continuous improvement model beyond its own boundaries.***

### ***General Rules of Process Maturation***

In laying out his process maturity model, Yourdon offers five rules regarding a natural progression of organizations through the sequence of stages.

1. No level can be skipped entirely.
2. It takes time to move from one level to the next because of organizational inertia and external resistance.

***An experienced consultant that has gone through the process can: help a fledgling follow-up entity avoid common mistakes; provide checklists, boilerplates and automation tools; etc. A consultant's services may accelerate a new follow-up entity's rate of maturation but probably can't help it bypass any steps in the natural progression.***

3. The move from Level I to Level II is the most difficult.
  - *Repeatability* represents a significant break from the *status quo* as far as partner agencies and service providers are concerned. Up to that point, major stakeholders may treat automated and centralized follow-up as a flash in the pan, a passing fancy.
  - Going from Level I to Level II also represents a change in the follow-up organization's own culture. That is, it undergoes an internal paradigm shift that requires a different management style -- one which may be antithetical to the founders' innovative and risk-taking mentality.
4. There are no magic silver bullets.
  - Introducing the wrong tools and management styles at the wrong level are a waste of time.
  - Merely throwing more people and money at problems won't work.<sup>8</sup>
5. The lead agency can regress to a lower level at any time due to high turnover in management and staff or through complacency and neglect. In particular, the level of excellence achieved in the *optimizing phase* is the hardest to sustain (assuming that the organization ever gets to that level).

### ***External Constraints on This Natural Progression***

In "guesstimating" how fast a particular follow-up entity will progress through this process maturity model, its leadership -- perhaps with the assistance of an outside consultant -- should ask itself several questions:

- Is guidance available from entities that are further along in the natural progression?
- To what extent can tools developed by other follow-up entities be adopted and adapted?
- Can experienced staff be recruited from comparable organizations?
- How stable and progressive are the partner agencies and service providers?
  - Are they proactive in proposing innovative ideas or are they more inclined to dispose (i.e., crystallize their wants and needs only in response to lead agency initiatives)?
  - How much turnover is there in stakeholder leadership?
  - How frequently do the lead agency's partners experience factional in-fighting or wholesale reversal of partisan fortunes?
- Are prospective customers very fickle?

- Do they know for sure from the outset what kind of information they want in order to make rational decisions?
- How frequently do they change their minds?
- How easily are they swayed? By whom?
- How much do they have to be educated or conditioned to understand their own information needs (as distinguished from what they want or think they need to know)?
- What are the stakes?
  - Is the follow-up entity under extraordinary pressure to produce immediate and tangible results?
  - Do key stakeholders understand and appreciate the fact that it takes time to gather follow-up data (particularly longitudinal items)? Do they have the patience (or sufficient political latitude) to allow data to ripen?<sup>9</sup>
  - How much slack time will be granted the lead agency to work by trial and error to arrive at a reasonable budget and schedule?
  - What are the consequences of technical errors or missed deadlines?

### **Measuring a Follow-Up Entity's Performance and Maturation**

The main theme of this chapter bears repeating. The follow-up entity itself can be no less accountable than other stakeholders for results nor any less engaged in continuous program improvement. A follow-up entity obviously will be compelled to devise performance measures for itself in order to meet compliance reporting requirements imposed by its fiscal agent, the State Comptroller of Public Accounts and/or a legislative budget oversight body. But to be true to the spirit of the whole enterprise, every follow-up entity ought to set an example for other stakeholders by openly embracing performance measurement and accountability for itself. Even if asked by external bodies to do minimal performance reporting, a follow-up entity should measure all aspects of its activities and services to get information it needs to drive its own continuous improvement and accelerate its own maturation.

The schematic on the next two pages suggest dimensions along which a follow-up entity's performance can be measured. More than one measure may be appropriate for each dimension; i.e., each dimension suggests a family of performance measures. These dimensions are not mutually





## Performance Dimensions or Attributes to Measure

Phase:	Initial	Repeatable	Defined	Managed	Optimized	Score
Points:	1	2	3	4	5	
	■	→ <i>Timeliness</i> →			■	
		<i>information perpetually is delivered too late to be used</i>			<i>information is updated in real time</i>	-----
	■	→ <i>Cost-Containment</i> →			■	
		<i>actual cost of activities differs significantly from budget</i>			<i>services delivered within budget</i>	-----
	■	→ <i>Access</i> →			■	
		<i>information is disseminated to a few key stakeholders</i>			<i>follow-up information is universally available</i>	-----
	■	→ <i>Utilization</i> →			■	
		<i>information is ignored by stakeholders and customers</i>			<i>stakeholders and customers use the data systematically</i>	-----
	■	→ <i>Staff Development</i> →			■	
		<i>staff members do not have the KSAs they need to excel</i>			<i>Staff ahead of peers in comparable entities elsewhere</i>	-----
	■	→ <i>Customer Satisfaction</i> →			■	
		<i>the follow-up entity receives negative reviews frequently</i>			<i>reviews of the follow-up entity are universally positive</i>	-----
	■	→ <i>Funding</i> →			■	
		<i>the entity operates without a permanent source of adequate funds</i>			<i>a permanent source of adequate funding is secured</i>	-----

**Follow-up entity’s total self-evaluation score out of a possible 165 points . . . . .** \_\_\_\_\_ exclusive. The respective families of performance measures may be related by “blood and mar-

riage” in such a way that measures which fit along one dimension also may serve well for assessing the follow-up entity’s performance along other dimensions. Lastly, this list of dimensions or families of performance measures is not intended to be exhaustive. As they launch follow-up initiatives, other states may find it important to assess their lead agencies’ performance along other dimensions using measures not listed herein.

### *Size*

First and foremost, a follow-up entity must be able to explain the magnitude of its undertakings. External oversight bodies typically will ask the following questions: How many individuals does the lead agency follow? How much time does that take? How many full-time equivalent staff members (FTEs) are required? How much does all that cost? While external parties may be preoccupied or even concerned exclusively with it, *size* is a rather superficial measure that doesn’t really get at the concept of performance. Avoid putting too much emphasis on *size* because it is all too easy to fall into the false assumption that growth, *per se*, is good. It may be necessary to educate external bodies about what aspects of follow-up are worth measuring and how they ought to be measured.<sup>10</sup> Keep the following in mind:

- An excess of data may be worse than no data at all.
- Work tends to expand to fill the time allotted to it. (Murphy’s Law #6).

What really matters is the quality of services rather than the magnitude of the undertaking. *Size*, therefore, should be broken into more meaningful components. Two subdimensions of *size* and eleven other critical aspects of follow-up are arrayed on the previous two pages. Characteristics of a fledgling follow-up entity appear on the left side of each array; characteristics of a fully mature one appear to the right. Note in advance that the dimensions listed are not mutually exclusive. *Degree of automation*, for example, probably will parallel the development of applicable *tools* and the follow-up entity’s efforts to increase its tools’ *reusability*.

### *-- Size as Breadth of Coverage*

Unlike *size, per se*, which is an absolute term, *breadth of coverage* is relative. What portion of the employment and training programs offered by partner agencies and service providers is covered by the central follow-up entity? What portion of each exit cohort is followed?

In the beginning, the lead agency might conduct a limited follow-up study on a pilot basis. A fledgling entity may be asked to conduct only a one-shot study to address a single issue. For example, a community college facing program review because of high default rates may be interested only in its graduates’ immediate post-exit employment and earnings as indicators of former students’ capacity to retire their student loans. Or a state’s Tech Prep director might want to look only at an unscientific sample of technical program graduates from a handful of community

colleges that volunteer to participate in study. No inferences can be made about the universe of former employment and training program participants from such studies.<sup>11</sup>

A lead agency's first objective is to demonstrate the internal validity of the follow-up model; establishing the external validity comes later. A fledgling entity whose *breadth of coverage* is very limited must understand the shortcomings of its data and refrain from making sweeping generalizations. At best, it can use its limited pilot efforts as proof-of-concept and to generate useful hypotheses worthy of being tested on a larger scale.

A mature entity will conduct follow-up studies on behalf of all partner agencies and service providers in the employment and training system. Rather than using samples, a fully mature entity will do follow-up on all exiters (leavers as well as completers) from all programs at all levels of service from basic education to postgraduate studies, from simple job-search assistance for those who are work-ready to intensive case management for those facing multiple barriers to employment. In the intervening years, *breadth of coverage* will be mixed. Small samples may be replaced with large and more scientifically selected ones until such time as the lead agency follows up entire cohorts. Laggard partner agencies eventually either see the light and jump on the bandwagon voluntarily to receive automated follow-up services or the state mandates universal participation.

### -- *Size as Depth of Coverage*

While *breadth* of coverage is concerned with who's in and who's not, *depth* of coverage is a matter of research design. Coverage may be a mile wide but only an inch deep. That is, the follow-up entity might document only a handful of expected and desired outcomes for all participating partner agencies and service providers. A follow-up entity that addresses one issue at a time for one customer at a time is apt to dry up and blow away. Having resolved an immediate crisis-driven data need, the customer may give a sigh of relief and move on to other pressing concerns. A mature lead agency understands that it is the custodian of the grand vision.

*By virtue of breadth of coverage, the lead follow-up agency offers a process that is larger than the transitory issues.*

A fully mature follow-up agency will document virtually every conceivable relevant post-exit outcome -- desirable and undesirable, intended and unintended -- for all program exiters it studies.<sup>12</sup> Long-term labor market outcomes<sup>13</sup> will be documented through longitudinal studies in addition to snapshots of immediate post-exit employment and earnings. Richly detailed occupational employment information<sup>14</sup> will be gathered in addition to what can be gleaned from UI wage records. The lead agency will employ a longitudinal design to get at the value added by employment and training programs.<sup>15</sup> Desired outcomes will be defined more broadly than labor market participation -- pursuit of lifelong learning and decreased welfare dependency we be included. Every effort will be made by a mature follow-up entity to fill all gaps in its coverage of outcomes.<sup>16</sup>

*Depth of coverage*, however, deals with more than just the exhaustiveness of outcomes data collection. It also is a matter of constructing seed records from variables in partner agencies' management information systems that have the capacity to explain variance in the outcomes it documents. In fact, a mature follow-up entity will look beyond its partner agencies' management information systems -- it will make a good faith effort to harvest data that can be used to adjust performance calculations<sup>17</sup> and to explain results in context.<sup>18</sup>

In short, increased *depth* of coverage means that the follow-up entity can address far more questions. The particular measures in this family are quite straight-forward:

- What percentage of desired outcomes expressed in partner agencies' and service providers' mission statements, goals and objectives have been operationally defined?
- What percentage of the operationally defined outcome variables are being filled by virtue of the follow-up entity's efforts?
- What percentage of unanticipated -- but decision-critical -- outcomes (e.g., incarceration or morbidity) also are documented through the follow-up entity's efforts?
- What percentage of each exit cohort being studied has outcomes documented through the follow-up entity's efforts?
- What portion of variance in those outcomes can be explained by correlations with independent variables contained in the seed records?
- What percentage of the variables used to adjust performance calculations or to explain outcomes in context are harvested from auxiliary sources by the lead agency?

### ***Tool Development***

The first order of business facing a fledgling follow-up entity is to answer the basic question, "What happened to former students and participants after they exited an employment and training program?". The first tools a lead agency has to develop are frequency distributions and formulas to calculate and describe central tendencies (e.g., averages and percentages). In short order, anyone with a modicum of statistical sophistication will want information about the dispersion and confidence intervals around statistical indicators of central tendency.<sup>19</sup> Once stakeholders and customers learn what happened to exit cohorts, they begin to ask, "What worked? For whom? Under what circumstances?" and "Why?".

Before anyone can answer these more important questions, the lead agency may have to construct auxiliary tools<sup>20</sup> or validate tools developed elsewhere to its unique in-state employment and training patterns and practices<sup>21</sup>. The hallmark of a mature follow-up entity is that it has a multitude of tools which, working together, increase everyone's confidence in its findings by: consis-

tently applying decision rules; diligently complying with terms and conditions of all agreements; achieving convergent validity through multiple instrumentation; and garnering stakeholder and customer acceptance.<sup>22</sup>

*Tool Development* ultimately boils down to this: Have the folk wisdom and unique expertise of individual follow-up staff members been distilled into a series of unambiguous, exhaustive, and logically consistent decision rules? Some of the decision rules can be translated into Boolean logic and, subsequently, incorporated into automation products to both speed up and ensure uniformity in the follow-up process. In other cases, the tools might not be automated ones. For example, agreements reached and documented are useful tools to expedite the follow-up process: a meta data taxonomy defining attributes of all elements to be included in the lead agency's data dictionary; precise language -- cleared by legal counsel -- to describe standard terms and conditions for all data exchange agreements; a data security procedures manual; a library of frequently referenced books and journals; etc.

Again the family of performance measures for *tool development* is relatively straightforward. The lead agency can start with a raw count of the tools it has developed. More important, a mature entity will want to know what percentage of its decisions are made according to rules that are recorded -- preferably in some automated utility -- versus what percentage of its decisions are made *ad hoc* where staff rely on their own intuition and judgment. Other indicators might include measures of *inter-* and *intra-coder reliability*.

### ***Reusability***

In the beginning, every information request will have to be treated *de novo* by a fledgling follow-up entity. Staff will have to start from scratch to develop necessary data exchange agreements, job control language (JCL) for statistical processing or Structured Query Language (SQL) routines for seed record extraction, file linkages, data analysis, and report formatting. Even if it borrows heavily from comparable entities in other states, a lead agency will have to port routines into its own particular automation platform, tailor them, and test every modification it makes.

Over time, the same kinds of questions and information requests are apt to recur. The lead agency will learn that it need not treat every work order as an *ad hoc* request; rather, if it has had the foresight to save copies of its routines in a repository, it can pull them up, modify them as necessary, and apply them in new situations. As it responds to each new and unprecedented information request, a more mature follow-up entity pauses before leaping to respond with a single-use solution. It concentrates on developing responses with *reusability* in mind. It thoroughly tests each routine to ensure that it is error-free and reliable before storing it in a widely accessible repository.

A mature entity thoroughly documents its extract, link and append routines, its statistical job control language, its wordprocessing boilerplates and its report templates. Automated tools are put on a network server rather than scattered across individual workstations for easy location, retrieval, and appropriate subsequent application. The hallmark of a fully mature follow-up entity is that it virtually has seen every conceivable kind of information request and can respond without

starting from scratch by retrieving and applying either an exact or analogous routine from its repository. Additional uses under comparable -- but not identical -- circumstances are anticipated and easy modification of existing routines is facilitated through parameter substitution techniques. Each successive modification and/or use is logged and annotated. If follow-up operations are large enough, a specific person on staff may be assigned responsibilities for reviewing routines, documenting and cataloging them, perhaps even for adding parameter substitution features to single-use routines written by others.

*Reusability*, obviously is tied closely to both *tool development* and *degree of automation* but is identical to neither -- as the two examples below should show.

Example 1

The first time a fledgling lead agency is asked to compare outcomes achieved by exiters of a Registered Nursing program at one school to a Licensed Vocational Nursing program at the same school, someone on staff develops a tool. Namely, a programmer/statistician using statistical application software writes only the JCL necessary to generate a side-by-side comparison in table form as requested. In case the JCL fails, the programmer saves the routine for debugging purposes but erases it as soon as the work order is completed successfully.

Shortly thereafter, the lead agency is asked to compare the RN program at School #1 to the RN program at School #2. The same programmer is assigned to the work order and recognizes the similarities. It also is evident to him that more such requests may occur in the future. Instead of writing just essential JCL to get the job at hand done, he thinks ahead. This time he imbeds remark (REM) statements to explain the purpose and function of the lines of codes. When satisfied that the routine is bug free, he saves it on his workstation so it can serve as a model to guide him in writing routines from scratch in response to similar requests in the future.

Weeks later, a comparable request comes to the lead agency and the programmer realizes this kind of work order will comprise the bulk of his duties. This time, he creates a routine with a data entry screen that, in the future, will prompt him or any other staff member:

```

Enter the CIP code of the first program of study to be compared      [      ]
Enter the FICE code of the institution where that program is offered [      ]
Enter the CIP code of the second program                            [      ]
Enter the FICE code of the second institution                        [      ]

```

With a simple bit of programming, four memory variables are created: CIP<sub>1</sub>, FICE<sub>1</sub>, CIP<sub>2</sub>, and FICE<sub>2</sub>. The routine accepts keyboard input for those four variables as prompted above and moves them into an SQL routine that retrieves, manipulates and reports the data as requested. REM statements are imbedded in the routine. Satisfied that the routine is bug-free, he saves it on the agency's network server and documents its existence so others may use it as well by

merely using keyboard entry as prompted to swap parameters on four memory variables.

Technically speaking, three tools were developed: two JCL routines and one SQL routine with prompted parameter substitution. The first JCL routine wasn't saved for reuse; the second JCL routine wasn't as reusable as the last routine using SQL. Ergo, the lead agency's data processing has matured.

### Example 2

Two staff writers/editors are fond of quoting this *Field Guide*. One dutifully photocopies pithy passages from the hardcopy version and files them away for future use; the other creates a bookmark for the electronic version of the *Guide* in her InterNet browser. Both have a reusable tool but the latter exhibits a higher *degree of automation*.

### ***Degree of Automation***

As illustrated above, *degree of automation* will be determined, in part, by both the pace of the lead agency's *tool development* and the attention it pays to *reusability*. Nonetheless, *degree of automation* is something more than a composite of those two factors.

In the beginning, the lead agency may do most everything manually. While automation tools are developed and can be reused for extracting seed records, for example, the lead agency still may have to use *sneakernets* to move data around. That is, files may be carried physically from partner agency offices to the lead agency's headquarters for conversion into a standard format. From headquarters, the files may be hand-carried or shipped by courier to other agencies where linkages are made to outcomes resource databases. Resultant enhanced files are returned physically to the lead agency's headquarters. While follow-up staff may have the technical know-how to move files from one partners' MIS to another electronically, full automation might not be achieved for several reasons:

- Data exchange agreements might not be broad enough to give follow-up staff direct electronic access to its partners' management information systems.
- On-site equipment used by the lead agency might not have sufficient storage capacity, random access memory, or processor speed to handle huge files from its partners.
- The lead agency might not have the firmware to transmit and receive files from multiple platforms efficiently and securely.
- Some stakeholders and customers may lack the capacity to download information electronically, thus necessitating physical dissemination of hardcopy reports and data diskettes.

Less than full automation also may occur where tools were developed (even reusable ones) in piecemeal fashion with gaps in their articulation. For example, the lead agency in Texas initially developed automated routines using SPSS and FoxPro for analyzing follow-up data, other routines in Harvard Graphics for generating charts and graphs, and still other templates in Word-Perfect to format the text of reports and PageMaker to put everything together into a publishable document. At each juncture, however, files had to be moved from one environment to another. While files were moved electronically, throughput was less than optimally efficient until the lead agency assemble a suite of integrated tools.

The biggest barrier, however, to full automation will be the lack of a database containing occupational employment data. While a lead agency will be able to document a wide variety of outcomes through electronic record linkages, it will have to conduct traditional employer surveys to gather key decision-critical data elements until such time as states adopt an enhanced quarterly UI wage record report.<sup>23</sup> While automated tools can be developed and reused to expedite the process,<sup>24</sup> employer surveys will retain non-automated elements.

Neither the Florida nor the Texas follow-up operations are fully automated. Maturity in this regard hinges on increased hardware and software capacities as well as elimination of barriers not fully within the respective lead agencies' control.

### ***Quality Control***

*Quality control* may be improved through automated tools (e.g., edit-checking reports electronically for anomalies) and attention to eliminating errors from those tools before they are stored in a repository for reuse. *Quality control* may be one of several subjects addressed under *staff development* (examined in more detail below). *Quality control*, in turn, will impact both *utilization* and *customer satisfaction* (also discussed in more detail below). Nonetheless, because specific quantitative indicators can be devised to monitor the lead agency's progress toward zero defects, *quality control* is treated as a separate dimension.

A follow-up entity may let defects go out the door undetected in its haste to meet deadlines in its first year. All it takes, however, is for one error to be brought to the lead agency's attention by an irate stakeholder; then *quality control* immediately becomes a top priority. A wide variety of measures can be put in place to help improve *quality control*.

- What is the defect rate? How often do errors occur?
- How severe are they? How much damage do they cause:
  - to stakeholders;
  - to customers; and
  - to the lead agency's own reputation?
- How long is the mean time to repair a defect or error (MTTR)?
  - How long did it take to detect an error?

-- How long did it take to fix the error?

- Where in the process was the error caught and corrected?
- Have routines been developed to eliminate comparable errors in the future?<sup>25</sup>
- What percentage of the lead agency's routines run error-free on the first pass?

### ***Timeliness***

A fledgling entity may find that the follow-up information it delivers -- no matter how accurate, comprehensive and decision-critical -- perpetually is too late to be used by decision-makers. Poor timing will decrease *utilization* and, therefore, will impact *customer satisfaction* negatively. *Timeliness* may be improved through *tool development*, *reusability*, an increased *degree of automation*, and imposition of *quality controls* at earlier stages in each process to capture and eliminate errors before they compound delays. *Timeliness* also may be addressed as an issue of *staff development*. Ideally, follow-up information should be updated in real-time<sup>26</sup> and delivered to or accessed by end-users on a just-in-time basis.<sup>27</sup>

### ***Cost-Containment***

The actual cost of activities and services rendered by a fledgling follow-up entity may differ significantly from what was budgeted. In part, *cost-containment* will be achieved through *tool development*, greater attention to *reusability*, an increased *degree of automation*,<sup>28</sup> and increased attention to *quality control* as well as through *staff development*. Ideally, a mature follow-up entity delivers products and services exactly on budget with each and every expense justified as reasonable and necessary.

***One hallmark of a mature follow-up entity is that it has sound criteria for distinguishing reasonable bids from low bids and learns how to justify contracting for services on the basis of the latter.***

Major stakeholders see that a mature follow-up entity's services are so cost-effective that they yield significant returns on investments therein:

- Because economies of scale are achieved and because record linkages are relatively cheap, stakeholders' *pro rata* shares of the costs involved in launching and maintaining automated follow-up are far less than what they would have spent otherwise on traditional methods to gather outcomes data. Since those data are decision-critical for program planning and evaluation and are required for compiling their compliance reports, stakeholders realize they are

being provided an indispensable service for the lowest outlay of scarce *admin dollars*.

- In using the lead agency's outcomes data for identifying unnecessary redundancies in service delivery, targeting ineffective programs for deactivation, or terminating contracts with underperforming service providers, stakeholders realize cost-savings that exceed their *pro rata* shares of follow-up expenses.
- In using the lead agency's outcomes data to drive improvements that help attract more customers to the programs and services they offer, stakeholders generate more revenue through increasing enrollments than they spend on a *pro rata* basis for automated follow-up services.

### ***Access***

Within the bounds of data privacy and confidentiality, appropriately aggregated follow-up information ought to be universally accessible. Providing universal *access* (as well as *degree of automation, tool development* and *staff development*) will be expensive and, thus, will run headlong in the face of *cost-containment*. Unfortunately, follow-up entities may have to scratch for funds enough only to gather data, analyze them and to disseminate information to the handful of key stakeholders who initially footed the bills.<sup>29</sup> The best way to justify purchasing equipment or increasing budget lines for printing, marketing, and information dissemination is to rely on grassroots testimonials concerning how useful follow-up information proved to be. Therein lies a Catch-22: testimonials about the *utility* of follow-up information and *customer satisfaction* with the lead agency's products and services won't be forthcoming in sufficiently convincing numbers from the grassroots until *access* is nearly universal.

### ***Utilization***

Chapter VI is devoted entirely to issues surrounding uses of follow-up information. Suffice it to note here that, no matter how much attention the lead agency pays to issues of *quality control, timeliness, depth of coverage, and access*, stakeholders and customers will ignore follow-up information unless they are convinced it is important and useful. The hallmark of a mature entity is that stakeholding groups and customers use follow-up information systematically to guide policy decisions and/or personal choices in the employment and training domain.

### ***Staff Development***

A fledgling follow-up entity may be given a fistful of dollars, some hand-me-down hardware, obsolete software and an outdated list of partner agency and service provider contacts. Staff may be told to come back at the end of the program year to "show some results" -- with deliverables only vaguely specified -- if at all. Facing fuzzy goals, staff may find themselves laying track just ahead of the train -- defining their own duties and tasks as they go along. Hopefully, individual staff members will be: a) insightful enough to know where their knowledge, skills and

abilities (KSAs) are inadequate; and b) both resourceful and bright enough to acquire those essential KSAs as they fly by the seats of their pants.

As a follow-up entity matures, staff roles and responsibilities are defined more clearly. Appropriate kinds of KSAs can be stipulated for each duty and task. Armed with a better understanding of requisite KSAs, management can base individual performance assessment criteria on reasonable expectations. Replacement workers can be hired and newly created positions can be filled more rationally. The founding cadre's folk wisdom eventually gets distilled first into text for newcomer orientation then into formal and all-encompassing staff training materials. New hires can be ramped up to speed quickly and efficiently.

Human resource management eventually takes on as much importance for the entity's leadership as do the deliverables. Significant time and attention are paid to hiring the best people, providing them on-going training, motivating them to perform well, establishing a conducive work environment, reviewing their performance, eliminating non-producers, and finding ways to reward and hold together effective work teams. Management can measure such things as: staff turnover and percentage of budget spent on staff development.<sup>30</sup>

*Three words take on increasing importance for managers as the follow-up entity matures:  
**Delegate! Delegate! Delegate!***

**Invest in human resources -- finding them, hiring them, keeping them and helping them continue to improve. In the words of Casey Stengel, "I'm a better manager when I have Joe DiMaggio playing center field."<sup>31</sup>**

As a follow-up entity reaches maturity, its staff are recognized far and wide as being on the leading edge and ahead of their peers in comparable organizations. Staff provide instruction to others as they continue to fine tune their own KSAs. Colleges and universities, for example, may ask to place interns on board to learn from the lead agency's well-respected practitioners. Staff members are asked with increasing frequency to conduct workshops and seminars at national conferences and/or to serve as consultants on similar undertakings. In fact, staff from a fully mature follow-up entity often are recruited to help launch comparable entities in other states or in-state to apply performance-based accountability principles to other public or private sector enterprises.

### ***Customer Satisfaction***

Any service provider or administrator who receives unflattering news about program performance is apt to criticize a fledgling follow-up entity. That's only human nature and criticisms will persist well into the process maturation cycle until the lead agency's reputation for excellence silences the grouching and finger-pointing. The question is not necessarily how many complaints

are voiced; but rather: a) “Are the criticisms well-placed?” b) “Does the follow-up entity resolve complaints to its customers’ satisfaction without undermining its own detachment and objectivity?” and c) “Are comparable problems subsequently avoided or eliminated?”.

Measures of *customer satisfaction* will be correlated with many other kinds of measures described above. Frequency of legitimate complaints, for example, should decrease as a follow-up entity matures along the dimensions of *quality control*, *timeliness*, *depth of coverage* and, to a lesser extent, *breadth of coverage*. *Customer satisfaction* measures and *staff development* measures may overlap; e.g. customers’ ratings of the follow-up staff’s reputation can be a performance indicator for both dimensions. So, too, will *customer satisfaction* overlap with *utilization* because performance indicators of the two should spiral upward together nearly in lock step.

### ***Funding***

While automated follow-up probably will reduce the cost of gathering decision-critical outcomes information, a lead agency will have several front-end loaded costs: hardware, software, installation, office furniture and supplies, initial programing of reusable seed record extraction and linkage routines, etc. Before settling into a maintenance-of-effort budget, a lead agency probably will have to rely on capacity-building and demonstration project grants which typically have specific time limitations. Consequently, early in its development, a lead agency probably will live hand-to-mouth with no permanent source of adequate funding. Odds of securing permanent and adequate funding will improve as an entity matures -- especially as *utilization* of its products and services expands and as *customer satisfaction* increases.

Ironically, a lead agency also is more likely to receive permanent and adequate funding as it achieves better *cost-containment*. Those who control the purse strings grow more likely to see the value of investing in an enterprise that provides services in a more cost-effective manner than any alternative approach. The keys to sustainable funding are:

- 1) devise services and products that are indispensable;
- 2) deliver as promised; and
- 3) document all the follow-up entity’s achievements.

### **What Does the Future Hold?**

Any mention of a “natural progression” may be interpreted to suggest that follow-up operations get easier as a lead agency matures. All other things being equal, as a follow-up entity learns to work smarter -- not harder -- it should reap benefits in terms of increased *utilization* and *customer satisfaction*. Over time, it should expect to secure adequate -- if not ever increasing -- *funding*. There is, however, a flaw in that implicit message: the underlying premise is faulty. All other things seldom remain equal. Below are a few of the forces looming just over the horizon that may derail the natural maturation of all follow-up entities.

As the co-authors speculate about the future of follow-up, we ask our readers to keep the admonishments of science fiction writer and futurist, Arthur C. Clarke, in mind.<sup>32</sup>

- All attempts to predict the future in any detail will appear ludicrous in a few years.
- Do not try to describe THE future; try to define the boundaries within which possible futures might lie.
- Regard the future as unmapped and unexplored country. Survey its frontiers and get some idea of its extent. The detailed geography of its interior must remain unknown -- until we reach it.

***Follow-up entities may be asked to deal with harder-to-measure outcomes.***

*Innovators, pioneers and popularizers* have blazed a trail for other follow-up entities by tackling the easiest-to-measure phenomena first. Relatively straight-forward labor market outcomes and rudimentary aspects of postsecondary pursuits currently are a follow-up entity's stock in trade. Such easy-to-measure outcome variables as post-exit employment, post-exit earnings, decreased public assistance, incarceration and postsecondary enrollments are the common currency of outcomes-based performance measurement. While far more useful in planning and evaluation for program improvement than input, process and output measures, easy-to-measure outcomes do not exhaust the employment and training system's entire range of desired or unanticipated decision-critical results.

A chorus of education and training providers, for example, often repeats the refrain that they shouldn't be held accountable for easy-to-measure kinds of labor market outcomes that are beyond their control. Educators correctly note that post-exit employment and earnings may be affected by: a) non-work-related aspirations and intentions of some exiters; b) lingering vestiges of historically prejudicial hiring practices; c) unforeseen economic conditions; and etc. To the extent that they see their objectives to be imparting knowledge and honing the skills and abilities of their students, education and training providers are more receptive to being held accountable for their students' learning gains and attainment of skill standards or for turning out "well-rounded individuals" and "good citizens."<sup>33</sup>

Some employers and job-seekers also may conceive desired outcomes in ways that differ from what follow-up entities Florida, Texas and elsewhere currently measure. As companies downsize and adopt new human resource management practices, occupational employment (as we know it today) may give way to work performed by work teams composed of individuals who possess project-relevant KSAs.<sup>34</sup> While keeping only a small core of incumbent employees, firms may rely more heavily on contingent workers on a contract basis -- disbanding work teams and assembling new ones as specific projects come and go or as workloads peak and wane. An individual's bundle of knowledge, skills and abilities -- whether or not the bundle fits nicely within an occupational title -- will be more important to employers as they screen applicants and, therefore, to individuals seeking employment. Certification of employer-validated skill standard achievement and posses-

sion of appropriate non-cognitive skills -- such as those described in the Report of the Secretary's Commission on Achieving Necessary Skills (SCANS) -- will become increasingly important.

Welfare reforms that retract portions of the safety net also will generate increased interest in outcomes not yet documented. In particular, fringe benefits -- especially health care coverage and child care assistance -- may be of special concern. A review of the literature indicates that, in the absence of such benefits, any moderately prolonged illness or problems securing child care can disrupt the welfare-to-work transition of a single parent.<sup>35</sup> While UI wage records contain quarterly earnings data, most states do not collect information on the fringe benefits received by covered workers.

Unfortunately, the kinds of outcomes noted in the three paragraphs above are harder to measure than industry and occupation of employment, field of study or major, postsecondary hours attempted or completed, and postsecondary credentials earned. Some widely touted constructs (e.g., "well-rounded individual") are fuzzy. Others -- like the notion of "skills standards certification" and the SCANS attributes have been defined conceptually. However, those who will be expected to gather the outcomes data entailed by those concepts await official specification of standards as well as the development and validation of authentic assessment instruments and creation of a clearinghouse for data on anyone who achieves them. For still other suggested constructs -- like "learning gains" -- an unmanageable and chaotic overabundance of conflicting definitions and alternative assessment approaches and instruments exists.<sup>36</sup>

***Demands upon follow-up entities to examine harder-to-measure outcomes primarily is a depth of coverage issue that also will impact tool development, utilization, and customer satisfaction.***

***Follow-up entities may be asked to make estimates in areas where outcomes data can't be obtained through electronic record linkages.***

Despite a follow-up entity's good faith effort to locate and link to every viable outcomes resource database, several gaps in coverage will remain.<sup>37</sup> Most states, for example, still exempt self-employed persons from reporting their employment and earnings to the UI system. UI exemption patterns will not affect all education and training programs alike. Because hairdressers and barbers, realtors, and insurance agents are more likely to be self-employed than, say, registered nurses, fewer successful post-exit employment outcomes will be documented for graduates of Cosmetology, Real Estate and Insurance programs than for exiting cohorts of RNs.

***On the surface, this may be a depth of coverage issue or one of tool development.***

If the stakes of follow-up and accountability are raised by a state's move to performance-

based funding, an outcry may be heard from service providers whose programs are impacted negatively.

Conceivably, the follow-up entity in such a state might come under pressure to estimate the post-exit placement rate and earnings of hairdressers. The lead agency, for example, might be asked to extrapolate from data only on those hairdressers who are in the UI wage record database. They may be asked to make heroic assumptions in generalizing about labor market outcomes achieved by hairdressers based on limited information in the State Board of Cosmetology's licensure database. Under such circumstances, the follow-up entity's maturation may come to a grinding halt if it is forced to weigh its commitments to *breadth* and *depth of coverage* against its commitment to sound empirical research methods.

***This becomes a quality control issue if the follow-up entity is asked (for the sake of appeasing vocal stakeholders) to use unsound methods to estimate outcomes achieved by cohort members on whom it has no hard data.***

***Follow-up entities might be asked, to their detriment, to push the envelope to obtain more sensitive data.***

Taking the Cosmetology example above, we can conceive of another confounding scenario. Beauty school owners might suggest tapping income tax records (state or federal) to document Cosmetology program graduates' post-exit employment and earnings. Tapping tax records probably would provoke stronger public reactions than tapping UI wage records or postsecondary enrollment files. Tapping UI wage records electronically to improve employment and training programs is seen far and wide as a relatively benign *in-family* use. Tapping tax records, on the other hand, would somehow be perceived by many as a sinister use rather than a kindred one.

***This also is a depth of coverage issue that has significant implications for customer satisfaction. The general public -- all of whom are our customers have a legitimate stakeholding interest in safeguarding the privacy and confidentiality of sensitive personal information.***

While the co-authors expect most states' follow-up entities will succeed in overcoming privacy and confidentiality-based objections to tapping UI wage records, the mere suggestion that any lead agency tap more sensitive data in federal or state income tax records most likely would provoke nearly insurmountable opposition. Pressure on the follow-up entity to facilitate linkages to tax return files could have adverse affects -- and may even threaten to unravel hard-won existing agreements among partner agencies to exchange individually-identifiable data.

***Follow-up entities may have their wings clipped as concerns for data privacy and confidentiality increase.***

Data privacy and confidentiality are legitimate concerns. Follow-up entities already handle individually-identifiable and firm-specific data that are considered somewhat sensitive. All it will take is one breach of statistical aggregation rules -- even if inadvertent -- to fan the flames. If that happens, surely the offending parties -- both the individual staff member who breached the rules and the state's lead agency -- will be punished. Moreover, sanctions imposed on one state's lead agency could have a chilling effect on the behavior of follow-up entities in other states. In fact, litigation pressed through the federal judicial system could result in rulings that effect the terms and conditions under which every follow-up entity is given (or denied) any further access to individually-identifiable and firm-specific information.

The privacy issue is so sensitive that follow-up entities could experience spillover effects from other arenas. As we outline in Special Issues #5, adverse public sentiments on this issue may be triggered by events unrelated to follow-up and outside the public sector. Companies and individuals in the private

sector, for example, buy and sell private information about everyone's health status and consumer purchasing habits much to the annoyance and alarm of many citizens. In an effort to curb egregious abuses of privacy rights in other domains, legislators or judges may issue laws or rulings so sweeping that they impede all follow-up entities' access to the individually-identifiable outcomes data they need for legitimate program planning, evaluation, and improvement purposes.

***While they can't control the way private companies or other public agencies' disregard of data privacy and confidentiality, all follow-up entities should be diligent in tool development to create decision rules and routines (preferably automated) to guard against transgressions and vigilant about preventing access to individually-identifiable information in their possession. This also must be treated as an issue of quality control and as a critical topic for staff development.***

***Follow-up entities may be asked to measure outcomes over more extended timeframes.***

New concepts underpinning both education and welfare reform initiatives define desired outcomes in ways that require longitudinal measures over extended timeframes. Educators, for example, stress the need for lifelong learning as a major key to sustained employability. Similarly, with lifetime limits imposed on public assistance, "financial security" and "economic self-sufficiency" take on new meanings that entail longer horizons. Both reforms will necessitate longitudinal research.

Longitudinal research is more difficult to manage than single-shot follow-up studies. Files must be stored and secured for longer periods but must be readily accessible at appropriate intervals. Record lengths increase and or relational file structures grow more complex as new data are added with each successive longitudinal wave. Applicable statistical routines are more complicated. Long-term results are harder to interpret as: a) opportunities increase over time for intervening variables to confound correlations between major independent and dependent variables;

and b) the hit-ratio for electronic record linkages decays with each successive wave causing numbers in pertinent table cells to dwindle toward insignificance. (While the *hit ratio* also is apt to decay over successive longitudinal waves of electronic linkages, the rate of decay is not as great in automated follow-up as it is for traditional surveys that rely on contact information in former participants' files.)

Conducting such research may be especially hard for state follow-up entities because the duration of longitudinal designs will overlap things like: program years, biennial budgeting and planning cycles; possible turnover among line staff and leadership within the follow-up entity; or the changing of the guard in the governor's mansion and halls of the state legislature. During the intervening period of a five year longitudinal design, for example, opinions about what outcomes ought to count as "successes" may change two or three times as different partisan factions gain control of state government, as academicians introduce new concepts, or as advocacy groups adjust their strategies.

***Longitudinal research will have profound implications for depth of coverage, tool development, and utilization. It also will entail issues related to quality control, timeliness, and cost-containment.***

***The domain of follow-up studies (breadth of coverage) may be expanded.***

Success can have a bandwagon effect. As the lead agency demonstrates the value of automated follow-up, other stakeholders may ask for comparable services. Some of these stakeholders may be outside the boundaries of the current employment and training system.

The first example that comes to mind are a state's correctional facilities. Because basic education, vocational training, and postsecondary education up to and including postbaccalaureate degree programs may be offered to inmates, the proverbial camel has its nose under the tent. This puts a new spin on follow-up because Criminal Justice officials are not interested in employment and training as outcomes, *per se*; rather post-release employment, earnings, and educational pursuits of ex-offenders are important to them as intervening variables that may explain variance in recidivism. Given that recidivism is their chief concern, Criminal Justice official probably will want follow-up conducted on all released prisoners regardless whether they received training or not. Reverse linkages to the Criminal Justice system's own incarceration files will be necessary at several longitudinal intervals to determine recidivism patterns.

Moreover, serving the Criminal justice system is complicated by three additional factors. First, those incarcerated may have multiple aliases and multiple Social Security numbers. Secondly, the administration of correctional facilities is, if anything, less coordinated than the administration of employment and training programs. Records for persons incarcerated in a large number of municipal and county jails may not be included with in the database for the state's prison and all the above records are not articulated with the federal penal system's MIS. Lastly, records on juvenile offenders are considered especially sensitive and are safeguarded to such an

extent that follow-up of those trained then released from youth facilities probably will be impossible.

Some public agencies offer employment and training services independently of those funded with federal dollars from the Department of Labor. State oversight responsibilities for such programs may lie outside the HRIC, resting instead on the shoulders of a mega-agency devoted to health and human services or smaller discrete bodies. Their efforts may not be articulated through LWDBs with other DoL-funded employment and training programs. In Texas, for example, the Texas School for the Deaf volunteered to participate. Goodwill Industries also has made inquiries. Conceivably, the Texas Commission for the Blind, the state's Mental Health and Mental Retardation agency, and the Commission on Alcohol and Substance Abuse are likely candidates for future participation. Like Criminal Justice officials, those who administer such programs are interested in labor market and continuing education as intervening variables that may explain other kinds of outcomes nearer and dearer to their respective missions. Namely, officials from the health and human services arena are more interested in the self-sufficiency of their clients. The lead follow-up agency would have to identify and tap additional databases to document outcomes in that domain.

Parallel to School-to-Work, Welfare-to-Work, and re-employment of dislocated workers, a Return-to-Work (RtW)<sup>38</sup> concept is taking on a life of its own among entities outside the usual circle of partner employment and training agencies. In particular, RtW is the chief aim of services financed by workers' compensation and rehabilitation programs. Again, this expands the lead follow-up entity's domain because the health issues entailed therein introduce confounding variables, more taxonomies to be mastered, and additional record linkage logistics.

***The scope of follow-up activities and services may be expanded.***

If the current multitude of categorical streams are replaced with a smaller number of consolidated block grants, follow-up entities across the nation may be asked to help determine how those changes in federal funding streams impact service delivery and outcomes attained by persons who've received a wider variety of employment and training services.

***This entails issues related to utilization and cost-containment as well as depth of coverage. It also may entail breadth of coverage issues depending on which programs currently funded with categorical dollars are brought under the particular block grant approach that wins Congressional approval and the President's signature.***

Return on investment (ROI) may take on greater importance as more authority for program planning devolves to state and local authority while at the same time grant-receiving entities at all levels are under greater pressure to account for results. A follow-up agency's involvement in ROI matters will necessitate direct access to jealously guarded partner agency and service provider fiscal data. It may require greater collaboration with auditing and monitoring entities that might be somewhat feared or resented by stakeholding partners.

Depending on the strings Congress attaches to block grants and the degree to which funds flow directly to the local level (bypassing state-level control or oversight), follow-up entities may find some of the progress they've made toward centralization and standardization will be undermined.

***Follow-up entities will be expected to cope with changes in the ways employment and training services are delivered.***

A niche-market approach to competition, rejuvenated respect for legitimate private/proprietary training providers, and new instructional techniques and venues (like distance-learning) will increase the number of vendors whose exit cohort must be followed. A state's follow-up entity might not be given the authority to compel participation, for example, by private postsecondary institutions or proprietary trade schools. Lead agencies facing such obstacles will have to work all the harder to persuade key stakeholders to participate on a voluntary basis while trying to keep the playing field level for all partners whose participation is mandatory. In other cases, out-of-state stakeholders (like the University of Phoenix, a major distance-learning provider) may win a larger share of employment and training service delivery contracts with local workforce development boards. Sufficient information might not be included in partner agencies' MIS to facilitate production of seed records about in-state participants served by out-of-state vendors or through nontraditional venues and modalities.

Several economic development and welfare reform initiatives may result in more frequent use of short-term (less than semester-length) education and training. Public funding of relatively short, firm-specific training of welfare recipients may be used, for example, to entice businesses to locate in a particular state or community -- and especially in high poverty areas targeted as enterprise zones.<sup>39</sup> Entrepreneurial individuals not affiliated with specific educational institutions may land contracts under such initiatives to deliver short-course, firm-specific training. Part of the attraction of such programs to both employers and contract trainers is the promise of paperwork reductions that ironically may deprive follow-up entities the information they need to construct seed records.

Three other factors also are coming into play that may make it difficult to construct seed records:

- Under the One-Stop initiative, doors to unified career centers are open not only to persons eligible for specific services under employment and training programs but also to employers and job-seekers seeking information rather than to be enrolled in any publicly-funded program. Since persons visiting One Stop centers' resource libraries do not have to go through common intake, they might not be logged into any database though they receive services. Nonetheless, there are costs associated with serving them. One Stop Centers that do log resource room use are not likely to record information about self-help users and visitors at a level of detail sufficient to generate useful seed records.
- The One-Stop and related ALMIS initiatives emphasize universal access to labor market information. Many products (such as the AJB, ATB and CRS) and information about employment

and training services are available through the InterNet. Products on the InterNet can be used by customers anonymously in self-service mode. Those responsible for documenting outcomes and calculating things like ROI can't construct appropriate seed records because service providers themselves can't determine who they serviced.

- New rules and regulations separate local grant management and service delivery. At the same time, there has been a growing trend toward privatization. Thus, private for-profit firms like Lockheed-Martin and 501c(3) non-profit entities are leaping into the thick of things. In some places they are entering the employment and training system on the service delivery side; in others, they are entering on the administrative side. As such entities enter the employment and training system they develop independent management information systems or add new layers to existing legacy systems operated by a follow-up entity's partner agencies. In either case, such bifurcated governance and administrative arrangements will make it harder for follow-up entities to get their hands on seed records.

***All the factors under this subheading will impact a follow-up entity's progress along the breadth of coverage dimension. It may become increasingly difficult to determine who received what services at what cost. If that information is available at all, it may not be readily accessible to the lead follow-up entity.***

***As the stakes are raised more pressure will be put on follow-up entities to fine-tune their products and services.***

It is most appropriate that we conclude the main text of this *Guide* with remarks about fine-tuning follow-up products and services. In a sense, the dimensions arrayed on pages 284-285 are misleading. The arrays depict each dimension with a terminal maturation point. In truth, follow-up entities all must attempt to hit a wide variety of moving targets. The stakes are being raised all around every follow-up entity. Because customers and stakeholders perpetually will expect to have their programs compared fairly if not favorably, lead agencies will have to fine-tune their products and services constantly. The maturation process will never cease.

- The ever accelerating pace of technology change proportionately shortens the useful shelf-life of occupationally-related knowledge, skills and abilities. Lead time to update the curriculum and deliver appropriate education and training will grow ever shorter -- thus shortening the standard by which stakeholders judge *timeliness*.
- As the safety net shrinks and as economic upheavals dislocate more workers more frequently, it becomes increasingly critical for welfare recipients and job-seekers to have ready *access* to outcomes-based employment and training program performance information.
- Competition will increase among a larger number of service providers for already scarce tax dollars earmarked for education and training programs. Meanwhile, even if funding levels are

increased, each dollar will have to be stretched further as service-eligible populations increase. Service providers will insist on ever greater *depth of coverage* -- especially the examination of exogenous/contextual variables by a lead agency to ensure that *utilization* of follow-up information is fair and even-handed.

- Substantial numbers of citizens feel more and more burdened by taxes while growing ever more skeptical about the value of public services -- employment and training services included. Pressures probably will increase for *cost-containment* -- hopefully not to the detriment especially of *tool development, quality control, staff development, etc.* *Customer satisfaction* will be all the harder to achieve if the general public grows more skeptical and disenchanted. And, despite its good faith efforts and for reasons beyond its own control, every follow-up entity perpetually may face precarious *funding*.

The best thing any follow-up entity can do is embrace change, keep its eye on the moving targets and strive for continuous improvement in its products and services. There always will be room for the most mature follow-up entities to improve even along dimensions where they already excel. Moreover, the closer one gets to full maturity, the more units of effort it will take for each increment of gain.

As the co-author with a perpetual weight problem sees it, the maturation of follow-up entities is like dieting and exercise. It seems to take as much effort to lose the second ten pounds as it did to lose the first twenty, and it will take as much effort thereafter to lose the next five pounds. To all willing to make the effort. . .

**GOOD LUCK**

## ENDNOTES

- <sup>1</sup> Many of the same techniques used in an initial environmental scan can be used to keep abreast of changes in external demands and expectations. Rather than reiterate them here, we refer you back to Chapter III of this *Guide*.
- <sup>2</sup> Edward Yourdon, *The Rise and Fall of the American Programmer* (Englewood Cliffs, NJ: Prentice Hall/Yourdon Press, 1993) pp. 73-91. Yourdon attributes this model to the Software Engineering Institute.
- <sup>3</sup> Thomas Kuhn, *The Structure of Scientific Revolution - 2nd Edition*. (Chicago, IL: University of Chicago Press, 1970).
- <sup>4</sup> Everett Rogers, *Diffusion of Innovation - 3rd Edition* (New York City, NY: The Free Press, 1982).
- <sup>5</sup> In his own pithy style, Yourdon recommends lowering initial expectations: “It took years to accumulate this mountain of crap. All the edicts in the world aren’t going to change it over night.”

The question is, what do you tackle first if you can’t “fix” everything immediately. Do you tackle the oldest legacy follow-up approach employed by partner agencies first on the assumption that it is most in need of rejuvenation? Do you make modest changes in the best of the partner agencies’ legacy approaches to follow-up on the assumption that it is the most salvageable and most likely to yield visible successes with the least effort? Do you tackle the worst legacy approach on the assumption that it is reaping the most havoc. Do you tackle the most critical or largest legacy system on the theory that doing so will have the most visible pay-off? Do you start with a partner agency that currently does no follow-up whatsoever on the assumption that, *tabula rasa*, you can create and demonstrate the effectiveness of a pristine approach (true to the ideal model) unfettered by any legacy. Sorry, but the co-authors can’t answer these questions. Each state probably will tackle its legacy systems in a different sequence depending on who proposed automating and centralizing follow-up and where the lead agency is housed.

- <sup>6</sup> Yourdon advises against what he calls the “sheep dip approach.” You can’t dunk everyone in a new accountability paradigm and expect them to become experts and converts over night. Implementing follow-up in the midst of legacy systems can be frustrating. It’s not like installing a new hard disk or firmware. You can’t give adherents of legacy systems a lobotomy to “reformat” their minds and “refresh” their memories. While *evangelists* will embrace a new approach whole-heartedly, the vast majority will “muddle along adopting the new approach piecemeal.”

- <sup>7</sup> By “routines,” we mean: statistical job control language; lines of programming code; SQLs; wordprocessing boilerplates; and report formats or templates.
- <sup>8</sup> As pioneers and popularizers of automated and centralized follow-up, the co-authors often are approached by our counterparts in other states who are looking for a magic silver bullet, a single piece of advice that will ensure their success. Unfortunately, there is no single silver bullet. As the old adage goes, success is “one part inspiration and nine parts perspiration.” It requires: commitment; careful planning; persistence; honest self-assessment; the detachment and integrity to abandon fruitless activities; sufficient flexibility to adapt to change; and the dogged dedication to improve even those products and services that already are successful and valued by stakeholders and customers.
- <sup>9</sup> Marc Anderberg addressed this concept in a workshop at the 1997 National Tech Prep Conference in Nashville, Tennessee and is in the process of writing a monograph on the topic for the Texas SOICC’s occasional paper series entitled “*Premature Evaluation: Waiting for Data to Ripen.*” The concept also is addressed in unpublished working papers by Marc Anderberg and R.D. Bristow to guide the Texas Interagency Management Team’s approach to performance measurement under the state’s School-to-Work implementation grant.
- <sup>10</sup> One former Executive Director of Texas’s HRIC, for example, required the state’s central follow-up entity to submit reports quarterly on the number of correspondences it issued, the number of publications it distributed, and the number of calls in its telephone log. While consuming several hours to compile each month, such reports were relatively meaningless and a waste of time since, for example, thank you letters to well-wishers were counted the same as interagency memos issued to nail down critical items being negotiated in data exchange agreements. While such reports may give the recipient a sense of being on top of things, they indicate virtually nothing about the performance of the lead agency.
- <sup>11</sup> Those institutions that participate voluntarily will not necessarily be representative of all community colleges; technical program graduates may not represent the mix of technical program completers and leavers; participants in technical programs may not be representative of all community college exiters (some of whom were academic majors or continuing education students who didn’t have to declare a major); community college exiters may not be representative of all who pursue education and training at the postsecondary level -- much less of all who participated in employment and training programs at any level (secondary and second-chance programs included). Moreover, the sample size may have been so unscientifically selected and/or too small to generate meaningful inferential statistics.
- <sup>12</sup> Note the key word is “relevant.” While the lead agency may become very efficient in gathering occupational employment data through an employer follow-up survey, there probably is no point in going to that expense on behalf of adult education and literacy programs since training-relatedness is not a factor in assessing their post-exit labor market outcomes.

- <sup>13</sup> For example: earnings gains and employment retention.
- <sup>14</sup> For example: occupational titles, training-relatedness of post-exit employment, and geographic patterns of occupational employment.
- <sup>15</sup> Such as pre-service to post-exit earnings gains.
- <sup>16</sup> It will establish linkages, for example, to federal and out-of-state databases to document employment and training outcomes not covered by in-state resource databases.
- <sup>17</sup> For example, it will identify incarcerated or deceased members of the exit cohorts to eliminate them from performance calculations.
- <sup>18</sup> For example, it will use regional unemployment rates to adjust expected values for specific program performance according to the capacity of the labor market in the service provider's region to absorb additional workers. Rather than repeat all the possible adjustment factors and contextual variables, we turn your attention back to Chapter VI, particularly pages 248-250.
- <sup>19</sup> For example, they may want to know the standard deviation, skewness, and kurtosis of the frequency distributions.
- <sup>20</sup> For example, a crosswalk between lay payroll titles and OES titles.
- <sup>21</sup> For example, a state-specific CIP-to-OES crosswalk.
- <sup>22</sup> These concepts are discussed at length in Chapter VI as well as several of the Technical Appendices on Special Topics and, to a lesser extent, in Chapter III.
- <sup>23</sup> A discussion of the pros and cons of an enhanced quarterly report are provided in the Technical Appendix on that special issue.
- <sup>24</sup> Bar coding of mailout and return envelopes, provisions for responding electronically; scanning returned surveys; autocoding variables; etc. can make the process more efficient. (See Chapter IV.)
- <sup>25</sup> Errors may include more than improper calculations or misinterpretations of the data. Error capture may consist not only of re-examining formulas used to calculate performance indicators but also of wordprocessing macros to search the text of formal reports before they are issued to prevent inadvertent use of certain highly politicized words or phrases that have triggered unnecessarily negative reactions. In Texas, for example, all formal reports are searched automatically to eliminate reaction-provoking uses of "student tracking" and to replace "matching" where technically we meant "linking."

In other instances, a figure may be calculated properly but may be based on such a small number of observations that disclosure may impart individually-identifiable or firm-specific information where release would be an “error” in the sense that it violates data privacy and confidentiality rules. Tools have to be developed to scan reports, tables and data files to detect such cases and enforce aggregation to a broader level before they are released publicly.

- <sup>26</sup> See Marc Anderberg and Richard Froeschle, *The Anatomy of an LMI System for the 21<sup>st</sup> Century: The Role and Practices for Transactional Analysis and Descriptive Statistics in a Comprehensive LMI System*. (Washington, DC: Employment and Training Administration, forthcoming).
- <sup>27</sup> Delivering information too early may be as bad as delivering data too late. See page 243. Ideally, if follow-up data could be updated in real-time (per fn 25 above) and mounted on the InterNet in the aggregate according to rules for the protection of data privacy rights, end-users could access the information just in time to use it as they make decisions.
- <sup>28</sup> Especially through the substitution of an enhanced quarterly UI report and electronic linkages to a richer resultant UI wage record database in place of a more costly employer follow-up survey.
- <sup>29</sup> In Texas, for example, the lead agency’s budget for the first four years included funding only for a limited number of hardcopies of its final report to partner agencies and for delivery of ten copies to the Texas State Library System with no funds to cover mounting reports or aggregate data on a website to facilitate electronic access. The assumption was that the distribution of copies to the Texas State Library System would suffice to get decision-critical information into the hands of all potential users. That assumption was heroic insofar as most potential customers had no idea that the follow-up entity’s reports existed or that the reports contained information that was vital to their individual decisions about employment and training options.
- <sup>30</sup> In the private sector, the bulk of staff development dollars are spent on upper management. In a follow-up entity line staff probably will have serious number crunching, programming and customer support responsibilities. Equal attention must be paid to their professional development to keep their skills sharp and their knowledge up to date. Not only should the entity compute what portion of its budget is spent on professional development but also those figures should be broken out into portions spent on management training and line staff development.
- <sup>31</sup> Quoted by Yourdon, *op. cit.*, p. 54.
- <sup>32</sup> Paraphrasing Arthur C. Clarke, *Profiles of the Future - 2nd Edition* (New York City, NY: Holt, Rinehart and Winston, 1984) as quoted in Yourdon, *op. cit.*
- <sup>33</sup> For a brief introduction to these issues, see Diane Halpern (ed.), *Student Outcomes Assessment:*

*What Institutions Stand to Gain* (San Francisco, CA: Jossey-Bass Publisher, 1987); particularly the chapter contributed by Peter Ewell entitled, “*Establishing a Campus-Based Assessment Program*,” and Alexander Astin’s “*Assessment, Value-Added, and Educational Excellence*.” See also J. Gaither and J. Neal, *Measuring Up: the Promises and Pitfalls of Performance Indicators in Higher Education* (Washington, DC: ASHE-ERIC Clearinghouse on Higher Education, 1994) and Neal Postman, *The End of Education* (New York City, NY: Alfred Knopf, 1995).

- <sup>34</sup> See Marc Anderberg and R.D. Bristow, *Converging Paradigms: the World of Work vis a vis the World of Education and Training* (Austin, TX: Texas State Occupational Information Coordinating Committee, 1997) and Marc Anderberg and Richard Froeschle, *op. cit.*
- <sup>35</sup> King, et.al., *A Baseline Analysis of the Factors Influencing AFDC Duration and Labor Market Outcomes*, (Austin, TX: Center for the Study of Human Resources/University of Texas, 1991); King, et. al., *Texas JOBS Evaluation Final Report* (Austin, TX: Center for the Study of Human Resources/University of Texas, 1994); Christopher King and Deanna Schexnayder, *Welfare Dynamics in Texas: An Exploratory Analysis of AFDC Turnover and Program Participation* (Austin, TX: Center for the Study of Human Resources/University of Texas, 1998). Also Jean Kimmel, *Reducing the Welfare Dependence of Single-Mother Families: Health-Related Employment Barriers and Policy Responses* (Kalamazoo, MI: W.E. Upjohn, 1996).
- <sup>36</sup> An undercurrent in the readings edited by Halpern (*op. cit.*) is that: a) individual instructors know best knowledge and skills they intended to impart and how to measure their attainment by students; b) it may be possible for the combined faculty in a single department at a single educational institution to agree on measures of their majors’ attainment of essential core knowledge in their discipline; c) at best, one might push the envelope as far as assessing the attainment of the core knowledge of students from related disciplines in a single division or for all students at a particular campus. Consensus at this stage on what constitutes core knowledge and how to measure it across disciplines or campuses seems pretty much out of the question and few dare suggest that to make fair and meaningful comparisons one needs broader consensus on both the definition of and instruments for assessing learning gains.
- <sup>37</sup> See, for example, James Glass and Melinda Ephraim, *ALMIS UI Wage Record Study Consorti-um Subtask Report: Non-Coverage in Unemployment Insurance Wage Records and Alternative Database Resources* (Austin, TX: Texas, Texas State Occupational Information Coordinating Committee 1996).
- <sup>38</sup> Christopher King and Susan Hadley, *Return to Work Programs for Texas Workers’ Compensation Claimants: Suggested Design Parameters* (Austin, TX: Center for the Study of Human Resources/University of Texas, 1994). King, et.al., *Return-to-Work Patterns for Injured Workers Covered by Texas Workers’ Compensation Insurance* (Austin, TX: Texas Workers’ Compensation Research Center, 1993). Christopher King, *Return-to-Work Patterns and Time Intervals for Worker’s Compensation Claimants Reaching Maximum Medical Improvement*

(Austin, TX: Center for the Study of Human Resources/University of Texas,1995).

- <sup>39</sup> Texas, for example, has launched a program called “Smart Jobs” that can use surplus dollars in the state’s Unemployment Insurance Trust Fund to pay for short-term employee training to the specifications of employers who agree to hire economically disadvantaged persons, enroll them in the training, and retain them in jobs located in economically depressed areas. For an explanation of how UI Trust Funds are built up and how surplus dollars might be available for in-family uses related to the spirit of Wagner-Pyser, see Robert Tannenwald and Christopher O’Leary, “*Unemployment Insurance Policy in New England*,” (Kalamazoo, MI: W.E. Upjohn Institute, 1997), particularly the discussion of reserve ratios in the section on financing the trust fund on pages 11-16.

## NOTES

## **SPECIAL ISSUE #1: TRAINING-RELATEDNESS OF POST-EXIT EMPLOYMENT<sup>1</sup>**

### **Synopsis**

At one time or another, every follow-up entity is bound to be asked to address the issue of training-relatedness of post-exit employment. While the decision to measure training-relatedness is best left to those in the political arena, follow-up staff should be prepared to render technical advice to policy-makers on the advantages and disadvantages of the most frequently used methods for making such determinations. This chapter outlines the most common approaches in light of the kinds of data and process considerations involved in each.

### **I. The Issue of Training-Relatedness.**

Whether a central follow-up entity's administrators work comprehensively with all of a state's education and training programs or on a limited basis with a select few, the issue of determining the relationship of a job and the education and/or training provided is inescapable. First, measures of training-relatedness often are used to rate the success of vocational programs. Second, training-related placements may be prescribed in performance-based contracts for certain training vendors. Third, as states experiment with funding education and training programs on an outcomes basis rather than according to enrollments, the issue of rewarding the degree to which persons obtain jobs related to their occupational preparation is a prime consideration.

Arguments abound regarding the appropriateness of performance evaluations that include training-relatedness measures. Proponents for their inclusion argue that assessing the training-relatedness of post-exit employment is plain and simple common sense. Their arguments have intuitive appeal and resonate well among those who foot the bills (prospective students and their parents, adult learners and workforce development program participants, and other taxpayers). Similarly, elected officials -- as stewards of public funds -- want assurances that constituents are getting their money's worth for every dollar invested in education, training, workforce development and welfare-to-work programs. Administrators assert it stands to reason that, given the way students and adult learners are recruited and counseled, programs should be held accountable for the training-relatedness of graduates' post-exit employment. Further, because employer input regarding occupational skill needs is supposed to drive curriculum development, the relatedness of post-exit employment is becoming more crucial to justifying programs and the approval of service providers' budgets.

The primary counter-argument asserts that the purpose of education and training is more than career preparation; i.e., that education and training have value even for students who do not obtain related jobs upon program exit. By virtue of completing any program, so the argument goes, students demonstrate their readiness to move into the world of work. There they will be expected to acquire occupationally-specific and firm-specific skills and competencies on the job according to their particular employer's requirements. Employers, according to this model, add the "finishing touches." Prior demonstrated capacity to learn and perform to some set of expectations -- as

reflected in a formal credential -- is taken as an indicator of how quickly and thoroughly a program completer can become a productive, conscientious, and useful member of any employer's team.<sup>2</sup>

An additional argument against developing performance measures based on training-relatedness has to do with students' intentions as they enroll in occupational preparation programs. Particularly in postsecondary education or training, the relationship between a student's jobs and training program actually may be a consequence of his or her pre-enrollment employment experience rather than the program itself. Students often enroll in occupationally-specific programs intending to supplement their prior educational experiences in order to improve their current employment situations rather than to develop totally new job prospects. In this light, training-relatedness performance measures don't factor in the primary customer's purpose in pursuing education and training, and, thus, probably should not be considered.<sup>3</sup>

Still others would argue that the mission of education is to turn out "good citizens" or "well-rounded individuals" or "knowledgeable, thoughtful and reflective persons." Those who assert the primacy of these non-quantifiable (or at least not yet operationally defined) objectives tend to deny that any labor market outcome measures are relevant. Such persons are particularly adamant in their opposition to any use of training-relatedness measures in evaluating educational programs. By and large advocates of this position are involved in academic rather than vocational, technical or pre-professional programs.

It is not the purpose of this section to present an exhaustive justification for including or excluding "relatedness" in state performance measurement systems for education and training programs.<sup>4</sup> Nonetheless, the issue will be raised as each follow-up entity goes about its business. It probably is not the place of a follow-up entity to determine if a state should adopt training-relatedness as a core measure. However, once the issue is raised by partner agencies -- as inevitably it will be -- follow-up staff should be prepared to render sound advice about the *pros* and *cons* of various approaches to measuring the relatedness of post-exit employment. The authors of this *Guide* have written this section under the assumption that some form of a training-relatedness measures will have to be developed and accommodated by each follow-up entity.

***Even if it did not instigate the use of training-relatedness as an outcome measure, the central follow-up entity will be expected to explain and defend any methodology dictated by key decision-makers at higher levels.***

We will discuss four general approaches. One will be based on a belief that reasonable measures can be developed through the use of employment data coded according to the Standard Industrial Classification (SIC) supplemented by information available from other sources. Two will rely on annual employer surveys to collect occupational employment data. They will be based on the idea that occupational information is required when determining training-relatedness. (These two approaches are differentiated on the basis of who determines what is related and what is not.

In one, local analysts drive such decisions; in the other, decisions are driven by program-to-occupational crosswalks.) The fourth approach will be based on an infrequent employer survey (as opposed to an annual process) used to benchmark related employment by industry. Regardless of approach used, a key underlying notion in this section, consistent with a theme in this *Guide*, is that a follow-up entity should retain the aura of a detached third party in any effort that results in evaluating program performance. That is, a follow-up entity should remain neutral regarding adoption of any training-relatedness measure in theory but, once other parties have moved and seconded adoption of such a measure, a follow-up entity should be pro-active to ensure that a sound methodology is implemented.

## **II. Training-Relatedness Based on Program Type and Standard Industrial Classification**

### **A. Use of SIC-based employment information.**

All states that operate wage record systems will have a capacity to identify the Standard Industrial Classification (SIC) of each reporting establishment. SIC coding is done at the detailed (four digit) level. This taxonomy offers a standard approach to identifying sectors of the economy by the goods or services produced by employers who report to the wage record system. When exit records of students or participants containing program identifiers are linked to wage record data, the SIC designation may be sufficient by itself to associate a program with each subject's post-exit employment.

For example, when the record of a completer of a vocational program in *Automotive Technology* is linked to an employment record where the firm is classified as a *General Automotive Repair Shop* (SIC 7538), or an *Automotive Transmission Repair Shop* (SIC 7537), there is a high probability that the post-exit employment and the program are related. Graduates of *Emergency Medical Technology* programs found employed in *General Medical and Surgical Hospitals* (SIC 8062) or *Fire Protection* (SIC 9224) also might be assumed to be in program-related employment. Similarly, if the record of a graduate of an *Architectural* program at a university is linked to a record for an *Architectural Services* firm (SIC 8712), chances are that the education program and the post-exit employment are related.

Figure I, on the next page, offers similar examples of relationships between education and/or training programs and certain employer classifications which are related logically.

There are many other examples of apparent relationships between preparation in an occupationally-specific training program and employment in particular industries designated by SIC codes. There also are many situations, however, where the SIC classification offers no clue about the relationship of a linked job and a completer's or leaver's program. For example, one of the fastest growing employment sectors in the nation's economy is the *Business Services - Help Supply Services Industry* (SIC 7363). This and similar employee leasing operations in other sectors provide temporary employees in a broad array of occupational specialties to a variety of different

**Figure I**

**Examples of Training Programs and Related SIC Designations**

Education/Training Program	SIC Designation	SIC Code
Accounting or Bookkeeping	Accounting, Auditing, Bookkeeping Services	8721
Automotive Repair	Automotive Repair Shops	7530
Carpentry	Carpentry Work	1751
Child Care Worker	Child Day Care Services	8350
Electrician	Electrical Work	1731
Masonry	Masonry, Stone Setting, and Other Stone Work	1741
Heating, Air-Conditioning	Air-Conditioning Repair Heating Units and Devices	7623 3567
Hospitality Management	Hotels and Motels	7011

establishments. Graduates from each of the programs shown in Figure I (e.g., *Automotive Mechanics*, *Emergency Medical Technology*, and *Architecture*) could be employed through temporary help agencies in related or unrelated job assignments. Similarly, graduates of *Bookkeeping*, *Secretarial Science*, *Truck Driving*, and other occupationally-specific training programs could be employed in establishments classified as *Automotive Dealers*, *Hospitals*, or *Architecture* as well as *Accounting*, *Business Services*, or *Trucking* firms in training-related or unrelated jobs. Therefore, situations will occur where no reasonable assumption about relatedness can be made unless the analyst has access to some other pieces of information.

In summary, in some cases, the SIC designation may be a useful tool in relating training and employment and in others it has limited or no utility. In the former, those wishing to analyze the relationships probably need no additional information. In the later, additional information must be brought into the process. Where the training-relatedness of post-exit employment is painted with a broad brush (e.g., for the purpose of long-range strategic planning), an approach that relies only on the industry of employment (by SIC code) might suffice. However, if the measure is integral to performance-based funding, operational planning, career counseling or program management, the state probably will need to refine the determination of training-relatedness more precisely by supplementing SIC-based employment data with other kinds of information.

## B. Uses of employment data organized by SIC and OES program resources.

Earlier in this *Guide*, we suggested that many users of a central follow-up entity's services will require or be interested in having occupational employment information. A process was described where such information can be collected by contacting employers directly and requesting that they specify the job titles of certain employees identified through record linkages. In some situations, however, resource limitations or other considerations<sup>5</sup> may dictate that such efforts should not be undertaken by the follow-up entity. In the absence of these additional occupational employment data, then, how might training-relatedness be determined in cases where the SIC and program designations do not offer reasonable clues?

A potential answer lies with the use of staffing-pattern products developed by states' labor market information (LMI) units through the federal/state Occupational Employment Statistics program. The central feature of this program, herein after referred to as the "OES program," is that employer surveys can be used to develop occupational staffing-patterns by industry groups (classified by SIC codes). These staffing-patterns, when applied to industry employment and projections information (also by SIC), are then used to estimate and project occupational employment. Occupational staffing-patterns, as suggested in Figure II, represent the distribution of employment in a given industry or set of industries by various occupational classifications. Said another way, a staffing-pattern represent the probability that employment in a particular industrial classification is in a particular occupational classification or set of classifications.

One might conclude, then, that a staffing-pattern could be used to determine the likelihood that subsequent employment is related to an occupationally-specific training program. Thus, from Figure II, one might conclude that graduates of a vocational certificate program in *Automotive Mechanics* are highly likely to be employed in a related occupation when they are found employed in an *Automotive Repair Shop*. Over 56% of the occupations in this industry are related to the program. Similarly, graduates of a *Day Care Supervision* program can be assumed to be in a related job when found employed in the *Child Care Services* industry where 83% of the occupations relate.

Information in Figure II supports contentions made in the previous section regarding use of the SIC code. The question becomes whether or not graduates of a *Bookkeeping, Accounting, Office Clerk*, or *Secretarial* program are likely to be in a related job when found employed in either of the two industries shown. Related occupations do occur in these industries. Without some previous experience or training, graduates of these programs are unlikely to be employed as *Automotive* or *Child Care*-related workers. It may be safe, therefore, to assume that the graduates are in related jobs. This assumption might be bolstered if one considers the level of training required for each occupation in question.

**Figure II**

**Examples of OES-Derived Staffing-Patterns**

OES Code	Occupational (OES) Title	Industry 1: SIC 7530 Automobile Repair Shops Staffing Pattern for the year 2000	Industry 2: SIC 8350 Child Day Care Services Staffing Pattern for the year 2000
85302	Auto Mechanics	25.1%	N/A
85305	Auto Body Repairers	11.8%	N/A
81002	Supervisors, Mechanics	10.6%	N/A
19005	Managers, General	6.5%	1.9%
98102	Mechanic Helpers	6.0%	N/A
49014	Sales Persons Parts	3.2%	N/A
55338	Bookkeeping/ Acct. Clerks	2.2%	0.5%
55347	General Office Clerks	2.8%	0.63%
92947	Painters, Transport Equip.	2.5%	N/A
55108	Secretaries	2.4%	0.79%
85311	Diesel Mechanics	2.4%	N/A
41002	Sales Supervisors	2.3%	1.1%
67005	Janitors and Cleaners	1.8%	1.0%
68038	Child Care Workers	N/A	61.5%
31302	Teachers, Preschool	N/A	17.6%
65028	Cooks, Institution	N/A	4.0%
53904	Teacher Aides	N/A	3.8%

\*These examples, taken from information published by the Texas State Occupational Information Coordinating Committee, include additional occupational titles for each of these industries. These are included in the category "Other Occupations." In SIC 7530, there were 23 additional occupations, including various mechanics and installers, financial managers, drivers, and others. In SIC 8350, there were nine additional occupations including drivers, financial managers, social service technicians and others.

Figure III, developed from Figure II, indicates preparation levels (see Figure III notes) assigned to each of the occupations in the two industries.

**Figure III**

**Education Preparation Levels for Occupations Identified in Figure II**

OES Code	Occupational (OES) Title	Preparation Level
85302	Auto Mechanics	2
85305	Auto body Repairers	2
81002	Supervisors, Mechanics	2
19005	Managers, General	0
98102	Mechanic Helpers	4
49014	Sales Persons Parts	3
55338	Bookkeeping/ Acct. Clerks	3
55347	General Office Clerks	3
92947	Painters, Transport Equip.	3
55108	Secretaries	3
85311	Diesel Mechanics	2
41002	Sales Supervisors	2
67005	Janitors and Cleaners	4
68038	Child Care Workers	3
31302	Teachers, Preschool	2
65028	Cooks, Institution	3
53904	Teacher Aides	3
15005	Education Administrators	0
XXXXX	Other Occupations	X

Notes: Where 0 = managers, 1 = Four year degree or more, 2 = two or three years of postsecondary education or training, 3 = high school plus less than 2 years of postsecondary education or training, and 4 = less than a high school education. These levels were developed by the DoL from Specific Vocational Preparation codes assigned to occupations in the *Dictionary of Occupational Titles* and crosswalked to broader titles in the OES taxonomies.

Figure IV was developed by using occupational staffing-patterns to distribute preparation levels for each of the industries. In effect, Figure IV represents staffing-patterns by preparation level for the two industries. Staffing-patterns like these could be used to determine the probability

that graduates at a certain level of preparation are employed in the industry. Data in Figure IV indicate a high probability that employment in industry 7530 will be in a job requiring two to three years of vocational training. A lower level of requisite training characterizes industry 8350. Therefore, it would be safe to assume that graduates of programs at those preparation levels are using their education/training when employed in the industries.

**Figure IV**  
**Preparation Level “Staffing Pattern” for Figure II Industries.**

Preparation Level	Industry 7530 Automotive Repair	Industry 8350 Child Care
0	6.5%	4.3%
1	0	17.6%
2	52.2%	1.1%
3	13.3%	71.2%
4	7.8%	1.0%

For demonstration purposes, only the displayed occupations from Figure II were included in preparing this table.

An additional tool that could be helpful in determining the likely relationships between industrial classifications and occupational preparation programs is available from the state’s labor market information (LMI) unit or its Occupational Information Coordinating Committee (SOICC). It is another OES program product referred to as a *inverse matrix*. The type of product shown in Figure II is a *staffing-pattern matrix*. With a *inverse matrix*, the starting place is an occupational title rather than an industrial classification. Employment in an occupation is distributed by industry. Figure V shows such a *inverse matrix* for the occupation, *Medical Laboratory Technologist*.

In Figure V, the third column, “Occupational Distribution in the year 2000,” represents the percent of employment in the occupation as projected to occur in the industries illustrated. The fourth column, “Percent of Total Industry,” represents the same sort of distribution as in Figure II also for the year 2000. According to Figure V, 45.2% of employment in the occupation *Medical Laboratory Technologist* will occur in the *Hospital* industry (in Texas -- each state will have a unique set of relationships of its own), 14.6% will occur in *Medical/Dental Laboratory* establishments, etc. The *reverse matrix* can provide additional hints about the relatedness of graduates’ post-exit employment in a particular industry to the training programs from which they graduated.

None of the approaches illustrated above will provide absolute assurance that employment in a particular industrial classification is related to a particular training program. They can offer

reasonable hints to guide one's analyses. The co-authors contend that occupational information collected from employers through a follow-up program offers the most promise for determining these relationships.<sup>6</sup>

**Figure V**  
**Employment Patterns for Medical Laboratory Technologist**

SIC Code	SIC Title	Occupational Distribution in the year 2000	Percent of Total Industry
8060	Hospitals	45.2%	1.7%
8070	Medical/Dental Laboratory	14.6%	13.7%
9100	Federal Government	10.6%	0.5%
8010	Offices/Clinics, Doctors	8.4%	1.0%
8730	Research/Testing Services	4.2%	1.4%
8090	Misc. Health Services	2.5%	2.3%
9999	Self-Employed	1.2%	0.02%
8030	Offices/Clinics Osteopathy	0.2%	1.0%

### III. Using an Employer Survey as a Basis for Relating Employment and Training.

A process for obtaining occupational information from employer surveys is discussed at length earlier in this *Guide*. This section assumes that the follow-up entity obtains occupational information from such a survey.

#### A. Facilitating analysis on a case-by-case basis.

In some cases, it will be desirable to facilitate decisions that relate programs and employment on a case-by-case basis. There can be many reasons for this. Vocational program administrators may have that role assigned them by legislation or tradition. In that case, they will be reluctant to turn that authority over to a third party (e.g., the follow-up entity). They may feel that their local programs are unique from one area to another and cannot be analyzed properly by people who are not familiar with curricula design. Local administrators may feel that their programs respond to the needs of local employers and cannot be evaluated by bureaucrats residing far away in the state's capital city.

Administrators and employers may feel that state (or national) program and occupational coding schemes do not account adequately for their unique situations. Stated another way, it may be impolitic for a central follow-up entity to assume this role. It may be impolitic to use national crosswalks (or even a version of the crosswalk validated at the state-specific level) to determine local program-to-employment relationships.

This was a situation faced by the staff of the Florida Education and Training Placement Information Program (FETPIP) when it was first established. When Florida's program was established officially by legislation in 1989, there was a long tradition of local vocational administrators determining relationships between training programs and their former students' post-exit employment. These data were collected and analyzed locally with results reported to the state annually. Additionally, local administrators had not fully embraced the use of coding system crosswalks or a state-level role in any of the analysis or reporting. They had, however, begun to use FETPIP data in combination with locally-collected data for their analyses and state reporting. In essence, they received individual-level follow-up data, combined it with their own on-campus information, and evaluated relatedness on a case-by-case basis. Other states may face similar situations as they centralize follow-up activities and services.

Any administrator or evaluator choosing to determine relatedness on a case-by-case basis faces an arduous task involving the review of thousands of post-program employment situations. Potentially thousands, even tens of thousands, of employment situations will have to be evaluated individually to develop training-related statistics. Faced with this situation, a follow-up entity should devise automated tools to facilitate that process. We suggest that such tools be devised for use in a personal computing environment with the software made available widely and economically (if not free of charge) to potential users. The tools should begin with a simple menu that guides users, especially those who are not particularly computer-literate, through a logical process that begins by loading follow-up data into an underlying file structure. The menu should have at least the seven functions suggested in Figure VI.

Initially, a reviewer would use the cursor, either with arrow keys or a mouse, to choose option 1, *create a training-relatedness database*. This selection should lead the user through a sequential process of inserting a disk (provided by the follow-up entity), and a series of steps to create the database. The steps might be enumerated on a separate screen or could be imparted through a sequential series of instructions -- perhaps with an hourglass icon alerting users to wait while program instructions are being executed. The second selection, *make training-related decisions* leads to a screen such as the one shown in Figure VII.

The central part of the training-relatedness application is a "window" that helps the analyst go through each unique post-exit employment situation and rate how closely it is associated with each education and training program being reviewed. This window into the data will be the means by which training-relatedness decisions are made, how they are reviewed and edited, and will be the basis for any reporting. The window might appear as shown in Figure VII. This is essentially

**Figure VI**

**Training-Relatedness Application Main Menu.**

**Training-Relatedness Application**

- 1. Create Training-Relatedness Database** - *This utility allows an analyst to insert a disk containing the individual-level local follow-up data to be evaluated into his/her machine for loading into the application. The disk should be provided by the follow-up entity and contain only those data that are appropriate for the particular analyst.*
- 2. Add Supplemental Data** - *If locally collected data can be used to supplement data collected by the lead agency, a menu item should be included that allows those data to be loaded into the system.*
- 3. Make Training-Related Decisions** - *This utility allows an analyst to review each unique employment situation. "Unique" means unique to each education/training program and to employment by industry and occupation. For example, all graduates of a nursing program who are employed in health services as nurses should be combined into one "record" so the situation is evaluated once and only once rather for each of the several persons individually who are similarly situated. (This will ensure both inter-coder reliability and eliminate inconsistent decisions made by a single coder who might review the same combination at a later date.)*
- 4. Recommend Edits to the Training-Relatedness Crosswalk** - *This item allows an analyst to browse and review decisions made previously. It allows an analyst to "find" particular records that may need further review.*
- 5. Create Database** - *This utility backs up recommendations that have been made and establishes a database for report generation.*
- 6. Create Reports** - *This allows an analyst to generate a standard set of reports that are either optional or a required part of their reporting processes. A variety of reporting options could be provided.*
- 7. Exit the System** - *This allows an analyst to get out of the tool entirely. It should be anticipated that occasional exits can occur before all "relatedness" decisions are reviewed. In such cases, the exit utility should automatically record and back up all prior decisions. The exit point should serve as the reentry point for subsequent decisions.*

what an analyst would see after choosing the second option from the initial menu. By choosing the third option, a reviewer should be provided with a key word (program title or record number) to facilitate reviewing particular determinations made earlier.

**Figure VII**

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**Training-Relatedness Evaluation Window**

---

Program Name: Registered Nurse  
Program Code: 0318110100

Occupational Title: RN                      SIC Title: Hospitals  
Occupational Code: 32503                      SIC Code: 8060

---

Number of Situations: 87

---

**RELATIONSHIP CODE: 1**

---

1 = Occupation Directly Related  
2 = Occupation Somewhat Related  
3 = Occupation Not Related  
4 = No Occupation, Industry Related  
5 = No Occupation, Industry Unrelated  
6 = Unable to Determine

---

Entering a relationship code will move you to the next window.  
Use page up, page down functions to move forward or backward with the windows.  
Push "ESC" - escape to return to the main menu.

---

Each window, of the sort shown in Figure VII, reflects a unique post-exit employment condition. Each window, in effect, consolidates all situations where employment subsequent to a select program are the same in terms of occupation and industry. In Figure VII, the information relates to an Associate Degree program in *Registered Nursing*. This particular window shows that 87 graduates were reported by employers as employed in the occupation "RN" with the OES code assignment 32502 in the *Hospital Industry* (SIC 8060).<sup>7</sup> This number is shown in the line "number of situations." The reviewer is asked to determine whether or not the occupational employment that is shown is *directly related* to the program by assigning a 1 as the relationship code, *somewhat*

*related* by assigning a 2, or *unrelated* by assigning a 3. In the Figure VII situation, the situation reflected is *directly related* to the training -- so an assignment of 1 was appropriate.

### Figure VIII

#### Training-Relatedness Evaluation Window

Program Name: Registered Nurse  
Program Code: 0318110100

Occupational Title: Home Health Aid SIC Title: Hospitals  
Occupational Code: 66011 SIC Code: 8060

Number of Situations: 12

**RELATIONSHIP CODE: 2**

- 1 = Occupation Directly Related
- 2 = Occupation Somewhat Related
- 3 = Occupation Not Related
- 4 = No Occupation, Industry Related
- 5 = No Occupation, Industry Unrelated
- 6 = Unable to Determine

Entering a relationship code will move you to the next window.

Use page up, page down functions to move forward or backward with the windows.

Push "ESC" - escape to return to the main menu.

Code assignments 4 and 5 are reserved for decisions where no occupational information is available. Code assignment 6 is used when a reviewer is unable to make a determination based on the information provided. Figures VIII, IX, and X illustrate of other appropriate decisions for the *Registered Nursing* program.

In Figure VIII, twelve employment situations were identified for the *Registered Nursing* program graduates where they were employed by *Hospitals* as *Home Health Aids*. In this case, the reviewer determined that the situation was likely to be *somewhat related* to training and assigned it a relationship code of 2.

Figure IX

---

**Training-Relatedness Evaluation Window**

---

Program Name: Registered Nurse  
Program Code: 0318110100

Occupational Title: Secretary    SIC Title: Crop Services  
Occupational Code: 55108        SIC Code: 0721

---

Number of Situations: 1

---

**RELATIONSHIP CODE: 3**

---

1 = Occupation Directly Related  
2 = Occupation Somewhat Related  
3 = Occupation Not Related  
4 = No Occupation, Industry Related  
5 = No Occupation, Industry Unrelated  
6 = Unable to Determine

---

Entering a relationship code will move you to the next window.  
Use page up, page down functions to move forward or backward with the windows.  
Push "ESC" - escape to return to the main menu.

---

Figure IX reflects an employment situation where one graduate of the *Registered Nursing* program was found employed as a *Secretary* in the *Agricultural (Crop Services) Industry*. This situation clearly is unrelated to the nursing program and the reviewer appropriately assigned a relationship code of 3, for ***occupation and industry unrelated***.

Figure X reflects a situation where there were thirteen graduates employed in *Hospitals*. However, employers in these situations did not provide occupational information. The reviewer only had the industry of employment to guide the determination and, thus, assigned a relationship code of 4, for ***no occupation, industry related***. If the employment had occurred in *Crop Services* or any other clearly unrelated industry, an assignment of 5, for ***no occupation, industry unrelated*** would be an appropriate assignment.

**Figure X**

**Training-Relatedness Evaluation Window**

---

Program Name: Registered Nurse  
Program Code: 0318110100

Occupational Title:           SIC Title: Hospitals  
Occupational Code:           SIC Code: 8060

---

Number of Situations: 13

---

**RELATIONSHIP CODE: 4**

---

1 = Occupation Directly Related  
2 = Occupation Somewhat Related  
3 = Occupation Not Related  
4 = No Occupation, Industry Related  
5 = No Occupation, Industry Unrelated  
6 = Unable to Determine

---

Entering a relationship code will move you to the next window.  
Use page up, page down functions to move forward or backward with the windows.  
Push "ESC" - escape to return to the main menu.

There are situations, as was noted earlier in this section of the *Guide*, where the industry designation does not offer a clue to help determine whether the post-exit employment is related or unrelated. An example typical of this situation is whenever the industry *Business Services* is found with no occupational information. Nurses and other allied health occupations often are employed in this industry, but without occupational information, it is very difficult to determine a training relationship. A reviewer in this case might assign a relationship code of 6 for **unable to determine**. There are situations where employment data may include an occupational title that is not sufficient for such determinations as well. In these cases, a reviewer might choose option 6 as well. For example, many workers leased through the *Business Services* industry may be listed simply as "Temps." In other cases, the occupational title is ambiguous as in those which include the designation, "Technician N.E.C." (not elsewhere classified).

## **B. A “crosswalk” approach to training-relatedness determinations with local review.**

In the previous discussion, training-relatedness was determined on a case-by-case basis according to education/training programs titles or codes used by state or local agencies and occupational titles provided by employers. While this process may be a good first step for making training-relatedness determinations, its repeated use year-after year may become arduous and may yield inconsistencies from: one reviewer to another; area-to-area; and/or year-to-year. Consistency of these determinations and inter-coder reliability can be assured more readily if the process of relating programs to occupations can be automated through the use of standard taxonomies and definitions.

The process can be automated easily if the field of study has been coded under a common classification scheme by the service provider and if occupational titles obtained from employers are compatible with a common classification system. Under such conditions, a crosswalk developed through a desktop review of data dictionaries for education and training programs and for occupational employment codes can establish clear and uniform decision rules which, in turn, can be automated.

The most commonly used automation tool for this purpose is the Classification for Instructional Programs taxonomy through the CIP-to-OES crosswalk developed by the National Occupational Information Coordinating Committee (NOICC). To spare themselves the effort of duplicating the NOICC’s labor intensive desk-top review, SOICCs have adopted and applied versions of the CIP-to-OES crosswalk within their respective borders. The NOICC’s partners in employment and training information system development (the U.S. Departments of Education and Labor) have endorsed the tool as well. Adoption of the NOICC-developed CIP-to-OES crosswalk as the tool of preference by each state’s follow-up entity not only would facilitate automation of training-relatedness determinations but also would promote more consistency and standardization of data elements within and between the states. Adoption of the CIP-to-OES crosswalk also would allow states to use multiple applications of that tool already built into the NOICC-SOICC network’s Occupational Information System (OIS) and/or related stand-alone software specifications.

As noted above, automating the process for determining training-relatedness may depend upon adoption of the Classification of Instructional Programs (CIP) by all of a state’s education and training service providers as the standard for coding fields of study. Unfortunately, service providers may use other classification systems. Many states may have adopted their own common course numbering systems. Some may use different versions of the CIP taxonomy, for instance the 1985 or the 1990 taxonomy. In Texas, community and technical colleges -- until 1995 -- used a standardized course-coding system constructed around the Higher Education General Information Survey (HEGIS) while secondary education still uses a course coding system of “*service identification*” numbers unique to the state in its Public Education Information Management System (PEIMS). The JTPA system in Florida codes both classroom occupational training and on-the-job training (OJT) by the *Dictionary of Occupational Titles* (DOT) codes for the intended outcome (i.e., according to a participants’ expressed career aspirations) as recorded in their management

information system. Texas's JTPA system uses OES-of-training and OES-of-placement for on-the-job training but uses the CIP taxonomy for coding classroom training procured off-the-shelf on behalf of participants by the PICs or LWFDBs. Still other education organizations use various versions of the CIP taxonomy. Before the CIP-to-OES crosswalk can be applied to follow-up data, these other codes for fields of study must be converted to their equivalents under the most recent release of the CIP. In some cases, conversion will be relatively simple because the alternative to the CIP is organized hierarchically and logically resembles the CIP. In other cases the logic underlying an alternative course coding system does not translate unambiguously into mutually exclusive CIP-equivalents. Political opposition to such conversions also may be encountered and must be considered.

The second requirement for using the NOICC's CIP-to-OES crosswalk in automating determinations of training-relatedness is that the OES taxonomy be used to code all occupational information collected by the central follow-up entity. As we noted earlier in the *Guide*, employers rarely use OES titles to classify work done by their employees. Numerous other alternatives have been used to code occupational information. *Dictionary of Occupational Titles* (DOT) codes are used in many states' employment security agencies for matching the skills, interests and aptitudes of Job Service participants to job orders on file. The Standardized Occupational Code (SOC) taxonomy is used by the U.S. Department of Commerce. Even so, the Census Bureau within the U.S. Department of Commerce uses Census Titles. The Internal Revenue Service has its own titles but crosswalks them to Census codes. The Armed Forces classify work details according to Military Occupational Specialty (MOS) codes.

Through related professional organizations, some sectors of the economy (e.g., Banking and Finance, Hospital Associations) have established their own codes independent of the OES, DOT, SOC, Census Titles and MOS for use by member establishments. State workman's compensation systems use code assignments to group occupations by degree of risk rather than by duties and tasks. Some employers simply assign firm-specific titles to their employees and ignore both common industry conventions and standardized coding systems altogether.

Lastly, even those employers who do use one of the standard systems for reporting and coding their employees' occupational titles may find it necessary on occasion to submit a unique title in response to a follow-up survey. Non-standard titles are submitted, for example, when the duties and tasks performed by a worker are so unprecedented in an emerging field that no occupational title or code has been defined in any existing coding structure. Non-standard titles also may be used when the tasks associated with a particular job crossover between several standard titles.

Crosswalks have been developed between the most widely used standardized systems for coding occupational employment: DOT-to-OES, SOC-to-OES, MOS-to-OES, DOT-to-MOS, DOT-to-SOC and so forth. So long as payroll titles submitted to a follow-up entity by employers conform with one of these standards, staff can translate occupational employment outcomes to their OES equivalents before applying the CIP-to-OES crosswalk to determine training-relatedness. The co-authors of this *Guide* represent states where the follow-up entities have been able to

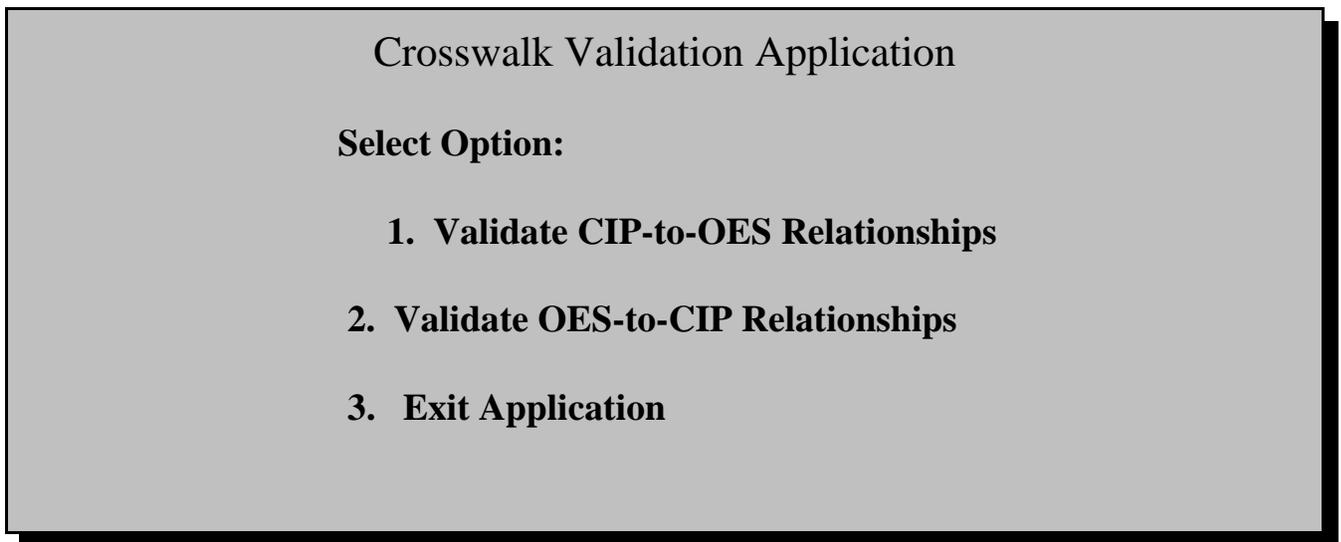
rely on the use of CIP codes for education/training programs and OES titles/codes for employer-submitted payroll titles.

### ***Crosswalk Validation***

Automating training-relatedness determinations through a tool like the NOICC crosswalk is a desirable process to add to a follow-up entity's repertoire of services. However, any crosswalk will require a state-specific review to assure that nuances in local program design are accommodated. It is very important that education and training program administrators buy into the use of an automated crosswalk tool. Therefore, the co-authors strongly recommend adoption of a *validation* process that allows practitioners to review of the relationships between programs and occupations. The *validation* should be designed to be simple to use by administrators who are busy with other tasks. A framework for such a process is posed in the following discussion for a personal computer application that can be distributed to local administrators.

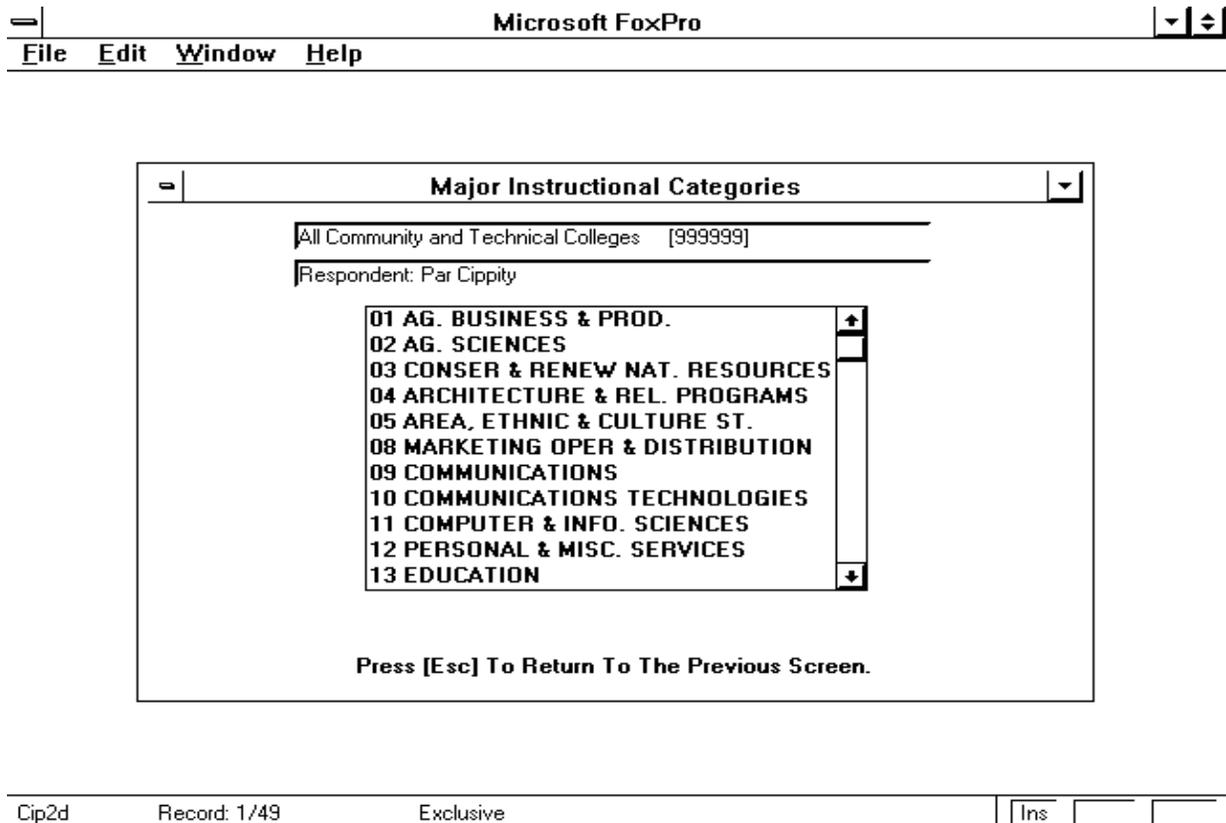
A basic premise for a *validation application* is that it be a process where suggestions from numerous reviewers can be consolidated into a consensus mechanism used to automate decisions about relationships between training and employment. The NOICC's version of the CIP-to-OES crosswalk can be used as a point-of-departure to trigger suggestions and recommendations. The general idea is that stakeholders (chiefly being practitioners from the field) can review each entry in the NOICC's crosswalk by examining the relationships from the program (CIP) side or the occupation (OES) side. Figure XI is a prototype entry-point menu to the *Crosswalk Validation Application*.

**Figure XI**



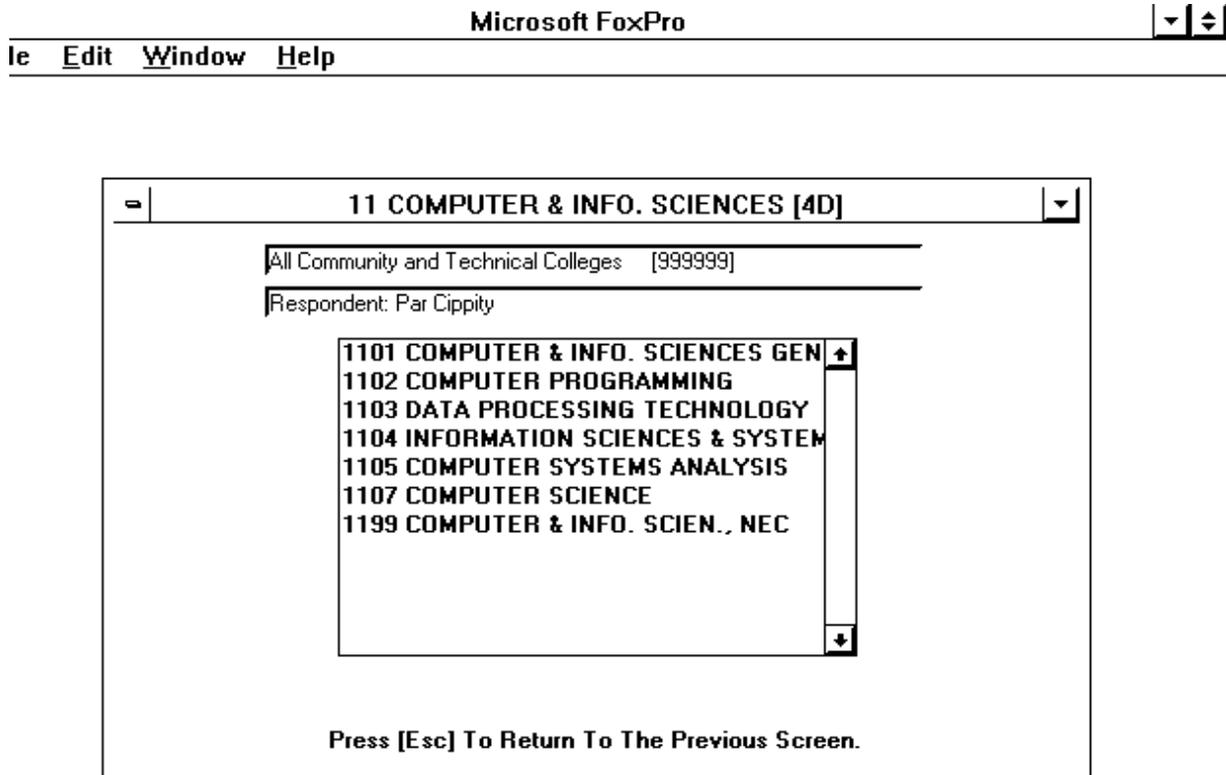
Faced with a menu screen such as that shown in Figure XI, reviewers have options to choose their point-of-entry into the *Crosswalk Validation Application*. Something like Figure XII would result when the first option is selected from the menu. Something like Figure XVI would result when the second option is selected. Selecting the third option exits the application and saves work done while in it.

**Figure XII**



In Figure XII, a reviewer is given the option of selecting from thirteen major program groupings defined by the CIP taxonomy. In some cases, reviewers may have particular backgrounds that focus on particular program areas. For example, teachers or administrators who deal in agricultural education may choose program areas 01 or 02. For illustrative purposes, readers, as reviewers, will assume that their area of expertise lies in *Computer and Information Sciences*. Therefore, they will choose item 11 and proceed to Figure XIII.

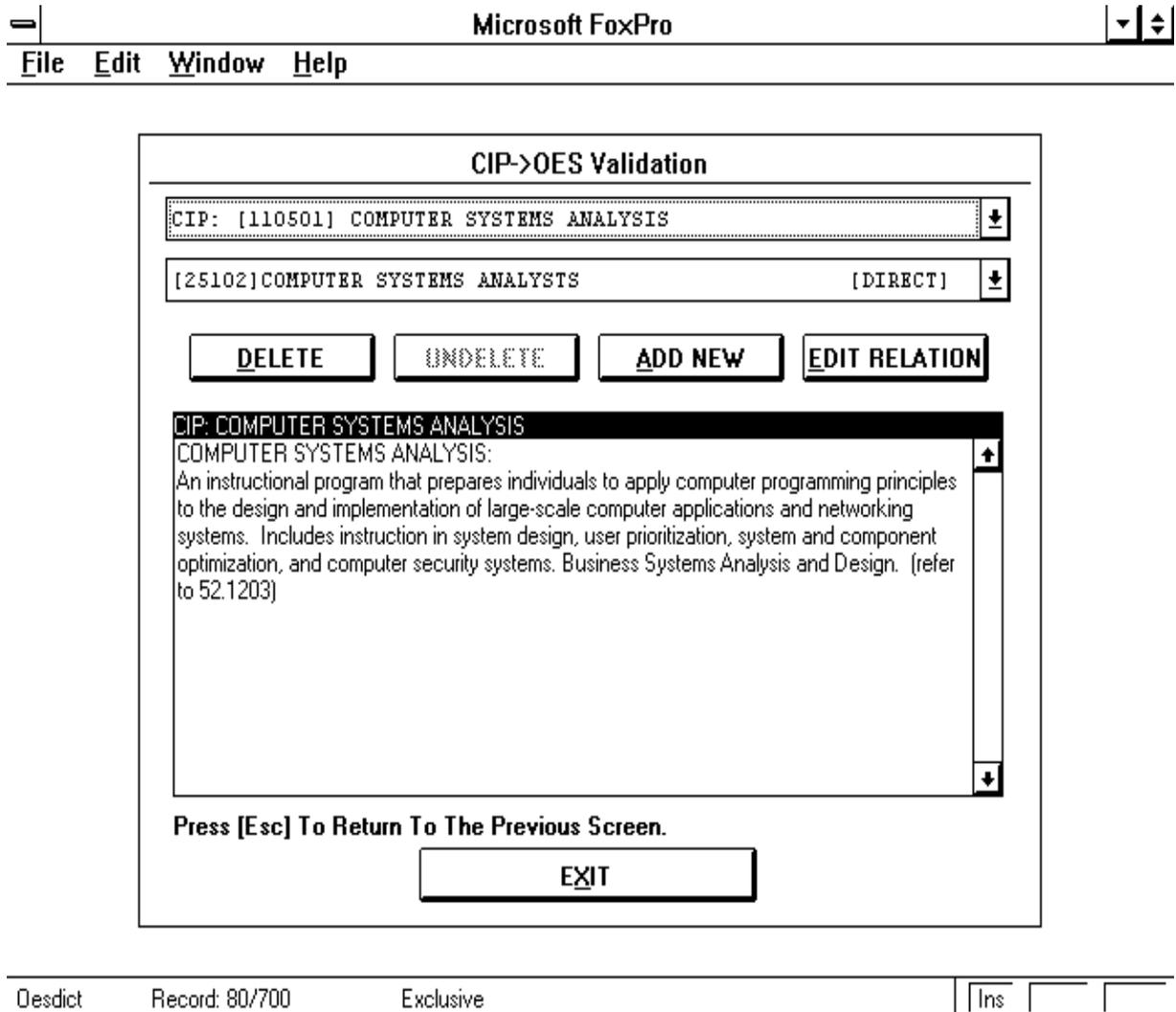
**Figure XIII**



The reviewer uses keyboard cursor keys or a mouse to highlight a program area that he or she wishes to review. In this example, item 11 *Computer and Info Sciences* is chosen and Figure XIII appears with the next level of detail.

Next, the reviewer/reader arrives at a screen that facilitates selection of an additional level of detail below the general category *Computer and Information Sciences*. As before, he or she uses cursor arrows on the keyboard or a mouse to highlight a particular subcategory. Here, the fifth category *Computer Systems Analyst* is chosen. The user is then faced with a new screen as in Figure XIV. This screen presents the level of detail where review of CIP-to-OES relationship review actually begins.

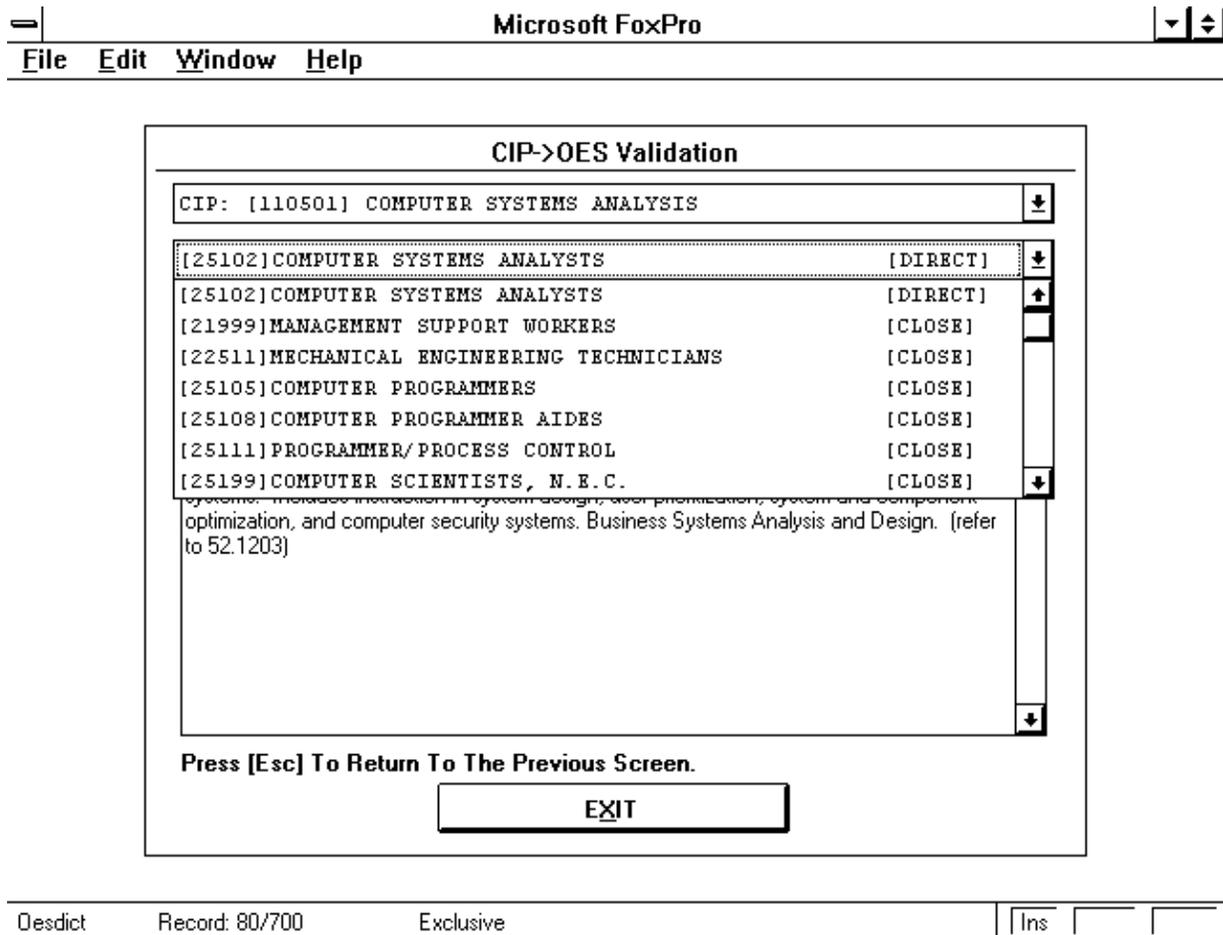
Figure XIV



The initial screen for *Computer Systems Analysis* provides a general description of the CIP program area. This description is from the CIP Manual *circa* 1990. At this point, a reviewer might be faced with two options. The first, signified by the rectangular box at the top of the page, *CIP: (110501) Computer Systems Analysis* provides for a listing of related programs such as *Business Systems Analysis and Design*. If that is selected, reviewers will be provided a listing of these programs. The choice in the second rectangular box, *(25102) Computer Systems Analysts (Direct)* would, if selected, provide a listing of related occupational titles identified by its OES code as in Figure XV.

By selecting the second option from Figure XIV, a listing of related OES Codes and titles is provided as in Figure XV. In this case, seven occupational codes and their OES titles are identified through the NOICC crosswalk as related to the program area *Computer Systems Analysts*. With this list, a reviewer has several options related to updating the relationship shown in Figure XV. Refer back to Figure XIV. A reviewer may recommend deleting (or undeleting after deleting) a particular occupational title or edit the relationship. Note that one occupation, *Computer Systems Analyst*, was identified as having a direct (*direct*) relationship to the program. Six occupations were identified as being closely related (*close*). If a reviewer feels, for example, that the occupation *Computer Programmer* has a direct relationship to the program, he or she can recommend changing it.

**Figure XV**



If a reviewer thinks that the *Mechanical Engineering Technicians* area was inappropriate, he or she could recommend deleting it. If there is a need to include other occupations related to one degree or another, the application allows a reviewer to recommend additions. The application also allows a reverse approach to reviewers who are more familiar with the occupational side of the labor market supply-demand equation.

Figure XVI

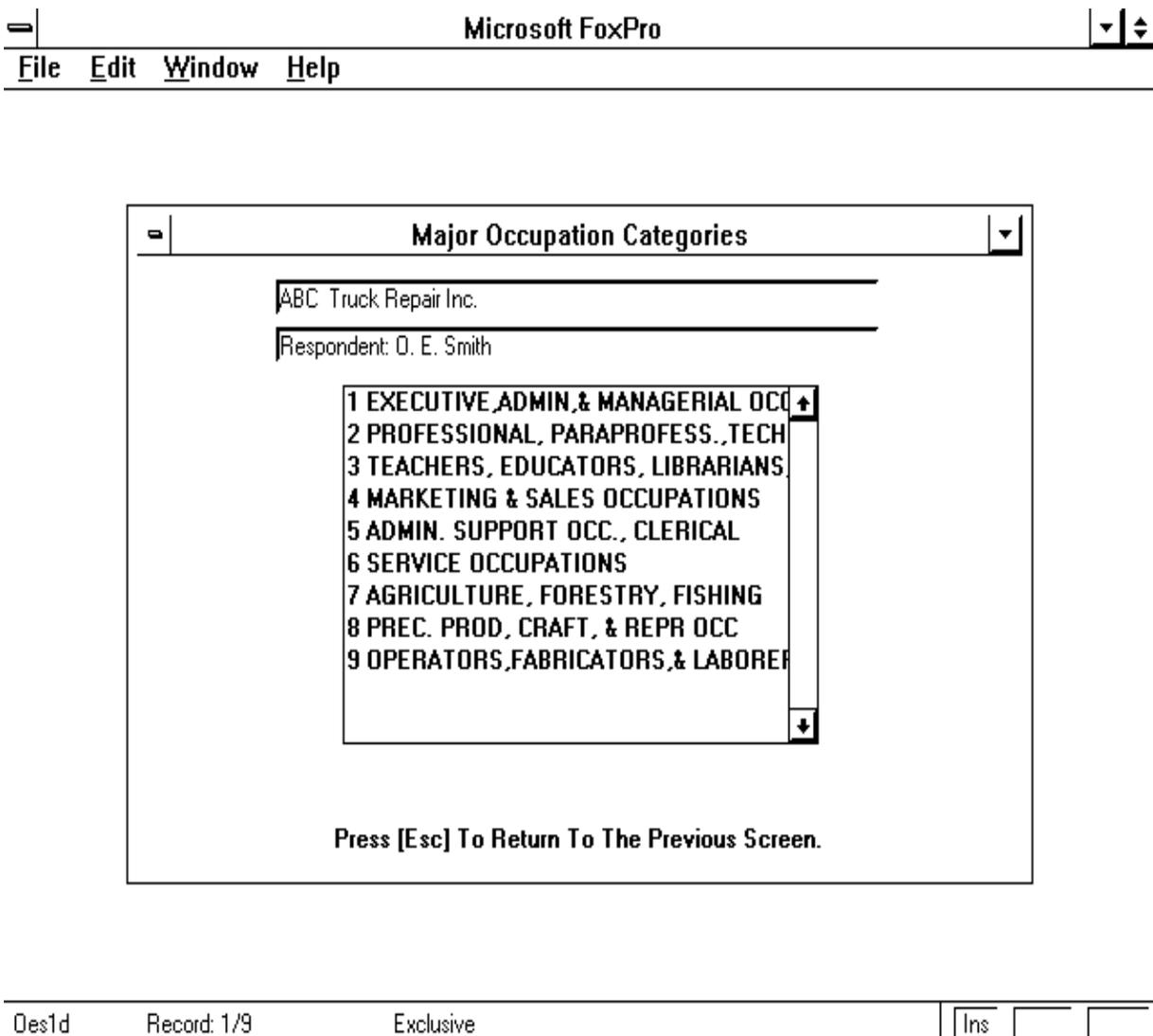
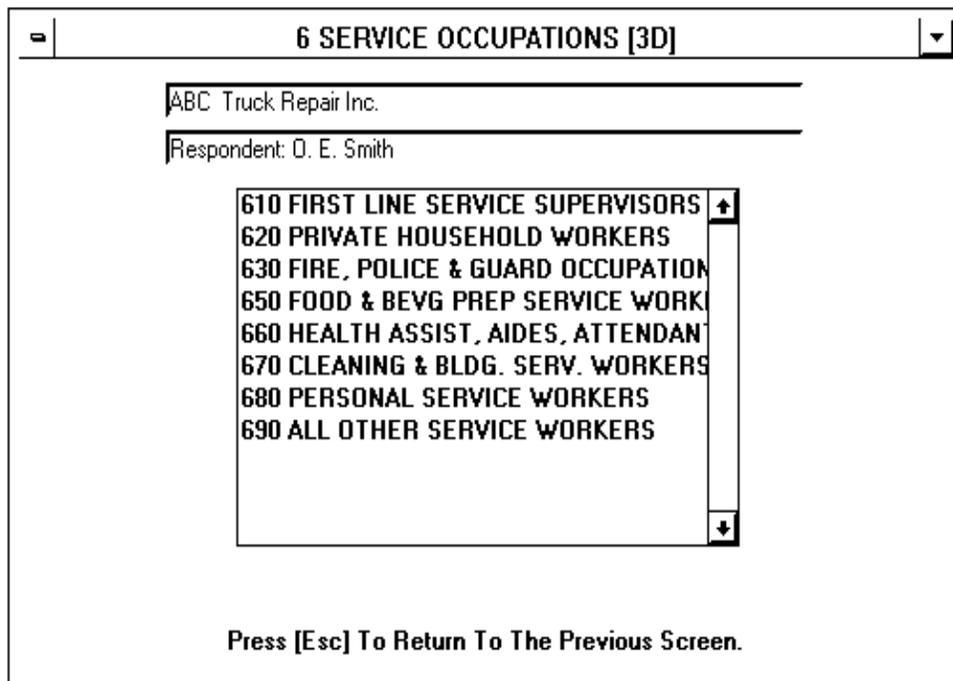


Figure XVI represents an approach where the validation of OES-to-CIP relations was chosen from the initial screen in Figure XVII.

As before, the reviewer may proceed through successive screens of increasing detail. He or she may proceed from Figure XVI, choose option 6 *Service Occupations* through Figure XVII choosing *Fire, Police & Guard Occupations*, to arrive at Figure XVIII with *Police Patrol Officers*.

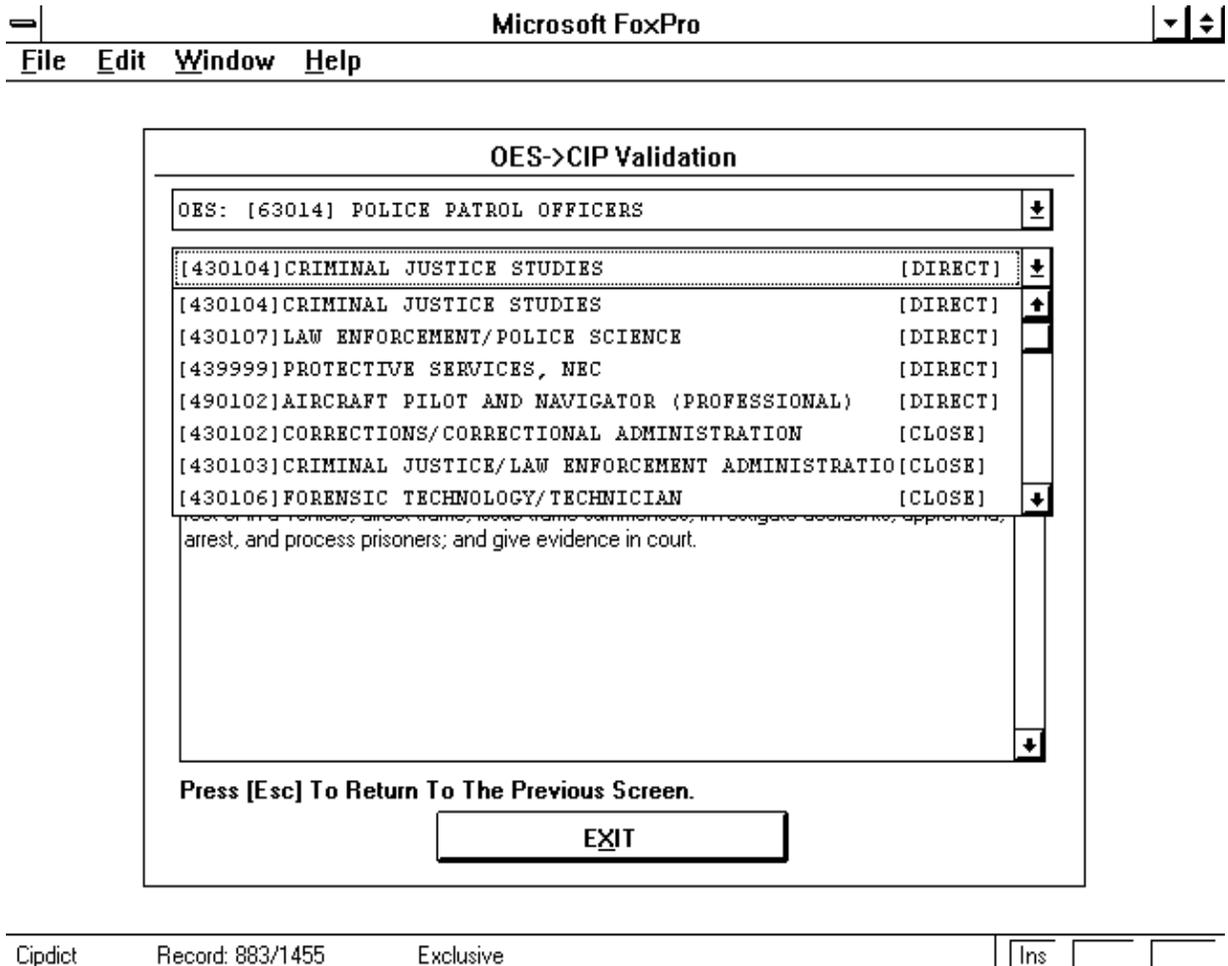
**Figure XVII**



Oes3d      Record: 47/107      Exclusive      |      Ins      |      |

Figure XVIII provides an option to review relationships between programs and occupations that is analogous to Figure XV for programs. The difference is that in Figure XV, the reviewer

Figure XVIII



can examine CIP-to-OES relationships and can recommend ratifying them as *direct* or *indirect*, deleting unrealistic relationships, or adding heretofore unidentified relationships. In Figure XVIII, the user is doing the same thing from the OES-to-CIP view of the relationships. The co-authors suggest that this is a good way to develop consensus among those sets of stakeholders -- both those familiar with programs and those familiar with occupations.

Once this process (or a similar one) is complete, recommendations can be returned to administrators in the follow-up unit or another responsible organization.<sup>8</sup> There, they can be compiled and tallied. Where there is universal or a substantial level of agreement<sup>9</sup> on relationships, they should be accepted and “hard coded” into the crosswalk.

Where no agreement is evident, there should be a reevaluation process that allows an examination of those relationships in doubt. Efforts should be made in this process to develop agreement on the remaining relationships. Provisions also should be made for a periodic reassessment of the relationships to assure continual buy-in from users and to keep abreast of changes in the labor market and in the curricular content of programs.

### **C. Training-relatedness evaluations based on the predictive value of an infrequent employer follow-up survey.**

Most states that have combined an automated follow-up apparatus with an employer survey, collect the occupational information from employers on an annual basis. Resource limitations<sup>10</sup> may preclude doing full-scale annual employer surveys to obtain the occupational titles for the entire universe of program completers/graduates and leavers/terminees. However, resources may be sufficient to gather occupational titles only on a limited basis. One of several approaches could be used.

1. A survey could be done for a scientifically-selected sample from the universe of employers.
2. A survey could focus on graduates of a limited number of programs that appear to be in trouble or programs that are scheduled for an accreditation review.
3. A survey could be conducted on a cyclical basis where employers of graduates of one set of programs are surveyed one year with another set surveyed the following year.
4. All-encompassing surveys could be conducted infrequently. In this context, “all-encompassing” means to survey the entire universe of employers having hired graduates every second, third or fifth year.

With any of these approaches, employment information from the UI wage record database is gathered quarterly or annually as described in the *Guide*. Results of employer follow-up surveys are used to establish a probability that employment in a particular industry group is related to training. This probability is used to infer training-relatedness in the *interim* between survey periods.

The previous two sections dealt with using information from employer surveys to determine relationships between education/training programs and employment by occupation. For the remainder of the discussion in this section, it will be assumed that such determinations have been

made. They will be used, as described, to establish relationships from the employer surveys regardless of the frequency of the survey. Once this is done, resulting data are used to distribute program-related post-exit employment data by industry group. These distributions are then used in the *interim* (between employer follow-up surveys) as a basis for determining if employment in a particular industry is related. In effect, this approach would facilitate developing an entry-level staffing-pattern matrix based on follow-up data and training-relatedness.

A process is suggested in this section using Standard Industrial Classifications from the Unemployment Insurance wage records with occupational information garnered from the employer survey to *benchmark* training-related employment. The *benchmarks* are then used in *interim* years to approximate training-relatedness. The first step in this suggested process is to create a training-related base measure using available data. Figure XIX is illustrative.

In Figure XIX, six training programs identified as *Program 1*, *Program 2*, etc. are shown. Information from an employer survey and a training-relatedness application was used to establish the training-relatedness base in the third and fourth columns.

**Figure XIX\***

Training Program	Number of Completers	Training-Relatedness Base (Number)	Training-Relatedness Base (Percent)
Program 1	249	214	86%
Program 2	150	125	79%
Program 3	125	82	66%
Program 4	93	59	63%
Program 5	274	135	49%
Program 6	16	6	38%

\*These data are taken from situations recorded by Florida's FETPIP program.

The next step in this process is to breakdown training-relatedness base data by their Standard Industrial Classification (SIC) code. In other words, use the combination of SIC data and occupational data to apportion training-relatedness by industrial classification. This is illustrated in Figure XX for an example program, *Insurance Marketing*. (*Insurance Marketing* is the same program as *Program 1* in Figure XX.)

Figure XX shows the distribution of related post-exit employment by industry group as determined by a combination of UI wage record data and employer survey data for an *Insurance Marketing* program. Based on an evaluation of the data, 214 of the 249 (or 86%) of the reported

completers were employed in related jobs in the post-program quarter. The objective of this analysis is to determine how combinations of UI wage record data can be used to conclude that employment and training are related absent the employer survey data for future follow-up cycles. Based on what is observed from Figure XX, employment identified in the *Insurance Carrier*, *Insurance Agent*, *Security Commodity Service*, and *Credit Agency* industries can be assumed with an acceptable degree of reliability to be related to training in *Insurance Marketing* without occupational data from employers.

**Figure XX**

**Using Staffing-Pattern Probabilities Between Employer Surveys**

Training Program	Industry Group	Frequency	# Related	%	Number not related
Insurance Marketing	63 Insurance Carriers	110	109	99%	1
	64 Insurance Agents	54	52	92%	2
	62 Security Commodity Svcs	29	27	93%	2
	61 Credit Agencies (not banks)	8	7	88%	1
	60 Banking	7	5	71%	2
	65 Real Estate	5	4	80%	1
	59 Misc. Retail	5	4	80%	1
	48 Communications	5	1	20%	4
	80 Health Services	6	3	50%	3
	73 Business Services	7	1	14%	6
	58 Eating & Drinking Places	10	0	0%	10
	91 Gen'l Government	3	1	33%	2
Totals		249	214	86%	35

What about employment in the other industry groups? The four industry groups listed in the paragraph above only account for 195 of the 214 related jobs. The objective is to identify an acceptable level of industry-related employment that can be used as a *proxy* measure for training-relatedness. In Figure XXI, various thresholds of industry-relatedness levels are examined to identify the level that best reflects what occupational data might yield. The program groups from Figure

XIX are used in Figure XXI. Data for each of the six programs were examined as reflected in Figure XX in preparing this table.

**Figure XXI**

**Determinations of Relatedness at Various Thresholds of Probability**

Training Program	Training Related Base Number	Training Related Base %	Training Related w/SIC > 50%	Training Related w/SIC > 55%	Training Related w/SIC > 60%	Training Related w/SIC > 65%
Program 1	214	86%	211 85%	208 84%	208 84%	208 84%
Program 2	125	79%	125 79%	125 79%	101 67%	98 65%
Program 3	82	66%	80 64%	75 60%	65 52%	64 51%
Program 4	59	63%	59 63%	59 63%	59 63%	59 63%
Program 5	135	49%	144 53%	142 52%	140 51%	139 51%
Program 6	6	38%	4 25%	3 19%	3 19%	3 19%
Total	621	68%	623 69%	612 67%	576 64%	571 63%

In Figure XXI, data in the first column are derived from Figure XIX. Data in succeeding columns are developed from the approach illustrated in Figure XX. If all six programs are considered *in toto* (the last row), then all levels of SIC-relatedness reasonably reflect the level of training-relatedness developed from occupational data from employers. Higher levels of SIC-relatedness (i.e. the last two columns) are furthest from what occupational data would show. Moreover, some programs (i.e. Programs 2, 3, and 6) do not fare well at all as the SIC threshold is made more rigorous. Overall, the second and third columns seem to reflect relatedness the best. In this example, the SIC classifications in which employer-provided occupational data shows relatedness 50% or more of the time (as indicated in the third column) might be selected as the basis for inferring that employment in the industries is related to the program of instruction.

Several variations of this approach could be developed. The approach could be used to develop *proxy* approaches on a program-by-program basis rather than for all programs *in toto*. The objective is to use data always available through the record linkage process as *proxies* for training-relatedness determined more fully when employer-provided occupational employment data are available. Therefore, readers might choose to develop an approach that uses combinations of earnings data as well as industrial classification data to represent relatedness. Readers are cautioned to keep the process as simple (**and understandable by users of the data**) as is possible. The suggestion here is that an infrequent employer survey provides an opportunity to establish *proxy* measures empirically.

An additional approach to using data derived from an infrequent survey would be to construct a staffing-pattern matrix using a combination of SIC codes (from Unemployment Insurance wage records), occupational titles (from an infrequent employer survey), and program codes (from education and training input records). An example of such a “three-way” table is shown in Figure XXII on the next page). It illustrates how staffing-patterns might result when data from an employer survey, the UI wage records, and input files are combined. In the example, two industries are shown, *Amusement and Recreation Services*, and *Banking*. For each industry, occupational titles are shown for post-program employment situations that were identified as related to training. The columns following occupational titles show the number of former participants employed in the post-exit quarter that were identified in the occupation and industry by program. For example, *Program 1* is designed to prepare students as *Physical Trainers* and for related occupations. Graduates in *Amusement and Recreation Services* establishments were found in training-related titles employed as *Aerobics Instructors* (3), *Entertainers* (2), *Physical Trainers* (5) and a *Hockey Coach* (1).

This type of analysis lends additional depth to the meaning of training-relatedness that can be carried into years during which no employer survey is conducted. In other words, one can assume that graduates of any *Physical Training* program found in the *interim* years to be employed in the *Amusement and Recreation Services* industry are not only in jobs related to their training, but that their occupational titles are likely to be distributed in a similar fashion.

One additional question should be considered in determining the frequency of the occasional employer survey in this scenario. How long are staffing-patterns established by post-exit employment data relatively stable? It will be important to build into the process an effort to determine how rapidly placement-derived staffing-patterns are subject to change. This information, in turn, will help explain and justify periodic requests for sufficient funds to do another round of employer follow-up surveys.

## **II. Establishing a Challenge Process**

We suggested at the beginning of this section of the *Guide* that the issue of training-relatedness between education/training programs and employment is unavoidable. Processes were described that offered several methods of determining these relationships by teams of reviewers. It was noted that using stakeholders/practitioners as reviewers affords an opportunity to achieve a modicum of consensus on operational definitions of training-relatedness among stakeholders. No matter how well structured these approaches are, however, there will be unavoidable occasions when program administrators do not agree with the central entity’s interpretation of follow-up results. This will be especially true where any performance measure affects funding or program continuation. In essence, performance measures incorporating some form of training-relatedness calculation into funding situations make this a high stakes process.<sup>11</sup> It will be important to anticipate such disagreements by providing a challenge process.

**Figure XXII**

**Sample Data**

TITLES		PROGRAMS							
Industry	Occupation	1	2	3	4	5	6	7	8
Amusement and Recreation Services	Aerobics Inst.	3	0	0	0	0	0	0	0
	Bartender	0	1	0	0	0	0	0	0
	Cart Attendant	0	1	0	0	0	0	0	0
	Food Prep Worker	0	5	0	0	0	0	0	0
	Entertainer	2	0	0	0	0	0	0	0
	Physical Trainers	5	0	0	0	0	0	0	0
	Hockey Coach	1	0	0	0	0	0	0	0
	Musicians	0	0	2	0	0	0	0	0
	Office Manager	0	0	0	0	0	3	0	0
Secretary	0	0	0	4	0	0	0	0	
Banking	Accountants	0	0	0	0	7	0	0	0
	Accounting Mgr	0	0	0	0	3	0	0	0
	Adjustment Clerks	0	0	0	0	2	0	0	0
	Consumer Loan Cl.	0	0	0	0	2	0	0	0
	Financial Svcs. Rep	0	0	0	0	2	0	0	0
	Secretary	0	0	0	3	0	0	0	0
	Vice President	0	0	0	0	0	3	0	0
	Teller	0	0	0	0	0	0	15	0
	Credit Card Srpsr	0	0	0	0	1	0	0	0

Notes: Program 1 = Physical Training, 2 = Short Order Cooks/Food Services, 3 = Performance Guitar, 4 = Secretarial, 5 = Bookkeeping, 6 = Office Management and Supervision, 7 = Bank Teller, 8= Registered Nursing

A challenge process should be established that allows local administrators to bring alternative information resources to bear to sustain an argument. The process should define what legitimate challenges are and how they can be justified with alternative information. This should be done *a priori*; i.e., in the absence of live data that might affect a particular program. Follow-up staff should strive to get stakeholders to agree in advance to the principles and parameters of the challenge process. Consensus will be achieved more easily in a forum where self-interest is not immediately at stake. If, on the other hand, an attempt is made to devise a challenge process *ad hoc* (after data are collected), stakeholders may tend to lose their detachment and objectivity. Once real data are available, affected stakeholders may insist that parameters be stretched in indefensible ways just to improve their own programs' performance ratings on any training-relatedness measure.

Most frequently, alternative information brought to the table by service providers pursuant to a challenge will have been gathered through traditional follow-up techniques.<sup>12</sup> A "traditional" source of follow-up data is one that depends on some form of survey process to ask former students or their employers about their jobs and the relationship to the respective education or training program they exited.<sup>13</sup> The challenge process should provide an acceptable framework for collecting data that are reliable and consistent. After all, the impetus for establishing the sort of system outlined in this *Guide* is to develop a follow-up data resource that provides a consistent, reliable source of data regarding what happens to former students or program participants after they exit education and training programs. The challenge process should not depart from the twin themes of consistency and reliability.

Information required in such a procedure could be a part of an ongoing Total Quality Management process where local entities collect feedback information from their customers -- students and employers alike. Or it could be a part of an "*exceptions process*" instituted locally when program outcomes published by the state follow-up entity are suspect. In either case, if a formal challenge process is established, the state entity will be required to provide follow-up results to local organizations on an individual basis so the data can be examined and challenged. This must be done in a way that protects the confidential nature of the individual student/participant data as well as any linked data attached to them.

## **A. Reasons for the Challenge Process**

Other sections of the *Guide* have discussed instances where Unemployment Insurance wage records do not include all potential sources of employment available to former students and program participants. For example, some types of employment are not covered under a state's Unemployment Compensation law and, thus, will not be reported through the UI wage record system. These often include some agricultural establishments, firms where employees earn compensation solely through commissions, and situations where an individual works at the firm's location but is self-employed. Similarly, employment obtained in neighboring states (or for that matter more remote states) will not be covered. In any given quarter, there will be a number of employers who, though they are covered under state laws, do not report. The proportion of these *non-filers* can

range from 10 to 15% of those required to report. If a particular industry that is a major employer of a particular type of graduate is among these, employment obtained by these graduates will not be documented.<sup>14</sup> Thus, there are several data conditions that justify establishing a challenge process.

Earlier in this section, there was a major discussion of how the issue of training-relatedness could be addressed through a variety of resources. However, responsibilities of employees in occupations shift constantly. Occupational titles themselves are subject to change as employers adjust to shifting demands. The challenge process, therefore, also can be justified by disagreements over interpretations of specific placement results.<sup>15</sup>

Another situation is conceivable where a legitimate challenge might be raised. Suppose a gainfully employed accountant completes training for certification as an *Emergency Medical Technician* (EMT) and subsequently obtains an unpaid position rendering emergency medical services through his/her community's volunteer fire and rescue squad. According to a follow-up entity's automated linkages to the UI wage record, if that individual keeps the "day job" as an accountant, this person will appear to have post-program employment that is unrelated to his/her EMT training. Those devising the challenge process must decide whether or not to admit evidence that the student in question intended to prepare for and subsequently participated in a related position on a volunteer basis without compensation or UI coverage.

## **B. The challenge-data collection process**

The alternative follow-up data collection process should resemble more traditional follow-up surveys of students or their employers. A key requirement, though, is that it be applied consistently from place-to-place, from one education and training service provider to another. In Florida this is a requirement of law, and the process has been outlined in rule.

### **6a-10.0341 Vocational Education Student Follow-up Requirements.**

1) In the event of a challenge pursuant to Section 239.233(1)(c), Florida Statutes, or to meet public information requirements of Section 239.245(2)(b)3, Florida Statutes, school districts; independent postsecondary vocational, technical, trade, and business schools; and community colleges shall determine a postsecondary vocational student's placement status using one (1) or more of the following procedures:

- a) The written questionnaire outlined in this rule;
- b) State-level computerized employment data collected by the Florida Education and Training Placement Information Program (FETPIP).

2) The written questionnaire process shall collect post-instruction outcome data and shall not include information from exit interviews. For written questionnaires, documentation for audit purposes shall be kept on file for three (3) years and include at least:

- a) Student name and Social Security or identification number.

- b) Student address and telephone number.
- c) Whether continuing postsecondary education.
- d) If continuing postsecondary education, the name and address of the institution where enrolled.
- e) If employed other than in the military, employers name and address and the occupational title for the job in which the student is employed.
- f) The student's signature and date to verify the information.

3) When state-level computerized employment data are used, documentation shall consist of the data tape or hard copy.

4) A notice of intent to conduct a local follow-up survey must be provided by the local education agency or independent school to the appropriate division of the Department (of Education).

5) The written notification must include that the local education agency or independent school intends to conduct a local follow-up of its vocational completers and leavers; the program (s) on which the local follow-up will be conducted; the nature of the challenge or reason(s) for the local follow-up; and, may request technical assistance.

6) Anytime a local education agency or independent school publishes program performance measures that are based at least partially on local follow-up data, a notice of the inclusion of those data must be made in writing as a part of the publication: "As a result of a vocational program review, locally collected vocational student follow-up data have been used to compile this information. The methods used to collect this information are specified by state laws and rules. These data are available for inspection upon request."

This section of the rules governing the Florida Department of Education basically handles challenges to the findings developed through the FETPIP program by local education agencies. It has several characteristics that other states may wish to incorporate into its own process.

1. Florida law (239.233 and 229.8075 *Florida Statutes*) prohibits commingling data collected through the FETPIP system and that collected through prescribed local follow-up processes. This means that follow-up data collected by differing methodologies cannot be combined. In other words, one can't combine apples and oranges when reporting follow-up statistics.
2. If a local agency or service provider envisions a challenge to state-provided data, it must register its intent with the Department of Education at the state level.
3. If the local agency or service provider publishes its own supplemental follow-up reports, it must note clearly the data resource used in its publications.

4. The prescribed method precludes incorporating data collected through exit interviews. The method does not require interaction with employers (former students must sign and verify the information). This addresses the constant concern of overburdening employers with data requests.
5. The method only prescribes that information that should be kept on file for audit purposes. This includes *occupational information* that will require the same types of analyses discussed in this Guide to determine the degree of training-relatedness.

To limit local data collection burdens, FETPIP staff work with local agency and service provider representatives to help identify programs where findings based on automated record linkages are weak. The general idea is to assist local service providers to focus their supplemental follow-up efforts on areas where it will do the most good for their programs.

## ENDNOTES

- <sup>1</sup> Much of the education and training literature refers to the training-relatedness of “*job placements*.” The co-authors of this *Guide* prefer to use “*post-exit employment*” rather than “*job placements*.” The former is broader than the latter and, thus, more accurately describes the successful outcomes touted by most education and training providers. Strictly speaking, “*job placement*” connotes that the education and training provider played a direct and active role in helping an exiter obtain a new job. However, as non-traditional students come to constitute a larger portion of the student body at many institutions, the common sense notion of *job placement* no longer fits. Many non-traditional students are employed already and seek education and training in order to improve their performance in their current job or to advance up their current employer’s internal (i.e., firm-specific) career ladder. Secondly, many students find jobs on their own after graduation without any assistance from the entity that provided their education and training. Unless a follow-up entity has longitudinal occupational employment data for both the pre-enrollment and post-exit periods or information about direct intervention by the service provider in a particular graduate’s job-search activities, all anyone can know on the basis of linkages to UI wage records for reporting periods after the subject’s graduation is that he or she has “*post-exit employment*.”
- <sup>2</sup> The relationship between education and participation in the labor market has long been the object of study. Although dated, Bobbie McCrackin’s article in the November 1984 *Economic Review* (pages 8-23) entitled “*Education’s Contribution to Productivity and Economic Growth*” provides an excellent overview of a wide range of approaches used by economists in studying the relationship. McCrackin labels this particular approach the “*screening hypothesis*.”
- <sup>3</sup> An excellent discussion of the training-relatedness issue was developed by David Stevens and Jinping Shi in their monograph “*New Perspectives on Documenting Employment and Earnings Outcomes in Vocational Education*” published in August 1996 through the National Center for Research in Vocational Education at the University of California - Berkeley (document number MDS-743).
- <sup>4</sup> Theoretic arguments for and against the use of a training-relatedness measure were summarized by Marc Anderberg in an unpublished briefing paper for the Texas Council on Workforce and Economic Competitiveness as that body deliberated its options in Program Year 1995-1996. Copies available upon request from the co-author at the address listed in the *Letter to the Reader*, page ii of this *Guide*.
- <sup>5</sup> One of these considerations might be concern by public entities regarding over-surveying employers thus discouraging their response in other areas. This is a constant and reasonable concern by the state LMI entities whose products often rely on employers responding to structured survey tools. Their reasoning is that if employers become frustrated by an apparent over-abundance of inquiries that require their time and effort to complete, response rates will suffer across all surveys -- not just to the most recently developed one. Concomitantly, the accuracy --

*ergo* their value -- of their information will decrease. This is of particular concern to the Bureau of Labor Statistics (BLS) because it relies heavily on time-series data where consistently high response rates are necessary for each reporting period if data are to be compared fairly for the purpose of driving federal policy.

- <sup>6</sup> Florida, Texas, North Carolina, and North Dakota conduct employer surveys as adjuncts to their automated follow-up efforts. As described earlier in the *Guide*, these surveys are designed to collect occupational employment information about former program participants. Texas has applied for a grant through the U.S. Department of Labor’s *America’s Labor Market Information System* (or ALMIS) initiative to fund a pilot-test of an enhanced employer’s quarterly report that would add an occupational identifier to the state’s Unemployment Insurance wage records. Such an approach, if successful, will obviate the need for a supplemental employer survey or the use of OES resources.
- <sup>7</sup> “RN” is one of many titles employers may use for *Registered Nurses*. The table below illustrates the twenty different titles frequently reported by employers in Florida.

<b>Selected Titles Related to <i>Registered Nurses</i> in the Florida Job Title File</b>	
1. Administrative Nurse	11. RN - Midwife
2. ARNP	12. RN - Shift Supervisor
3. ARNP - Registered Nurse Practitioner	13. RN - Pediatrics
4. Nurse I	14. Registered Nurse
5. Nurse II	15. Registered Nurses
6. Nurse - General Duty	16. Registered Nurse Practitioner
7. Nurse - Department Head	17. Registered Nurse - General
8. Nurse - Registered	18. Reg. Nurse
9. Office Nurse	19. Registered Nusre ( <i>sic.</i> )*
10. RN Nurse	20. Rehabilitation

\*Note that example 19 is misspelled.

- <sup>8</sup> The organization charged with developing a crosswalk to be used in training-relatedness determinations might be the follow-up entity. It also could be a unit such as the SOICC where such relationships are a fundamental piece of occupational supply/demand analysis in the Occupa-

tional Information System (OIS). Crosswalk development also might be assigned to the organization that administers vocational education programs in the state. Regardless of the entity tackling the assignment, the co-authors believe that collaboration is a key aspect of these determinations. This will facilitate buy-in by all affected parties.

- <sup>9</sup> A *substantial level of agreement* means that those conducting the review exercise have decided that a consensus - meeting or exceeding some fix threshold - has been achieved. For example, if 75% of the reviewers feel that a certain CIP-to-OES relationship is *direct*, their recommendations might be adopted as a modification of the look-up matrix. It may be appropriate to develop this as a ground rule in the beginning of the process rather than selecting the critical threshold after recommendations have been submitted. Unless parameters are set *a priori*, reviewers might be moved by self-interest to tweak the criteria in their own favor.
- <sup>10</sup> Resource limitations may be one reason to decrease the frequency and number of employer surveys. Another might be a very real concern that employers, feeling inundated with information requests from government and other interests, may not respond at a statistically-acceptable level to more frequent surveys.
- <sup>11</sup> Since 1977, the Florida Legislature has required vocational administrators to document that their program completers obtain training-related employment at a rate of 70%. Failure to document that this occurred over a three year period results in a loss of funding. Thus, training-relatedness is a high stakes issue for administrators. A part of the original impetus for establishing the FETPIP by the Florida Legislature was their desire to be comfortable with data used to document the training-relatedness of post-exit employment among customers served by the state's education, training, and workforce development programs.
- <sup>12</sup> Use of the word "*traditional*" assumes that the reader will accept the idea that "*non-traditional*" methods involve the type of automated record linkages discussed throughout this Guide.
- <sup>13</sup> The JTPA system has, since its inception, relied on telephone and mail follow-up surveys conducted thirteen weeks after participants exit programs under various titles of the Act. The content and methods used in obtaining this information are prescribed at the national level through the Secretary of Labor's office but are implemented at the state level by a variety of state/local organizational arrangements. The methods have been applied only to programs funded through Title III of JTPA and have not been applied generally in education -- particularly vocational education programs. Until about ten years ago, general follow-up guidelines were part of a federally mandated Vocational Education Data System (VEDS) that was designed to attend federal vocational education legislation. Despite these efforts, few states currently prescribe a single set of methods or content to govern the collection of post-program information about education and training service providers' graduates or leavers. However, local education entities have relied on follow-up studies of their own design to obtain feedback from employers and students for a variety of reasons. Local entities have developed a multitude of instruments and approaches to data collection (assuming that they bother to collect data systematically).

Frankly, some of these approaches rely on the exchange of anecdotal information between program administrators, teachers, employers and graduates. Some have relied on exit interviews with students. Some have relied on structured questionnaires, but often the instruments used are inconsistent from one institution to the next.

- <sup>14</sup> As an example, consider if Disney World in the Orlando, Florida area was not included in a particular series of wage reports (which could happen for any number of legitimate reasons). This firm represents a major source of jobs for recent graduates and others in the area. The effects of this event potentially could have a devastating impact on placements rates documented for Valencia Community College's and the Orange County School District's vocational centers. (For an in-depth analysis of the impact on missing data, see Chris King and Jerome Olsen, "*Non-Response Set Bias in Texas's Employer Follow-Up Survey*," (unpublished research commissioned by the Texas SOICC and conducted by the Center for the Study of Human Resources at the University of Texas - Austin in 1996).
- <sup>15</sup> Following up on the example discussed in endnote 14, many new employees of Disney World are classified as "*Cast Workers*" regardless of the specific duties associated with their employment. Employment as a "*Cast Worker*" might be a legitimate outcome for a graduate of a variety of programs, but it is difficult to tell. Many "*Cast Workers*" are employed without specific training or education. It is difficult to justify *carte blanche* interpretation of employment in this title as "training-related" without more information. This same problem is encountered when employers in the *Business Services* industry list all the workers they lease to other firms as "*Temps*" or when workers fall into an OES coded occupation with a 99 suffix which contains a phrase in the attached title such as "*Technician NEC*" (not elsewhere classified).

## NOTES

## GLOSSARY

- 10% Window* An option under JTPA that allows an SDA or LWFDB to certify dislocated workers as eligible for services under Title IIA rather than Title III despite exceeding earnings criteria during specified pre-service quarters.
- 13th-Week Follow-Up* The method commonly used for gathering outcomes information from former JTPA participants via traditional survey techniques -- so named because the Secretary of Labor has stipulate through federal regulations that it be conducted on participants 13 weeks after they exit JTPA programs.. (See also *Traditional Follow-Up* and *Participant Contact*.)
- 501c(3)* The number of the form that must be filed by a non-profit entity seeking tax-exempt status and, hence, used as an adjective to describe such entities.
- Accountability* The principles under which program administrators and service providers are held responsible for meeting their responsibilities and obligations.
- Accountability, Fiscal* The cost principles used to ensure that program funds have been spent only for legal and authorized purposes; i.e., that funds were not embezzled and properties were not misappropriated.
- Accountability, Managerial* The personnel principles for ensuring that program operations are efficient; i.e., that fiscal and human resources are deployed without waste.
- Accountability, Program* The operational principles through which administrators and service providers are held responsible for achieving the results specified in the legislation or executive orders authorizing delivery of services to a specified customer group.
- Adjustment* Computing an expected value for an outcome variable by using statistical techniques that take the effects of key independent and/or exogenous variables into account. (See also *Baselining* and *Benchmarking*.)
- Adjustment Model* In the JTPA system, the use of a regression equation to set a different performance standard for each service delivery area according to expected outcomes given each SDA's unique customer mix and labor market conditions.
- Admin Dollars* **Administrative dollars** -- a term commonly used by those managing publicly-funded employment and training programs (particularly JTPA) to denote funds specifically earmarked in a grant to the state or in subgrant recipients' budgets for administrative purposes. The distinction between administrative dollars and other kinds of funds in the budgets of employment and training programs is important because they cannot exceed a specified portion of the entire budget. Moreover, with recent moves toward devolution, legislators are likely to lower that percentage. Since follow-up commonly is considered an administrative function, availability of funds is impacted not only by the size of a state's various employment and training program grants but also by the allowable percentage for setting aside admin dollars.
- ADP* **Automated Data Processing**: in the context of this *Guide*, a division within a company or a third party (outsourced) provider of payroll processing and/or personnel record-keeping services; also referenced as **Electronic Data Processing** or *EDP*.

<i>AEA</i>	<b>Adult Education Act of 1996:</b> federal legislation which provides grants to the states to deliver adult education and literacy services.
<i>AFDC</i>	<b>Aid to Families with Dependent Children;</b> replaced by Temporary Assistance for Needy Families. (See also TANF.)
<i>AJB</i>	<b>America's Job Bank:</b> a publicly-supported electronic forum on the InterNet where employers across the nation can post job openings in a standardized, skills-based format. Taken together with America's Talent Bank, the AJB represents a significant step toward standardizing the description of job openings to streamline job matching as well as automating and expanding the scope of the traditional (non-automated, state-specific) labor exchange function. (See also <i>ATB</i> .)
<i>ALMIS</i>	<b>America's Labor Market Information System:</b> a series of initiatives by the DoL/ETA to standardize the collection and analysis of labor market supply and demand information and to automate delivery of that information to all interested parties.
<i>ALMIS-D</i>	<b>America's Labor Market Information System-Database:</b> an enhanced and more comprehensive file structure that will contain the OLMID (as a substructure) with links to an occupationally oriented, skills-based structure in machine-readable form (called the O*NET) that is destined to replace hardcopies of the <i>Dictionary of Occupational Titles</i> . (See also <i>OLMID</i> and <i>O*NET</i> .)
<i>Anecdotal Information</i>	Descriptions of the experiences of specific individuals -- especially extraordinarily successful ones that are not necessarily representative of an entire cohort; often used in recruiting or pseudo-accountability reports to suggest that others who enroll in a specific program also will achieve extraordinary, atypical results.
<i>Anomaly</i>	A value for a measure or observations of a variable that is counter-intuitive or inconsistent with previous sets of values or observations.
<i>Application</i>	Programs and organizations for whom follow-up services are provided. All GED students, for example, would be one application; all released ex-offenders would be another application. Applications are a particularly important concept in forecasting follow-up expenses. Because follow-up by and large uses cost-effective record linkages, substantial increases in the number of seed records processed in each wave will not have a significant effect on total operating costs. The number of partner agencies served does not provide an adequate handle for cost-forecasting because serving one partner agency might entail a single application (e.g., JobCorps) while service to another might entail several applications (e.g., in serving the state's JTPA grant recipient, one for each Title.) In Texas, for example, the lead agency was asked to bypass the state education agency and deliver products directly to each independent school district. Thus, service to public education went from one to 1,040 "applications" and, while only one partner agency was involved, the cost of doing follow-up on secondary education completers and leavers increased proportionately with virtually no change in the number of records processed.
<i>Application Layer</i>	The interface the end-user sees; a layer atop the databases underlying an automation tool. For, example, consistency and articulation, system-building efforts in the employment and training arena rely on the same data sets to drive program planning, case management, and self-help career guidance. However, planners, case managers and individual job-seekers want data extracted and combined in different ways to meet their particular information needs and cognitive styles. Therefore, common elements in the data layer of the ALMIS-D, OLMIDS, or O*NET, for example, may be accessed through several different data layers. Similarly, both employers and educators need to tap

the CIP-to-OES crosswalk to validate the way a follow-up entity might determine training-relatedness. The CIP-to-OES cross walk would be the data layer. Employers would enter through an OES-centered application layer while educators would enter through a CIP-centered application layer.

<i>Archived Files</i>	Data sets stored off-line or on a computer in compressed mode to conserve storage space; commonly aged files that are less likely to be needed. Multiple steps may be required to retrieve such files physically or to uncompress them electronically before needed information can be extracted.
<i>ATB</i>	<b>America's Talent Bank</b> : a publicly-supported electronic forum on the InterNet where job-seekers across the nation can post resumes in a standardized, skills-based format. Taken together with America's Job Bank, the ATB represents a significant step toward standardizing the description of job-seeker qualifications to streamline job matching as well as automating and expanding the scope of the traditional (non-automated, state-specific) labor exchange function. (See also <i>AJB</i> .)
<i>AutoSOC</i>	An <b>automated</b> table used to look up <b>Standard Occupation Classification</b> codes and titles.
<i>Attentive Publics</i>	Groups of citizens who pay special attention to specific policy issues because they are or perceive themselves to be affected directly by decisions being made.
<i>Baselining</i>	Using performance in a specified program year as the standard against which results in subsequent program years is judged. (See also <i>Benchmarking</i> .)
<i>Benchmarking</i>	Using officially-declared standards or the performance of entities with a comparable mission, customer base, etc., as the yardstick for assessing another program's performance. (See also <i>Baselining</i> .)
<i>BLS</i>	<b>Bureau of Labor Statistics</b> -- a division of the United States Department of Labor.
<i>Boundary</i>	In Systems Theory, the defining characteristics which separate a system from its external environment or which separate one subsystem from another. (See also <i>Domain</i> .)
<i>Buckley Amendment</i>	Another name for the Family Education and Right to Privacy Act (FERPA); so named for its chief author who introduced the legislation as an amendment to the federal Data Privacy Act.
<i>Buckley Agreement</i>	A document specifying the obligations and responsibilities of two or more public entities that exchange individually-identifiable information under FERPA.
<i>Capacity to Benefit</i>	A determination, based on an assessment of prior employment experience, educational attainment, aptitude and work-related attitudes, that: a) a welfare-to-work client would not be likely to obtain a desired outcome unless provided employment and training services; and b) the client's barriers to employment are not so severe that he/she is likely to remain dependent on public assistance even after receiving services. As opposed creaming, this is an officially approved method of effectively targeting services to improve the return on investment. (See also <i>Creaming</i> .)
<i>CBO</i>	<b>Community-Based Organization</b> : in the context of follow-up and accountability, this term commonly refers to non-profit groups eligible to deliver education, training, social and charitable services under contract with a state agency or substate administrative entity.
<i>CCSSO</i>	<b>Council of Chief State School Officers</b> (elementary and secondary -- see also <i>ESC</i> and <i>SHEEO</i> ).

<i>CEA</i>	<b>Central Education Agency:</b> the entity at the state level responsible for administering public education (K-12); usually the grant recipient of federal education and training dollars on behalf of the state. (See also <i>LEA</i> .)
<i>Central Follow-Up Entity</i>	Agency or sub-agency unit that gathers outcomes information on behalf of several programs and service providers as opposed to each service provider or program collecting such data for itself. (See also <i>Lead Agency</i> .)
<i>CETA</i>	<b>Comprehensive Employment and Training Act:</b> replaced the Manpower Development and Training Act as the nation’s largest workforce development program; in turn, CETA subsequently was replaced by the Job Training Partnership Act.
<i>CIDS</i>	<b>Career Information Delivery System:</b> an automated tool students, program participants, counselors and case managers can use to digest and understand occupational employment data and training program inventories to guide individuals in making informed choices. While there are a number of commercial programs on the market under various trade names, CIDS most commonly is used in reference to coordinated federal-state efforts through the NOICC-SOICC network to standardize, automate, and disseminate such a tool pursuant to §464(b)(2) of the Job Training Partnership Act.
<i>CIM</i>	<b>Certificate of Initial Mastery:</b> an educational credential based on demonstrable skills and competencies to a level of proficiency that is criterion-referenced and employer-validated rather than to a level set by an education and training provider or one that is norm-referenced.
<i>CIP</i>	<b>Classification of Instructional Programs:</b> a commonly used taxonomy for coding programs (fields of study) and courses offered by education and training providers.
<i>Cohort</i>	As used in this <i>Guide</i> , a group whose shared characteristic is the treatment, intervention or service received.
<i>Cohort Coverage</i>	The percentage of members in an exit cohort who are found through record linkages to be employed and for whom occupational employment details have been obtained through their employers’ responses to a follow-up survey. (See also <i>Employer Response Rate</i> .)
<i>Committee of Practitioners</i>	A state-level body constituted under §115 of the federal Carl D. Perkins Act to assist a state in developing and implementing core performance measures and standards which, given their experiences at the field level, will be fair, meaningful, and actionable.
<i>Completers</i>	In education and training programs, those who finished a course of study and received a credential. In workforce development programs, those who receive a positive termination. (See also <i>Exiters</i> and <i>Leavers</i> .)
<i>Comptroller General</i>	The chief executive officer of the General Accounting Office at the federal level who is appointed by the President upon the advice and consent of the Senate but whose investigations are initiated upon request of Congress, Congressional committees, or individual members of Congress. States usually have a comparable figure known as the State Comptroller of Public Accounts.
<i>Constructs</i>	In empirical research, labels for properties that are indirectly observable. For example, “gravity” can’t be seen but rather is a <i>construct</i> used to explain observations like the falling of objects toward the earth. (See also <i>Indicator</i> and <i>Variable</i> .)

<i>Contingent Workers</i> or <i>Workforce</i>	Individuals who work on a project-to-project basis, as contract workers, or on lease from a temporary help agency; so named because their continued employment is subject to the peaks and declines in the amount of work that needs to be done or the completion of particular projects; also means workers who are available -- by choice or otherwise -- for employment under those terms. (See also <i>Core Workers</i> .)
<i>Conversion</i>	In Systems Theory, the process of assessing inputs (demands and supports) and translating them into outputs (decisions and action).
<i>Core Workers</i> or <i>Workforce</i>	A firm's incumbent workers who perform on-going operations and whose tenure transcends individual projects and who enjoy relatively stable employment regardless of peaks and declines in the company's overall employment demand. (See also <i>Contingent Workers</i> .)
<i>Cost-Consequences Analysis</i>	A method for computing return-on-investment that compares the amount of funds invested in specific job preparation programs to the resulting self-sufficiency of former participants measured in terms of post-program earnings, reduced reliance on public assistance benefits, and increased payroll revenues. (See also <i>ROI</i> .)
<i>COVE</i>	<b>Council on Vocational Education:</b> a state-level advisory council dealing with career and technical education issues -- in states moving toward consolidated and integrated service delivery planning, the COVE's functions may now be performed by a Human Resource Investment Council.
<i>Covered Employment</i>	A type of job where earnings of incumbent workers must be reported to the state employment security agency under the applicable Unemployment Compensation Act; references also may be made to individuals in those jobs as <i>covered workers</i> . Conversely, those falling under exemptions to a state's Unemployment Compensation Act are known as " <i>Non-covered employment</i> " or " <i>Non-covered workers</i> ."
<i>CPM</i>	<b>Critical Path Method</b> of project management developed by DuPont and Remington Rand in the 1950s to calculate total project duration based on individual task durations and dependencies, and to identify which tasks are most critical. (See also <i>PERT</i> and <i>Gantt</i> .)
<i>Creaming</i>	A pejorative term used to describe a form of gaming behavior that consists of serving the easiest-to-serve in order to improve an entity's performance measures without regard for the customer or clients' interest. As opposed to using <i>capacity to benefit</i> in screening and referring customers or clients to employment and training programs, <i>creaming</i> is discouraged by the way performance measures are mixed or is forbidden expressly by the way the application eligibility rules are monitored and enforced. (See also <i>Capacity to Benefit</i> and <i>Gaming</i> .)
<i>Criterion-Referenced</i>	The characteristic of an assessment tool whereby a passing score is based on standards that remain fixed regardless on how those taking being assessed performed. (See also <i>Norm-Referenced</i> and <i>Venue-Neutral</i> .)
<i>Crosswalk</i>	(n.) A table or matrix that facilitates efforts to look up codes for the variable arrayed along one axis to corresponding codes of or relationships with the variable arrayed along another axis -- as in the table used to translate <i>DOT</i> codes into their <i>OES</i> equivalents or the one used to determine the degree of training-relatedness between a field of study and post-exit occupational employment, <i>CIP-to-OES</i> crosswalk. (v.) The act of looking up information in a cross-referenced table. (Sometimes written as <i>X-walk</i> .)

<i>CRS</i>	Consumer <b>R</b> eport <b>S</b> ystem -- a DoL/ETA-funded multi-state initiative led by the Texas SOICC to develop an automated delivery mechanism to make service provider performance history information universally available in user-friendly formats to facilitate fair and meaningful comparisons and to promote informed choice in career decision-making and in selecting education and training options.
<i>Customer</i>	Anyone potentially having an interest in the products and services provided through the employment and training system -- especially those who want or need follow-up information. Includes but is not limited to participants, partner agencies, and stakeholders. (See also <i>Participant</i> , <i>Partner Agency</i> and <i>Stakeholder</i> .)
<i>Datamation</i>	An automated display of data in graphic format -- especially formats with images that move.
<i>Decay Rate</i>	The rate at which data in a management information system, on average, are rendered obsolete or out-of-date. In follow-up, the average time that elapses before contact information in former participants' files is rendered out-of-date because subjects have changed addresses and/or phone numbers.
<i>Delphi Technique</i>	A process developed by RAND Corp. in the 1950s to resolve conflicting assumptions among stakeholders in a large and diverse enterprise by going through multiple iterations of information exchange, brainstorming, and explanations to build consensus. (See also <i>Focus Group</i> .)
<i>Demands</i>	In Systems Theory, the expressed or implied expectations and needs of individuals or groups in the external environment which necessitate a response (action or decision) from a system.
<i>Devolution</i>	In the employment and training system, a process or trend that transfers authority over many aspects of service delivery from the federal government to the state grant recipients and/or local workforce development boards.
<i>Diagnostics</i>	As used in this <u>Guide</u> , measures or indicators used to identify problems or defects in strategies, processes or products before they are unveiled or released publicly; indicators for the internal rather than external uses by a central follow-up entity and its partner agencies. In MIS context, tools and procedures used to identify problems in hardware, software, operating systems, etc. (See also <i>Evaluation</i> , <i>Formative</i> .)
<i>Disintermediation</i>	The process of removing persons or entities that stand between the producer and the ultimate consumer (as in direct-mail retailing); in the case of follow-up, the provision of information services directly to prospective customers of any component in the employment and training system. Example: the transition from CRS as a product installed on stand-alone computers in One-Stop centers for assisted-use to one that is mounted for use in self-help mode on the InterNet.
<i>Dislocated Worker</i>	An individual who has been laid off or terminated as the result of a mass lay-off or plant closure -- especially those that result from adverse consequences of trade agreements or long-term economic trends. (See also <i>TAA</i> .)
<i>Displaced Homemaker</i>	An individual who worked without compensation in the home and who now is forced by economic circumstances to seek outside employment -- particularly those whose education and training has been rendered obsolete by the intervening years between the end of their formal schooling and their current job-search.
<i>DoD</i>	United States <b>D</b> epartment of <b>D</b> efense: a source of outcomes (military service) typically not covered in a state's Unemployment Insurance wage records.

<i>DoE</i>	United States <b>D</b> epartment of <b>E</b> ducation.
<i>DoL</i>	United States <b>D</b> epartment of <b>L</b> abor.
<i>Domain</i>	The range of issues, subjects, problems or programs covered by a methodology, study or authority of a central follow-up entity -- as in “realm” or “bailiwick.” (See also <i>Boundaries</i> .)
<i>DOT</i>	<u><b>D</b>ictionary of <b>O</b>ccupational <b>T</b>itles</u> -- soon to be rolled into the O*NET system.
<i>Drop-Out</i>	An individual who does not persist long enough to complete a program or service; whether withdrawal from a program is formal or <i>de facto</i> , drop-outs are distinguished from <i>stop-outs</i> insofar as the former express no intention of completing the program or service at a later date. (See <i>Stop-Out</i> .) A drop-out leaves a program voluntarily as apposed to having services terminated by the provider. (See <i>Terminee</i> .)
<i>Economic Development</i>	Efforts to increase employment opportunities by getting new businesses to relocate in a community or existing businesses to expand. Differs from job development in the sense that it seeks to increase the pool of available work rather than soliciting employers to post openings for jobs that already exist. (See also <i>Job Development</i> .)
<i>ECS</i>	<b>E</b> ducation <b>C</b> ommission of the <b>S</b> tates: comprised largely of state governors and the chief public education and higher education administrators as well as researchers who specialize in assessing the effectiveness of education and training programs. (See also <i>CCSSO</i> and <i>SHEEO</i> .)
<i>EDP</i>	(v.) <b>E</b> lectronic <b>D</b> ata <b>P</b> rocessing: another acronym for automated data processing; (n.) the name often applied to the unit within an agency for its management information system. (See also <i>ADP</i> and <i>MIS</i> .)
<i>Education and Training Delivery Subsystem</i>	In this <i>Guide</i> , the actual efforts at the field level to impart knowledge, skills and abilities essential for individuals to achieve economic security through labor force participation; may include public and private for-profit providers of <i>first chance</i> and <i>second chance</i> programs at the basic education, secondary, and postsecondary levels in the classroom or on-the-job. (See also <i>Employment and Training System</i> .)
<i>EIN</i>	<b>E</b> mployer <b>I</b> dentification <b>N</b> umber: a unique identifier assigned to a firm required to report quarterly earnings of covered workers to a state’s UI wage record system.
<i>Emerging Occupation</i>	A job whose mix of duties and tasks, and knowledge, skills and abilities is so unprecedented that it is not yet included in the most recent editions of prevailing taxonomies. Emerging occupations are noteworthy because they may require education and training service providers to respond by developing a new curriculum. (See also <i>Evolving Occupations</i> .)
<i>Employer-record of-Record</i>	For a member of an exit cohort being studied, the employer whose address is obtained through linkages to the Unemployment Insurance wage records or documented through other outcomes resource databases such as DoD, OPM or USPS.
<i>Employer Response Rate</i>	In follow-up studies, the percentage of employers who respond to a survey to obtain occupational employment details. (See also <i>Cohort Coverage</i> .)

<i>Employment and Training System</i>	An integrated and articulated set of federally-funded, state-administered programs designed to help citizens acquire the skills, knowledge, and abilities they need and to support them as they transition in and out of the workforce at various stages in their lives.
<i>Employer-Generated Title Approach</i>	In survey research to obtain occupational-employment information, the practice of letting employers submit the lay titles they use in their payroll and personnel systems as opposed to forcing employers to shoehorn the job titles they use into an existing occupational coding taxonomy. (See also <i>Standard Taxonomy Approach</i> .)
<i>Enhanced Quarterly UI Report</i>	A proposed format for gathering labor market data from employers over and above the elements specifically required for administering UI benefits and computing employers' payroll tax contributions.
<i>Enhanced Record</i>	Information about the post-exit outcomes achieved by former program participants obtained <i>via</i> automated record linkages and electronically appended to those participants' original <i>seed</i> records; also known as <i>output record</i> .
<i>Enrollment-Driven</i>	Arrangements for basing program management decisions based on the number of eligible persons who signed up to be served -- regardless of the outcomes achieved by cohorts previously served; usually used in reference to funding decisions. (See also <i>Performance-Driven</i> .)
<i>Enterprise Zone</i>	A high poverty or economically depressed area within a community or state targeted for employment development through inducements for business and industry to locate therein and to hire, train, and retain economically disadvantaged residents thereof.
<i>Environment</i>	In Systems Theory, the behavior of actors and conditions outside a system's boundaries.
<i>ERIC/ACVE</i>	<b>E</b> ducation <b>R</b> esource <b>I</b> nformation <b>C</b> enter/ <b>A</b> dult, <b>C</b> areer, and <b>V</b> ocational <b>E</b> ducation: a national clearinghouse and archive of research materials and monographs; affiliated with the Education Department of the Ohio State University at Columbus.
<i>Equity of Access</i>	A construct related to the fairness of service delivery that focuses on inputs rather than outcomes; <i>viz.</i> performance measures in this genre are used to determine if the portion of some service-eligible subpopulation enrolled in a program is roughly equivalent to the proportionate presence of that subpopulation in the universe of persons residing in the service delivery area. (See also <i>Service-Eligible</i> , <i>Special Pops</i> , <i>Target Population</i> ).
<i>ES</i>	<b>E</b> mployment <b>S</b> ervice: usually a branch of a state's employment security agency responsible for matching job-seekers with job orders placed with the agency through its substate offices. (Sometimes call the Job Service.)
<i>ESL</i>	<b>E</b> nglish as a <b>S</b> econd <b>L</b> anguage: a characteristic of individuals often defined as eligible for services because their lack of English is construed as a disadvantage in the world of education and training and/or in the world of work; also a mode of delivering language instruction to them.
<i>ETA</i>	<b>E</b> mployment and <b>T</b> raining <b>A</b> dministration: a division within the United States Department of Labor.
<i>Evaluation</i>	Assessing the effectiveness and/or efficiency of a program, activity or service; comparing results to stated goals and objectives, a benchmark, a baseline, or an expected value.

<i>Evaluation, Formative</i>	Evaluation done for diagnostic purposes; e.g., to pinpoint problems and/or to identify “best practices” for the sake of driving program improvement. (See also <i>Dignostics</i> .)
<i>Evaluation, Gateway</i>	Assessment and testing at key articulation points to determine is an individual is qualified to receive a credential or to enter a program as in the Texas Assessment of Academic Skills (secondary exit test), the Texas Assessment of Postsecondary Skills (postsecondary entrance exam) or Florida’s “rising junior” exam called College-Level Academic Skills Test (CLAST).
<i>Evaluation, Reputational Method</i>	An approach to rating programs or entities based on attributes or qualities ascribed to them by others or on the basis of self-proclaimed qualities -- often in the absence of hard evidence that the quality exists at the ascribed level or in the absence of clear criteria; an approach used widely in popular publications to rank education and training institutions.
<i>Evaluation, Summative</i>	Analysis of program performance at the end of a fiscal or calendar period -- typically compiled for use by persons who are not engaged in program planning, program administration, or service delivery; e.g., as in consumer reports.
<i>Evolving Occupation</i>	A job whose title has not changed since the latest editions of prevailing taxonomies were issued despite significant changes in the knowledge, skills and abilities required to perform it. Evolving occupations are noteworthy because they may require revisions in the related training curriculum.
<i>Exceptions</i>	In the context of this <i>Guide</i> , former students or program participants for whom post-exit outcomes could not be documented through the record linkage efforts of a central follow-up entity. (See also <i>Pending File</i> and <i>Resolution</i> .)
<i>Exceptions List</i>	A printout or database containing the names and other pertinent information on subjects in an exit cohort for whom no successful outcomes could be documented through electronic record linkages. Such lists are provided to follow-up staff and/or the service provider of record to facilitate supplemental follow-up through conventional techniques.
<i>Exceptions Process</i>	The method used by education and training service providers to document for themselves the post-exit outcomes achieved by their former students and program participants who could not be located through the central follow-up entity’s record linkage efforts; may or may not include provisions for audit and verification by the central follow-up entity as a condition of adding the data obtained by the service provider to the outcomes database established through automated record linkages. Most often, this takes the form of traditional participant-contact surveys also known a <i>supplemental follow-up</i> .
<i>Exempt Workers</i>	Members of the labor force whose employment falls into a category not covered under their respective state’s Unemployment Compensation Act; references also may be made to <i>exempt employers</i> as those who do not have to file quarterly reports because their workers are not covered by their respective state’s Unemployment Compensation Act. (References also may be made herein to “ <i>non-covered</i> ” workers.)
<i>Expectation Exercise</i>	A process of reality-testing a strategic plan and getting stakeholder to devise rational contingency plan to avoid defensive, emotional responses if the worst case scenario actually occurs; not as broad as scenario planning; more intuitive/less empirical than a simulation. Also called an “ <i>imagining exercise</i> .” (See also <i>Planning</i> , <i>Scenario</i> and <i>Simulation</i> .)

<i>Expectation Slippage</i>	A situation where creeping escalation of specifications or demands results in efforts that deviate - significantly from what was planned -- often resulting in endeavors coming in over budget and behind schedule.
<i>Expected Value</i>	A predicted outcome derived by using a statistical model that takes key independent and/or exogenous variables into account in adjusting mean scores obtained for a prior cohort.
<i>Expert System</i>	Application software that distills the knowledge possessed by a trained and experienced practitioner reduced to a sequence of questions that operate through Boolean logic to enable less experienced persons apply sound rules to arrive at appropriate decisions. Examples include automated medical diagnostics devised by specialists that can be used in the field by general practitioners and allied health workers or on-screen question-and-answer scenarios that relatively inexperienced persons in a support center can follow as they help customers install, use and recover from errors in computer hardware or software.
<i>Extrapolation</i>	A rigorous process of projecting trends into the future and building confidence intervals around them by adjusting for the effects that known change factors are likely to produce.
<i>Feedback</i>	In Systems Theory, the mechanisms through which reactions to a system's outputs are processed in the external environment to be translated into new stresses and demands requiring a system's response.
<i>FERPA</i>	<b>F</b> amily <b>E</b> ducational <b>R</b> ights and <b>P</b> rivacy <b>A</b> ct of 1974; also known as the "Buckley Amendments."
<i>FETPIP</i>	<b>F</b> lorida <b>E</b> ducation and <b>T</b> raining <b>P</b> lacement <b>I</b> nformation <b>P</b> rogram: Florida's central follow-up entity.
<i>File</i>	A collection of records stored in a consistent format either in hardcopy or on magnetic media.
<i>First Chance Programs</i>	Education and training provided by primary, secondary and postsecondary institutions (public or private). While these service providers may deliver education and training under contract to participants in workforce development and welfare-to-work program, the co-authors find this a useful term to distinguish services originally designed to be taken in a traditional linear fashion as opposed to "second chance" programs designed primarily to remediate and/or "retool" non-traditional students. (See also <i>Second Chance Programs</i> .)
<i>Focus Group</i>	Panel of experts convened for a highly structured discussion of issues. (See <i>Delphi Technique</i> .)
<i>Follow-Up</i>	The collection and analysis of data on the outcomes achieved by a program's former participants.
<i>Follow-Up, Additional</i>	As used herein, part of the employer follow-up survey process; viz. persistence efforts by the surveyor to get employers to clarify their responses. (See also <i>Persistence Effort</i> .)
<i>Follow-Up, Automated</i>	Arrangements for using electronic record linkage techniques as the primary method of gathering outcomes data. Most states probably will use a hybrid system that couples record linkages (as the primary data gathering method) with one or more traditional surveys to fill in gaps with respect to locating additional subjects and/or gathering information on additional variables. Note that automated follow-up is not necessarily centralized or integrated, although those two features tend to go hand-in-hand with automation to realize economies of scale and comparability of data more fully.

<i>Follow-Up, Auxiliary</i>	Record linkages to databases other than the state's Unemployment Insurance wage records and master enrollment files for public postsecondary institutions. A distinction is made between <i>primary</i> follow-up and <i>auxiliary</i> follow-up because the former usually is done for an entire cohort while the latter may be done in some states only on an exceptions basis. (See also <i>Follow-Up, Primary</i> and <i>Exceptions</i> .)
<i>Follow-Up, Centralized</i>	Arrangements whereby a single entity in a state is responsible for gathering outcomes data for all federally-funded/state-administered employment and training programs. Centralization of the data gathering process does not necessarily mean that follow-up for all programs studied by the lead agency is integrated. The central entity may be divided into divisions or "silos" with each conducting follow-up for separate sets of programs - perhaps using different outcome measures and data collection methodologies. Centralized follow-up is not necessarily automated although all three attributes tend to go hand-in-hand.
<i>Follow-Up, Conventional</i> or <i>Traditional</i>	Herein used to refer to post-program surveys which relied on the self-reported behaviors and outcomes of former program participants (as in alumni surveys and JTPA 13th week follow-up) as opposed to efforts which rely primarily on automated record linkages; used herein as interchangeable with "traditional follow-up."
<i>Follow-Up, Integrated</i>	Arrangements for using common operational definitions of outcome measures and a standard data collection methodology across all employment and training programs in a particular state. Note that integrated follow-up is not necessarily automated or centralized.
<i>Follow-Up, Non-traditional</i>	A process of gathering outcomes data that relies predominately on automated record linkages rather than on conventional participant-contact surveys. (See also <i>Follow-Up, Automated</i> .)
<i>Follow-Up, Primary</i>	The use of electronic linkages to public administration databases by a state's lead agency to gather the vast majority of information about the outcomes achieved by subjects in the exit cohorts being studied. In most states, linkages to the Unemployment Insurance wage records and master public postsecondary enrollment files will suffice to locate the vast majority of subjects in any exit cohort. Therefore, primary linkages are used for an entire cohort while auxiliary linkages may be used on an exceptions basis to document results for those not located using primary linkages. (See also <i>Follow-Up, Auxiliary</i> and <i>Follow-Up, Supplemental</i> as well as <i>Exceptions</i> .)
<i>Follow-Up, Supplemental</i>	An effort by parties other than the central follow-up entity to collect outcomes data -- usually <i>via</i> traditional methods -- on former students and program participants not located by the central entity through automated record linkages. (See also <i>Exceptions</i> .)
<i>Follow-Up Entity</i>	The agency or subagency unit which facilitates record linkages for the purpose of gathering <i>information</i> about the outcomes achieved by former participants -- preferably distinct from service providers and the agencies or subagency units responsible for either fiscal or operational administration of service delivery. (See also <i>Central Follow-Up Entity</i> and <i>Lead Agency</i> .)
<i>Frame of Reference</i>	An appropriate context for interpreting follow-up data. Putting follow-up data in perspective usually consists of comparing the results achieved by one set of program exiters to external benchmarks or to internal baselines. (See also <i>Benchmarking</i> and <i>Baselining</i> .)

<i>Freedom of Information Act</i>	Federal law under which citizens or the media can request that public entities disclose information in their files; generally at odds with the Data Privacy Act as amended by FERPA. (See also <i>Buckley Amendment</i> , <i>Data Privacy Act</i> , and <i>FERPA</i> .)
<i>FSE&amp;T</i>	<b>Food Stamp Employment &amp; Training:</b> work-first programs to promote the economic self-sufficiency and reduce the welfare dependency of Food Stamp recipients.
<i>FTE</i>	<b>Full-Time Equivalent:</b> a construct used to determine employee workload that sums all hours worked by all employees (part- and full-time) in a week and dividing by 40 hours per week; also a calculation used to determine teaching load taking into account the mix of both part- and full-time students.
<i>Gaming</i>	The behavior or strategies of program administrators or service providers to achieve performance standards through means that do not necessarily provide intended benefits to customers or clients. Includes but is not limited to <i>creaming</i> . (See also <i>Creaming</i> .)
<i>Gantt Chart</i>	In project management, an approach named for its developer, H.L. Gantt. Noted for its capacity to show project activities graphically across a time scale, track them, manage them and print periodic reports on progress and resource consumption.
<i>GAO</i>	<b>General Accounting Office:</b> reports to Congress on the fiscal propriety and cost-effectiveness of federally-funded programs as well as the potential cost-effectiveness of proposed federal programs. (Individual states may have equivalent bodies called Legislative Budget Bureaus or Boards.)
<i>GIS</i>	<b>Geographical Information Systems:</b> combination of software and database structure in which each record contains location information coded in such a way (i.e., geo-coded) that facilitate displaying information on data maps.
<i>Geo-coding</i>	Inclusion of a location field in unit records that can be related to a table of longitude and latitude coordinates to facilitate depicting information on a map.
<i>Goals</i>	Broad statements generally describing a desired outcome for an entity and its programs. (See also <i>Mission</i> , <i>Objectives</i> , and <i>Performance Measures</i> .)
<i>GoTR</i>	<b>Government Technical Representative:</b> a staff person with the DoL national or regional office responsible for managing specific grants and for helping grant recipients: meet the technical specifications of their contractual obligations; complete all necessary paperwork; disseminate project information to interested stakeholders; and close-out projects properly. GoTRs also may assist policy-makers in the DoL in brainstorming service delivery and product development strategies and in evaluating related grant proposals. In conjunction with follow-up, a GoTR would be a key resource person and liaison between a state recipient of demonstration and capacity-building funds and experienced practitioners in other states or in the federal government.
<i>GPRA</i>	<b>Government Performance Reporting Act.</b>
<i>Guidance Letters</i>	More detailed specifications, suggestions and examples issued by the DoL national or regional offices to help state agencies comply with Training and Employment Information Notices. (See also <i>TEIN</i> .)
<i>HEGIS</i>	<b>Higher Education General Information Survey:</b> an old taxonomy for coding programs and courses offered by postsecondary institutions -- now less commonly used than the CIP.

<i>Heuristic</i>	In follow-up studies, the degree to which a set of outcomes data has the capacity to lead stakeholders
<i>Value</i>	to useful insights about the performance of an employment and training program, service or activity; i.e., the information-conveying capacity or understanding-enhancement capabilities of pieces of data, reports, or presentation formats.
<i>Hit</i>	A successful linkage between an individual's record in one file and that same individual's record in another file.
<i>Hit ratio</i>	The percentage of subjects in an exit cohort for whom outcomes could be documented through electronic record linkages.
<i>HRIC</i>	<b>Human Resource Investment Council:</b> in states moving toward consolidated strategic planning for employment and training programs, an advisory board that may exercise functions formerly mandated under federal law for the State Job Training Coordinating Council, State Council on Literacy and Adult Education, State Council on Vocational Education, etc.
<i>Indicator</i>	In empirical research, labels for properties that are observed directly and which can take on different values. (See also <i>Constructs</i> , <i>Values</i> , and <i>Variables</i> .)
<i>In-Family Use</i>	Any use of data that conforms to the spirit of the law authorizing collection of the data even though the specific use is not identified expressly in the letter of the law or attendant regulations. For example, because one aim of follow-up is to improve the match between the supply of appropriately trained workers and occupational employment demand, linkages to the UI wage records would be an <i>in-family</i> use of those records given the spirit of the Wagner-Pyser Act and the intent of most states' Unemployment Compensation Acts.
<i>Information Delivery Subsystem</i>	In this <i>Guide</i> , the operations which comprise the feedback loop for the employment and training system.
<i>Input Record</i>	Information about the background and services received by the subject of a follow-up study stored electronically in a format that conforms to specifications that facilitate linkages with external files likely to contain information about the post-program outcomes achieved by that subject. (See also <i>Seed Record</i> .)
<i>Input (Definition #1)</i>	Characteristics of subjects antecedent to or at the time they enter a program offered by a service provider; <i>inputs</i> also may be used to label the resources at the provider's disposal and constraints on the delivery of services -- commonly factors which service providers can measure for themselves without requiring the assistance of an external follow-up entity.
<i>Inputs (Definition #2)</i>	In Systems Theory, the demands (stresses and disturbances), supports (expectations and resources), and processed reactions (feedback) from the external environment which prompt a system to react.
<i>Intervention</i>	A term used generically in empirical research methods to label the purposeful treatment of or services provided to individuals or members of a group. The mission of follow-up often is to determine if subjects receiving a particular treatment or service achieved intended results.
<i>IPEDS</i>	<b>Integrated Postsecondary Education Data System:</b> a system managed by the National Center for Education Statistics for collecting common data elements from institutions of higher education.
<i>ISD</i>	<b>Independent School District.</b>

<i>ITSC</i>	<b>Information Technology Support Center</b> ; designed and operates the WRIS under contract to DoL. (See also <i>WRIS</i> .)
<i>JCL</i>	<b>Job Control Language</b> : a more cumbersome and cryptic precursor of SQLs found in pre-fourth generation programming languages and statistical application software -- but not standardized from one programming language or application software package to another. (See also <i>SQL</i> .)
<i>Job Development</i>	Efforts to get employers to post notices of employment opportunities with the SESA's labor exchange and/or on publicly-supported "real-time" forums such as the America's Job Bank. Differs from economic development in the sense that it presumes that job openings already exist but are not being posted with the SESA or on other publicly-supported forums. (See <i>Economic Development</i> .)
<i>Job-Matching and Referral</i>	Assessing the fit between an applicant's qualifications and the requirements of a job posted with the state's employment security agency through case management and the subsequent efforts to schedule an interview for a suitable applicant with a prospective employer. Now that America's JobBank and America's Talent Bank are operational, much of this can be done electronically as both the range of job openings and the pool of talent expanded to a national scale.
<i>Job-Search Assistance</i>	Instruction provided to those seeking employment on where to look for job postings, how to network with others to increase access to information about job openings that have not been posted in common forums, how to write a resume, how to fill out a job application, and how to conduct one-self in an interview, etc.
<i>JOBS</i>	Employment and training programs provided to promote the economic self-sufficiency and reduce the welfare dependency of AFDC/TANF recipients under the <b>J</b> ob <b>O</b> pportunities and <b>B</b> asic <b>S</b> kills Act.
<i>JSEC</i>	<b>J</b> ob <b>S</b> ervice <b>E</b> mployer <b>C</b> ommittee: local committees which advise the state and substate Job Service operations about employers' needs and concerns regarding labor market conditions.
<i>JTPA</i>	<b>J</b> ob <b>T</b> raining <b>P</b> artnership <b>A</b> ct as amended in 1994 in Public Law 97-300.
<i>KSAs</i>	<b>K</b> nowledge, <b>S</b> kills and <b>A</b> bilities: what it takes to perform successfully the duties and tasks associated with a particular job or occupation. Currently the focus of research under the National Skills Standards Board and its state-level counterparts; also integral to the content model of the O*NET. (See also <i>NSSB</i> and <i>O*NET</i> .)
<i>Labor Exchange Subsystem</i>	Activities by partner entities to get employers to post job openings with the state's employment security agency or publicly supported electronic forums (such as America's Job Bank) and to encourage job-seekers to use services such as individual job matching and referral as well as publicly supported electronic forums (such as the Talent Bank).
<i>Lag Time</i>	In project management, a delay between tasks that have a dependency. Usually expressed as a percentage of latitude in a project schedule for delaying the start of a successor task without affecting the on-time completion of other tasks -- particularly those in its critical path. (See also <i>Lead Time</i> and <i>Slack Time</i> .)
<i>LAR</i>	<b>L</b> egislative <b>A</b> ppropriations <b>R</b> equest: usually contains a budget, an explanation of proposed services and the benefits the public will derive therefrom. For a state's central follow-up entity, the LAR may be a stand-alone request or a rider attached to other pieces of legislation.

<i>LEA</i>	<b>Local Education Agency:</b> an entity such as an independent school district responsible for administering public education (K-12) in the community; usually the direct recipient or subgrant recipient of federal education and training dollars. (See also <i>CEA</i> .)
<i>Lead Agency</i>	Insofar as the administration and delivery of employment and training services may be scattered divided across several state agencies, the one which is assigned principle responsibilities for centralizing follow-up is herein designated the <i>lead agency</i> will the remaining ones are lumped together as <i>partner agencies</i> . (See also <i>Central Follow-Up Entity</i> , <i>Partner Agency</i> and <i>Stakeholder</i> .)
<i>Lead Time</i>	In project management, an overlap between tasks that have a dependency. Usually expressed in a percentage of latitude in a project schedule for starting one task before its predecessor is finished; viz., permissible head start. (See also <i>Lag Time</i> and <i>Slack Time</i> .)
<i>Leavers</i>	In follow-up studies, members of an exit cohort including those who: a) completed an employment and training program; b) terminated voluntarily; c) transferred to another program for services; or d) were involuntarily terminated. (See also <i>Completers</i> , <i>Drop-Outs</i> , <i>Stop-Outs</i> , and <i>Terminees</i> .)
<i>Legacy Systems</i>	The variety of hardware, software, and operating platforms comprising the various information management systems of the partner agencies participating in automated follow-up and which preceded the creation of a state's central follow-up entity. (See also <i>MIS</i> .)
<i>Life-Skills Training</i>	Instruction on matters outside the workplace that may impact a person's ability to achieve economic security, personal satisfaction, and capacity to get a job or hold on to it (e.g., how to prepare and stick to a household budget).
<i>LMI</i>	<b>Labor Market Information:</b> may be used generically to refer to employment demand and supply information or more specifically to a governmental body that analyzes such data and/or to an automated system for delivering those data to varied customers.
<i>Longitudinal Design</i>	Research conducted on the same subjects at two or more points in order to assess changes in their behaviors, attitudes, experiences, or achievements over time. In employment and training follow-up, longitudinal designs are used to assess pre-service/post-exit changes and delayed or long-term program outcomes such as learning gains, earnings gains, and employment retention. (See also <i>Snap-Shot</i> .)
<i>LWDB or LWFDB</i>	<b>Local Workforce Development Boards</b> responsible for the strategic planning and evaluation of the JTPA and other employment and training programs at the substate level. Under the Human Resource Investment/ <i>One-Stop</i> approach to employment and training, LWFDBs have, by and large, replaced the PICs. (See also <i>HRIC</i> , <i>PIC</i> and <i>SDA</i> .)
<i>Matching</i>	As defined by the Computer Matching and Privacy Protection Act of 1988, the electronic linking of administrative databases for the purpose of determining how to treat or serve a particular individual as opposed to linking done for statistical purposes. (See also <i>Record Linkage</i> .)
<i>MDTA</i>	<b>Manpower Development and Training Act;</b> federal workforce development program that preceded CETA and JTPA.
<i>Micro-Matrix</i>	A product of joint federal state efforts to identify occupational staffing-patterns down to the lowest level of business/industry sector of the SIC taxonomy.

<i>Milestone</i>	In project management, a reference point -- usually a task with zero duration (i.e., a significant event such as a begin date or end date).
<i>MIS</i>	<b>Management Information System:</b> the hardware, software, database structure, the data therein, and the rules used by the responsible entity for operating, maintaining and securing all the above. (See also <i>Legacy Systems</i> .)
<i>Mission</i>	A concise statement of the unique, fundamental current and future purpose of an entity and its programs. (See also <i>Goals, Objectives, and Performance Measures</i> .)
<i>MOS</i>	<b>Military Occupational Specialty.</b>
<i>MTTR</i>	<b>Mean Time To Repair</b> a defect; a concept take from quality control in software development and applied to error detection, capture and repair in follow-up.
<i>Multiple Indicators</i>	Using several measures or observational techniques to record and classify phenomena. (See also <i>Validity, Convergent and Triangulation</i> .)
<i>N</i>	In standard statistical notation, <b>number</b> of observations or subjects (usually written in upper case).
<i>NAFTA</i>	<b>North American Free Trade Agreement.</b> As used in this <i>Guide</i> deals primarily with dislocated workers entitled to employment and training services under TAA as amended by the NAFTA Transition Assistance Act. (See <i>TAA</i> .)
<i>NAICS</i>	<b>North American Industrial Classification System</b> -- a proposed replacement for the Standard Industrial Classification. (See also <i>SIC</i> .)
<i>NALS</i>	<b>National Adult Literacy Survey.</b>
<i>NCES</i>	<b>National Center for Education Statistics:</b> a unit within the Office of Education Research and Improvement of the United States Department of Education. (See also <i>IPEDS, NPEC, and VEDS</i> .)
<i>NCRVE</i>	<b>National Center for Research on Vocational Education</b> located at the University of California - Berkeley.
<i>Nearest Competitor</i>	Closest entity geographically or the entity most likely to attempt to enroll/recruit/provide services to the same potential customers/clients. (See also <i>Benchmarking</i> and <i>Peers</i> .)
<i>NEC</i>	<b>Not Elsewhere Classified:</b> as used herein, a catch-all designation within OES occupational clusters often having an OES code ending in 99. May also be a catch-all designation in other coding systems as in the DOT and CIP taxonomies.
<i>New Hires</i>	For measurement purposes, an individual whose Social Security number did not appear on the wage records submitted by a particular employer in $Q_N$ but who does appear in the wage records submitted by that employer in $Q_{N+1}$ .
<i>NGA</i>	<b>National Governors' Association.</b>
<i>NLA</i>	<b>National Literacy Act</b> of 1991 which expanded services and added performance measure requirements to the Adult Education Act of 1966 (AEA).

<i>NOICC</i>	<b>National Occupational Information Coordinating Committee.</b>
<i>Non-Filers</i>	Employers who failed to submit required quarterly reports on the earning of their employees that are covered under their state’s Unemployment Compensation Act.
<i>Non-Traditional Students</i>	Individuals pursuing education and training but who have not taken the traditional linear path at a pace commensurate with “normal academic progress” and without interruption from kindergarten to their highest level of educational attainment. Term also is used to describe those who do not fit the typical demographic profile of the client mix served by a particular provider.
<i>Norm-Referenced</i>	Assessment instruments where a passing score is not set at a fixed point but rather is set relative to the performance of others assessed with the same instrument -- as in grading on a curve. (See also <i>Criterion-Referenced</i> .)
<i>NPEC</i>	<b>National Postsecondary Education Collaborative:</b> a representative body of state delegates and national leaders formed under the auspices of the National Center for Education Statistics to assess needs of postsecondary educational institutions to gather and report data elements to address common external demands for accountability.
<i>NSSB</i>	<b>National Skills Standards Board</b> established under Goals 2000 Educate America Act to ratify an industry-by-industry methodology for employer validation of the KSAs they expect their employees to have for each occupational cluster therein. (See also <i>KSAs</i> .)
<i>Objectives</i>	Measurable statements about the results that a service or program is expected to accomplish in a given period of time. (See also <i>Mission, Goals, and Performance Measures</i> .)
<i>OES</i>	<b>Occupational Employment Statistic:</b> an occupational classification system based on annual surveys conducted jointly by the state employment security agencies and the Department of Labor; having the advantage over other occupational employment taxonomies because it includes current and projected employment figures for each title.
<i>Off-Line</i>	Data storage that is either separated physically from a computer or not immediately accessible by the computer’s central processor unit; e.g., a backup file or archived data stored in a locked cabinet.
<i>OIG</i>	<b>Office of Inspector General:</b> a unit within a federal agency responsible for monitoring regulatory compliance and, in some agencies, with increasing responsibilities for monitoring performance outcomes.
<i>OIS</i>	<b>Occupational Information System:</b> a set of automated tools that program administrators and planners can use to digest and understand occupational employment demand and education and training supply information to guide them in planning the delivery of services. While several states have developed their own automated labor market planning tools, OIS most commonly is used in reference to coordinated federal-state efforts through the NOICC-SOICC network to standardize, automate and disseminate a set of tools pursuant to §464(b)(2) of JTPA.
<i>Micro-OIS</i>	A <b>micro</b> -computer based <b>Occupational Information System</b> developed by the NOICC in collaboration with several state OICCs. The micro-OIS consists of standard data elements in a standardized file structure (the OLMID) and an application layer designed for use by program administrators and planners. (See also OLMID.)

<i>OJT</i>	<b>On-the-Job Training:</b> training done in a workplace setting or simulated environment rather than in a classroom -- may connote that the subject's employment is subsidized during the training period, that the person doing the instruction is a practitioner rather than a teacher, and that there may be an expectation of unsubsidized employment after the training period ends.
<i>OLMID</i>	<b>Occupational Labor Market Information Database:</b> the standardized file structure and data elements that serve as the foundation for the micro-OIS distributed by the NOICC. (See also <i>micro-OIS</i> .)
<i>OMB</i>	<b>Office of Management and Budget:</b> a federal executive office.
<i>One-Stop</i>	A federal initiative to house employment and training services at a single location to provide customers easier access, to improve articulation among the programs, and to streamline their administration; hence a name used to describe such centers, the tools and resources therein, and the subgrants award to entities developing tools and service strategies.
<i>O*NET</i>	<b>Occupational Network:</b> an on-line replacement for the <i>Dictionary of Occupational Titles</i> . The O*NET, however, differs from the manual DOT by consolidating several occupational taxonomies into a single taxonomy while also expanding and enriching the underlying content model through the addition of more data fields to describe occupational employment attributes that are important to employers, job-seekers, educators, and trainers. (See also <i>DOT</i> .)
<i>On-Line</i>	Data stored for immediate access by a computer's central processor unit; commonly the most recent files are stored on-line while older data sets tend to be archived. (See also <i>Archive</i> and <i>Off-Line</i> .)
<i>OPM</i>	<b>Office of Personnel Management:</b> office responsible for administering the federal civil service; a source of labor market outcomes typically not covered in a state's Unemployment Insurance wage records.
<i>Organizational Learning</i>	An experience-based process through which knowledge about action-outcome relationships develops, is encoded in routines, is embedded in organizational memory, and changes collective behavior. (See also <i>Reusability</i> .)
<i>Organizational Memory</i>	The accumulation and documentation of lessons learned by trial and error or experimentation, and through outside counsel or reflective analysis; knowledge of what worked and what did not -- used to guide future organizational behavior. (See also <i>Repository</i> .)
<i>Organizational Vision</i>	A mental image or model of an entity's future in the mind of its leader that is idealized yet sufficiently detailed to cause a positive reaction among followers and to provide direction for their future behavior; an expression of what is valued by an organization as a prelude to developing a more succinct organizational mission statement and strategic plan. (See also <i>Mission</i> and <i>Planning, Strategic</i> .)
<i>Outcomes</i>	What happened to subjects after services were provided -- broadly conceptualized to also include the impacts, payoffs, or returns on the investment made in service delivery. Generally speaking, <i>outcomes</i> are something in which the subject takes an active role and for which the subject has some modicum of responsibility for achieving. (See also <i>Inputs</i> and <i>Outputs</i> .)
<i>Outcomes, Gross</i>	The the level of post-exit achievements obtained by an employment and training program cohort - not adjusted to take into account the pre-service status of individuals in the cohort.

<i>Outcomes, Net</i>	The difference between the values obtained for a variable when measured before and after subjects participated in an employment and training program. (See also <i>Value-Added</i> .)
<i>Outliers</i>	An exceptionally high or exceptionally low value for a variable; an extraordinary observation. (See also <i>Anomaly</i> .)
<i>Output</i>	Information about the post-exit outcomes achieved by former program participants obtained through
<i>Record</i>	record linkages when appended to the participants' original <i>seed</i> records; also known as an <i>enhanced record</i> .
<i>Outputs Definition #1)</i>	Attributes or characteristics of subjects at the point when they exit a program or when services are terminated -- commonly factors which service providers can measure for themselves without requiring the assistance of an external follow-up entity.
<i>Outputs Definition #2)</i>	In Systems Theory, the actions and decisions of a system in response to demands (stresses and disturbances) and supports (expectations and resources) emanating from its environment.
$p <$	In standard statistical notation, <b>p</b> robability that data support the null hypothesis is less than the trailing value. (Written in lower case.)
<i>Parameter Substitution</i>	A feature of software or report generating templates that facilitates subsequent reuse by allowing or even prompting end-users to input values or specifications on key variables -- as in specifying the beginning date and end date of a school year when prompted on screen in an application designed to extract seed records for secondary or postsecondary education and training programs' exit cohorts.
<i>Participant</i>	An individual who was provided a service or who received a treatment or intervention; commonly the subject of follow-up studies after the service, treatment, or intervention is terminated as in <i>former</i> participant; may also be known as client, student, inmate, etc. depending on the nature of the program in which the individual participated.
<i>Participant Contact</i>	As used in this <i>Guide</i> , refers to traditional methods of gathering data that necessitate locating persons who have received services, asking them about their experiences and the outcomes they achieved, and accepting their responses as truthful and accurate.
<i>Partner Agency</i>	Any entity that is provided services by the central follow-up entity or which provides either seed records or outcomes data resources to the central follow-up entity. (See also <i>Lead Agency</i> and <i>Stake-holder</i> .)
<i>PBF</i>	<b>Performance-Based Funding</b> : a method for allocating at least a portion of budgeted dollars to reward programs whose exit cohorts met or exceeded standards on outcome measures -- as opposed to enrollment-drive funding or funding formulas based largely on process measures. (See also <i>Enrollment-Driven</i> , and <i>Performance Driven</i> .)
$(PB)^2$	<b>Performance-Based Program Budgeting</b> : an initiative in Florida to base an ever growing share of program budgeting for all government sectors on outcomes and outputs; intended to counterbalance accountability and budgeting issues. (See also <i>Enrollment-Driven</i> , <i>Performance-Driven</i> and <i>ROI</i> .)

<i>Peers</i>	For the purpose of putting follow-up data into perspective, entities having a comparable mission, size or caseload, admissions/eligibility criteria or customer mix, or expenditure level. (See also <i>Benchmarking</i> and <i>Nearest Competitor</i> .)
<i>Pending</i>	The status assigned to a record for which additional inquiries or statistical manipulations must be done in order to assign a value to one of its variables or fields. (See also <i>Exceptions</i> , <i>Residual Titles</i> , and <i>Resolution</i> .)
<i>Performance</i>	The relative success of a program, service, intervention, or activity in achieving desired results; often conceptualized as exhibiting degrees of effectiveness and/or efficiency.
<i>Performance-Based Contract</i>	An arrangement whereby the vendor of a service agrees in advance to a minimum level of achievements by the persons served; often includes a provision for withholding some portion of budgeted dollars after contract period is closed with final payment made upon receipt of documentation that contractually-specified outcomes were achieved. Before entering into such arrangements, a service provider may have to supply proof of adequate performance in some prior base period.
<i>Performance-Driven</i>	Arrangements for basing program management decisions wholly or in part on the outcomes achieved by the participants served during some prior program year or base period; usually used in reference to funding formula. (See also <i>Enrollment-Driven</i> .)
<i>Performance Measures</i>	On-going, quantitative indicators of the extent to which objectives are being achieved. (See also <i>Mission</i> , <i>Goals</i> , and <i>Objectives</i> .)
<i>Performance Measure, Core</i>	A performance measure that is applied universally and defined consistently across all programs in a state's employment and training system; e.g., post-exit employment.
<i>Performance Measure, Program-Specific</i>	A performance measure that is applied to all like programs but not universally across all programs comprising the employment and training system. Training-relatedness, for example, might be a performance measure applied to all occupationally-specific training programs but which would not be applied to academic-transfer or basic education programs.
<i>Performance Measure, Provider-Specific</i>	A performance measure that is used by a specific service provider for on-going program management requirements and diagnostics but which might not applied to all like programs or universally to all components of the employment and training system.
<i>Performance Measure, Tiers</i>	A way of conceptualizing the distinction and hierarchical relationship among core performance measures (Tier I), program-specific performance measures (Tier II), and performance measures necessary for on-going program management requirements and diagnostics (Tier III).
<i>Performance Standard</i>	A minimum level of achievement for a program or service provider as established by an authoritative body or by contract.
<i>Perkins Act</i>	Carl D. Perkins Vocational Education Act (Public Law 98-524) as amended by Public Law 100-392 became the Carl D. Perkins Vocational and Applied Technology Education Act; both are referenced rather interchangeably as the Perkins Act.

<i>Persistence Effort</i>	The use of resources by an entity engaged in survey research to obtain the minimally acceptable response rate as opposed to seeking clarification of responses already received. (See also <i>Cohort Coverage, Employer Response Rate, and Follow-Up, Additional.</i> )
<i>Personal Responsibility and Work Opportunities Reconciliation Act.</i>	At the federal level, welfare reform legislation that replaced AFDC with TANF and introduced the “work first” model. Noted for establishing a time limit on both current receipt of public assistance and receipt of public assistance over a lifetime. Also noteworthy because it sets upper limits on the duration of public assistance as a matter of federal policy but allows the states greater latitude in setting tougher time restrictions. (See also <i>AFDC, TANF and Work-First.</i> )
<i>PERT</i>	<b>Program Evaluation Review Technique</b> for project management developed by Lockheed when it served as prime contractor on Polaris missile project for US Navy. This technique uses statistical probabilities to forecast project duration. It is used widely because of its capacity to display task relationships visually in a network diagram.
<i>PIC</i>	<b>Private Industry Council:</b> responsible for strategic planning and evaluation of JTPA programs at the substate level; by and large, PICs are being replaced by Local Workforce Development Boards (LWFDBs) as states consolidate administration of employment and training programs under Human Resource Investment Councils and the <i>One-Stop</i> initiative. (See also <i>LWFDB.</i> )
<i>Placement Verification System</i>	Terminology used to describe a follow-up entity and its activities under education, training and workforce development program consolidation proposals introduced during the 104 <sup>th</sup> and 105 <sup>th</sup> Congresses chiefly by William Goodling in the House of Representatives and, before her retirement, by Nancy Kassenbaum in the Senate.
<i>Planning</i>	Formulating a course of action in orderly fashion to achieve desired goals and objectives at some point in the future.
<i>Planning, Operational</i>	Deciding how to deliver services to eligible customer groups in the next program year or current fiscal cycle (i.e., planning into the future only so far as the timeframe for which a budget is known or for which funds in theory have been authorized even if not yet appropriated).
<i>Planning, Scenario</i>	A process of envisioning several contingencies, assigning probabilities to each, and tentative responses for the most likely contingencies; broader than an expectation exercise and less empirical/more intuitive than a simulation. (See also <i>Expectation Exercise and Simulation.</i> )
<i>Planning, Strategic</i>	Anticipating who will need services and what kind of services they will need at some point in the future beyond the current program year or budget cycle and deciding how to meet those needs.
<i>Planning Subsystem</i>	In this <i>Guide</i> , the conversion process through which decision-makers in the employment and training system receive, evaluate, and respond to demands and supports emanating from private citizens and organized stakeholder groups in the external environment.
<i>Processes</i>	The actual services, treatments, or interventions and how they were delivered -- commonly factors which service providers can measure for themselves without requiring the assistance of an external follow-up entity. To some extent, process measures have, in the past, been taken as empirical indicators of the quality of services provided.

<i>Proxy Measure</i>	In the absence of data elements best suited as an indicator of some construct, a substitute indicator consisting of available data which comes closest to measuring the construct. (See also <i>Construct</i> , and <i>Indicator</i> .)
<i>Public Education</i>	Elementary and secondary education (K-12) provided at public expense as distinguished from private education at any level and from publicly-funded education and training at the postsecondary level.
<i>Purposive Sample</i>	A non-random sample used in proof-of-concept efforts and exploratory studies to focus attention on a particular problem or to generate testable hypotheses rather than to make inferences about a larger population.
$Q_N$	Reporting Quarter of the Unemployment Insurance wage records tapped for a particular piece of data where: $Q_0$ represents the service delivery exit quarter; a negative subscript ( $Q_{-N}$ ) represents the Nth full quarter preceding enrollment in an employment and training program; and a positive subscript ( $Q_{+N}$ ) represents the Nth full quarter after program exit.
<i>R&amp;A Unit</i>	<b>Research and Analysis Unit:</b> usually a division within the state's employment security agency; may also be known as the state's labor market information - or LMI - unit. (See also <i>LMI</i> and <i>SESA</i> .)
<i>Real-Time</i>	In the context of follow-up, electronically capturing transactions between job-seekers and employers as they occur and instantaneously updating supply and demand data in labor market information systems.
<i>Record</i>	Information about a specific individual, event or activity stored as hardcopy or on electronic media in a standard format.
<i>Record Linkage</i>	Connecting individual records from two data sets electronically by matching them on a unique identifier (usually the Social Security number) common to both sets of data.
<i>Redress</i>	For the purpose of this <i>Guide</i> , the actions, decisions, and mechanisms in program accountability for compelling providers to either discontinue a service or revise its delivery in order to meet or exceed performance standards; analogous to preventing or seeking repayments for illegal procurements detected through a fiscal audit or the tightening of procurement procedures and procedural guide-lines to combat wasteful and inefficient practices uncovered by a management audit.
<i>Referral</i>	Sending a customer or client elsewhere for services. In a <i>One-Stop</i> setting, the transfer of an individual's information to one or more appropriate service providers after going through intake, eligibility screening, and assessment. In the labor exchange, an arrangement by a case manager to send a job-seeker to apply for an opening posted with the <i>SESA</i> . (See also <i>Job-Matching and Referral</i> .)
<i>Reliability</i>	As used among persons doing empirical research: when the application of measurement rules results in consistent and stable results. (See also <i>Validity</i> .)
<i>Reliability, Inter-Coder</i>	The degree of consistency between two or more researchers or data entry clerks as they apply the measurement rules of a particular research design to assign a value to comparable observations. As oppose to <i>Intra-Coder Reliability</i> , this usually is a question of how clear and unambiguous the measurement rules are.

<i>Reliability, Intra-Coder</i>	The likelihood that an individual researcher or data entry clerk will assign the same value consistently assigning a value to comparable observations encountered at different times. As opposed to <i>Inter-Coder Reliability</i> , this usually is a question of how well the researcher or data entry clerk has been trained regarding the application of the research design's measurement rules.
<i>Repository</i>	Library of automated subroutine, boilerplates and report formats, systematically cataloged and indexed for easy retrieval and reuse. (See also <i>Reusability</i> .)
<i>Residual Titles</i>	Employer-provided occupational titles (known as <i>lay titles</i> or <i>payroll titles</i> ) that can't be walked to a standard taxonomy without additional research to determine the duties and tasks performed.
<i>Resolution</i>	Assigning a value to a variable or field when additional inquiries or observations provide sufficient information to apply an operational definition. (See also <i>Exception, Pending File, and Follow-Up, Additional</i> .)
<i>Response</i>	Answer returned for a mail survey or replies to telephone survey that are sufficiently complete.
<i>Response Analysis</i>	Additional research used to determine if there are statistically significant differences in the characteristics of those providing sufficiently complete answers to a mail or telephone survey versus those who did not reply, refused to answer, or provided incomplete answers.
<i>Response-Set Bias</i>	Systematic sources of error in data collection based on the differential probabilities that subgroups within the sample or universe being studied will respond to follow-up surveys. (If the degree and source of response-set bias can be determined, statistical adjustments can be made to affected data sets. However, the dimensions of response-set bias often are either not investigated or -- relative to the required confidence level and need for precision in a particular study -- would be too costly to determine.)
<i>Results</i>	Outcomes experienced rather passively or without purposeful action by a subject after receiving a service or intervention; i.e., outcomes over which the subject has little or no control and for which the subject may not be held personally accountable. (See also <i>Outcomes</i> and <i>Outputs</i> .)
<i>Reusability</i>	The characteristic of modularized software, report templates, and wordprocessing boilerplates that are designed intentionally from the outset to minimize the need for modification if retrieved and applied at a later date to meet anticipated needs likely to arise under circumstances similar to those surrounding the item's initial creation. (See also <i>Parameter Substitution</i> and <i>Repository</i> .)
<i>Reverse Linkage</i>	The process of harvesting additional explanatory variables from a partner agency or service provider's management information system once it has received enhancements of its seed records from a central follow-up entity. (See also <i>Performance Measures, Provider-Specific</i> .)
<i>Reverse Matrix</i>	When constructing a crosswalk between two variables, the data element arrayed on the vertical axis is usually the one which serves as the point-of-entry for lookup purposes (i.e., the "known" or "given" in a lookup routine). For example, an educator may want to enter a matrix used to determine the training-relatedness of post-exit employment situations to look up occupational titles related to the programs he or she teaches or administers. In that case, the matrix would be arrayed with CIP codes on the vertical axis and OES codes on the horizontal. A <i>reverse matrix</i> arrays the variables in just the opposite fashion. In the example above, the matrix used to determine training-rela-

tedness could have the OES codes on the vertical axis and the CIP codes on the horizontal to facilitate review by employers who are more accustomed to working with occupational titles than they are with the names of program offerings. Herein, *reverse matrix* may be used more specifically in conjunction with the CIP-to-OES/OES-to-CIP crosswalk for determining training-relatedness and the SIC-to-OES/OES-to-SIC crosswalks used in analyzing industrial staffing-patterns and the distribution of occupational employment.

<i>Right-to-Know</i>	The principle expressed in the Student Right-to-Know and Campus Security Act of 1994 asserting that prospective students are entitled to sufficient relevant data to make informed choices regarding their selection of an education and training provider. In this <i>Guide</i> , the co-authors construe the right-to-know broadly to include the rights of participants in all employment and training programs to access meaningful and comparable data relevant to the services being provided.
<i>ROI</i>	<b>Return on Investment:</b> a phrase borrowed from banking and finance; when applied in an outcomes based accountability context, it refers to the ratio of benefits enjoyed by taxpayers relative to the cost of a program funded with their tax dollars or the benefits achieved by former participants relative to the time, effort, and resources they expended. (See also <i>Const-Consequences Analysis</i> .)
<i>RTW</i>	<b>Return to Work:</b> a desired outcome for Workers' Compensation and Rehabilitation programs.
<i>Sabotage</i>	Intentionally destructive or obstructive behavior by stakeholders aimed at causing a program or initiative to fail. (See also <i>Sandbagging</i> .)
<i>SACS</i>	<b>Southern Association of Colleges and Schools:</b> the regional body which accredits education and training institutions in several states, including Texas and Florida. Other regional accrediting bodies have comparable rules that require program evaluation based in part on labor market outcomes.
<i>Sandbagging</i>	To weigh down a process with misinformation (or, ironically, withholding critical information -- especially regarding needs and expectations) then criticizing the final product or service at time of delivery. (See also <i>Sabotage</i> .)
<i>SDA</i>	<b>Service Delivery Area:</b> the entity administering JTPA programs at the substate level or the geographic territory in which JTPA services are provided; under Title III of JTPA may be known as a Sub-state Area. (See also <i>LWFDB</i> and <i>PIC</i> .)
<i>Second Chance Programs</i>	Programs made available to eligible individuals who, because of economic or educational disadvantages, find that they need additional education and training to compete in the labor market to achieve economic self-sufficiency as contrasted to " <i>first chance</i> " programs where learners make progress in a linear or " <i>age-appropriate</i> " fashion through the traditional sequence of elementary, secondary, and postsecondary education and training. (See also <i>First Chance Programs</i> .)
<i>Seed Record</i>	Information about the background and services received by the subject of a follow-up study stored electronically in a format that conforms to specifications that facilitate linkages with external files likely to contain information about the post-program outcomes achieved by that subject; also known as <i>input record</i> .
<i>Selective Perception</i>	The act (deliberate or unconscious) of ignoring evidence that does not support one's foregone conclusion or citing favorable findings out of context or in ways that overstate their importance and relevance.

<i>Service Provider</i>	An entity that renders a treatment or intervention.
<i>Service-Eligible Population</i>	A group whose members, according to authorizing legislation or regulation, are entitled to receive a benefit or service. (See also <i>Equity of Access</i> , <i>Special Pops</i> , and <i>Target Populations</i> .)
<i>SESA</i>	<b>State Employment Security Agency</b> : usually the entity responsible in each state for administering Unemployment Insurance benefits, collecting employer payroll tax contributions, and operating a publicly-supported labor exchange; may also house a research and statistics unit responsible in the state for joint federal-state initiatives to gather, analyze and disseminate labor market information; may be responsible for administering several employment and training programs within the state. Note that the names of the particular agencies serving as their state's SESA will vary (e.g., Texas Workforce Commission, Florida Department of Labor and Employment Security, etc.)
<i>SHEEO</i>	<b>State Higher Education Executive Officers</b> (see also <i>CCSSO</i> and <i>ESC</i> ).
<i>SIC</i>	<b>Standard Industrial Classification</b> : a hierarchical coding system to identify firms according to the products and services they provide. (Eventually will give way to the NAICS.)
<i>Simulation</i>	A process of forecasting alternative futures by inserting high, median and low parameters on change variables into empirical models that have been validated <i>ex post facto</i> ; more rigorous than scenario planning and broader than an expectation exercise. (See also <i>Expectation Exercise</i> , <i>Planning</i> , <i>Scenario</i> and <i>Validation, Ex Post Facto</i> )
<i>SIS</i>	Oregon's <b>Shared Information System</b> .
<i>SJTCC</i>	<b>State Job Training Coordinating Council</b> : state-level advisory board which makes policy recommendations regarding federally-funded/state-administered employment and training programs. In states moving toward integrated strategic planning, federally-mandated SJTCC functions may now be delegated to a Human Resource Investment Council. (See also <i>HRIC</i> and <i>COVE</i> .)
<i>Slack Time</i>	In project management, the amount of time a task can slip before it affects another task's projected finish date. (See also <i>Lag Time</i> and <i>Lead Time</i> .)
<i>Slippage</i>	In project management, the amount of time a task has been delayed from its original baseline plan. (See also <i>Expectation Slippage</i> .)
<i>Snap-Shot</i>	A type of research design that gathers data about an exit cohort at a single point in time; while adequate for several purposes, snap-shot studies cannot measure change over time. (See also <i>Longitudinal Design</i> .)
<i>SOC</i>	<b>Standard Occupational Code</b> : soon to be rolled into the O*NET data delivery system. (See also <i>O*NET</i> .)
<i>SOICC</i>	<b>State Occupational Information Coordinating Committee</b> : an entity in each state responsible for facilitating analysis and delivery of education and training supply and employment demand information to individuals and public agencies. May carry a one or two character prefix (with or without the "S" to designate a specific state's OICC as in TSOICC or FLOICC. In Texas, the TSOICC serves as the central follow-up entity.

<i>SOW</i>	<b>Statement of Work:</b> a document attached to a contract, interagency agreement, or project budget that includes specified deliverables, a timetable for their delivery, and a narrative explaining how re-resources will be used to meet those obligations in a timely and competent fashion.
<i>Special Pops</i>	<b>Special Populations:</b> subpopulations targeted for delivery of a specific service; e.g., individuals with limited English proficiency, physical disabilities, or in need of bilingual education, etc. as defined under authorizing legislation or pertinent regulations. Most commonly used in conjunction with the Perkins Act. (See also <i>Equity of Access</i> , <i>Perkins Act</i> , <i>Service-Eligible Population</i> , and <i>Targeted Population</i> .)
<i>SPIR</i>	<b>Standard Program Information Report:</b> a database containing uniform information submitted by every state on their JTPA participants; it is used for program management purposes and for compiling annual “year-end” performance reports to the Secretary of Labor. The <i>SPIR</i> replaces the separate reports for JTPA Title IIA (called the <b>JTPA Annual Status Report</b> -- or <i>JASR</i> ) and for Title III (called the <b>Worker Adjustment Annual Program Report</b> or <i>WAPR</i> ).
<i>SPRE</i>	<b>State Postsecondary Review Entity:</b> an oversight body state governments were to create under Congressional authority to examine the performance of any higher education institution within their respective borders that had excessive default rates on federally-guaranteed student loans. While the idea as a federal initiative, per se, subsequently was abandoned: 1) many states and regional accrediting agencies continue to look at the relationship between student indebtedness and post-exit earning potentials in occupations related to their fields of study; 2) federal and state officials have paid increasing attention to both student loan default rates and the larger issue of return on investment; and 3) federal entities such as the GAO and DoE/OIG continue to study student-loan default rates. (See also <i>GAO</i> , <i>OIG</i> and <i>ROI</i> .)
<i>SQL</i>	<b>Structured Query Language:</b> a standard way used in 4th-generation or newer database management and some statistical application packages for retrieving and manipulating data. (See also <i>JCL</i> .)
<i>SSN</i>	<b>Social Security number:</b> a <u>record identifier</u> used by the Social Security Administration; often used by other entities as the <u>unique personal</u> identifier for information management purposes.
<i>Stakeholder</i>	A person or group having a financial interest in or fiduciary responsibility for some aspect of the employment and training system. While stakeholders are among a follow-up entity’s customers, not all customers are stakeholders in the sense that the interest of the latter may be less formal and more sporadic. Stakeholders are a subset of customers whose involvement includes more than merely the use of services and final products; e.g. stakeholders are involved more actively in the follow-up entity’s on-going processes and the production of deliverables. Partner agencies are stakeholders but not all stakeholders are partner agencies. An advocacy group, for example, might not interact directly with employment and training programs although they have a sustained interest in them because they represent affected subpopulations of the taxpayers who foot the bills. Ergo, an advocacy group would be a stakeholder but not necessarily a partner. A partner agency contributes seed records, outcomes-enhanced output files, and/or contextual data. (See also <i>Customer</i> and <i>Partner Agency</i> .)
<i>Standard Taxonomy Approach</i>	The practice of providing employers a list of occupational titles common to their industry and asking them to translate the titles they use in their in-house payroll and personnel systems into titles from the lists provided. (See also <i>Employer-Generated Title Approach</i> .)

<i>STI</i>	<b>State Training Inventory:</b> a standardized file structure that lists the fields of study that may be pursued at each education and training site in a state; part of the OLMID. Also a natural place to link a CRS to a CIDS. (See also <i>CIDS</i> , <i>CRS</i> , and <i>OLMID</i> .)
<i>Stop-Out</i>	A participant who voluntarily withdraws from a program but who expresses an intent to complete that program at a later date. (See also <i>Drop-Out</i> and <i>Terminee</i> .)
<i>Student Indebtedness</i>	The total balance owed by a program leaver on loans issued to cover the tuition and other expenses directly related to obtaining education and training.
<i>S-t-W</i>	<b>School-to-Work:</b> activities funded under the School-to-Work Opportunities Act.
<i>SWAG</i>	<b>Scientific Wild-Ass Guessing:</b> a prelude to empirical research that relies on intuition or educated guesses, speculation, or trial and error; while not rigorous enough to warrant confidence in any conclusions drawn therefrom, SWAG may be useful during exploratory stages in generating interesting hypotheses worthy of further testing.
<i>SVPT</i>	<b>Specific Vocational Preparation Time:</b> a coding system used in the <i>Dictionary of Occupational Titles</i> to rate the average amount of instruction required to perform the work under any given occupational title.
<i>Subpopulation</i>	As used in this <i>Guide</i> , a group whose shared demographic characteristics are antecedent to or independent of the treatment, intervention or services they received. Subpopulation characteristics often are used as control variables in the analysis of a program's impact to help determine if a service is equally effective for all participants; e.g., for males and females alike. (See also <i>Special Pops</i> .)
<i>Subsystem</i>	Units with distinct boundaries within a larger system performing specific functions; usually having sufficient visibility to be identified by actors in a system's external environment.
<i>Support</i>	In Systems Theory, the resources which give a system the capacity to respond to demands from its external environment. Supports may be negative in the sense that they diminish system capacity; e.g., public cynicism and distrust of government would be "negative" supports. (See also <i>Demands</i> , <i>Feedback</i> , and <i>Inputs</i> .)
<i>System</i>	A set of actors perceived to be working together and the processes they use in applying resources to address demands and expectations emanating from their external environment.
<i>System Building</i>	Establishing an entity that will survive beyond its first funding period and/or the tenure of its founding cadre or creating a permanent process that addresses a myriad of similar, recurring but transitory issues. Also may be called " <i>institutionalizing</i> ."
<i>Systems Theory</i>	An approach to the analysis of purposeful human behavior which examines the way actors process external demands and supports to arrive at decisions and actions and the feedback mechanisms through which reactions by external parties to one round of outputs are transformed into new demands and supports requiring new decisions and/or actions.
<i>TAA</i>	<b>Trade Adjustment Act.</b> As used in this <i>Guide</i> , in reference to assistance given to workers whose employment was adversely effected by trade policies that force American employers out of business or lead them to locate off-shore.

<i>TANF</i>	<b>Temporary Assistance to Needy Families:</b> a form of public assistance that replaced AFDC under federal welfare reform. (See also <i>AFDC</i> and <i>Personal Responsibility and Work Opportunities Reconciliation Act</i> .)
<i>Targeted</i>	Expressly identified for special attention -- usually in an operational plan rather than a strategic plan.
<i>Targeted Industry</i>	A sector of the economy specifically identified as the focus of economic development, job development or workforce development efforts because of its potential for sustained occupational employment growth.
<i>Targeted Occupation</i>	A job classification or cluster of jobs specifically identified as the focus of job development or workforce development efforts because of their potential for sustained employment demand growth and on evidence that occupational earnings potentials are high enough to enable participants meet or exceed the level of financial independence and economic security specified in a related employment and training program's mission.
<i>Targeted Population</i>	A group specifically identified as the focus of workforce development efforts; in some operational plans, the targeted population may be a subset of the service-eligible populations identified for special recruitment efforts because they are especially difficult to enroll (e.g., the homeless) or because they have been underserved in the past. (See also <i>Equity of Access</i> , <i>Service-Eligible Population</i> , and <i>Special Pops</i> .)
<i>Tayloristic Management</i>	Organization of work -- particularly in mass production factories -- into highly routinized, closely supervised tasks that can be performed efficiently by unskilled labor. (Named for its chief advocate and father of time-motion studies, Frederick Taylor.)
<i>Tech Prep</i>	Coherent sequences of courses beginning with career exploration at the middle school level and including integrated vocational and academic instruction articulated between the secondary and post-secondary levels that lead to an advanced associate degree; funded with federal dollars under the Carl D. Perkins Vocational and Applied Technology Education Act.
<i>TEIN</i>	<b>Training and Employment Information Notice:</b> a directive from the Secretary of Labor specifying what is required of state recipients of JTPA grants and other federal funds distributed by the DoL. (See also <i>Guidance Letter</i> .)
<i>Terminee</i>	A participant to whom services are no longer provided; usually connotes that the individual did not withdraw voluntarily from a program. (See also <i>Drop-Out</i> and <i>Stop-Out</i> .)
<i>TQM</i>	<b>Total Quality Management:</b> a management theory that emphasizes the need for a feedback loop that uses performance measurement to drive continuous planning and evaluation for improving products or services and customer satisfaction.
<i>Tracking</i>	Studying the activities of participants <u>during</u> the period in which they are provided services; done to monitor progress from one service level or program activity to another and/or to ensure that program delivery complies with procedural guidelines; i.e., tracking is process-oriented rather than outcomes-oriented. (Not to be confused with the pejorative use of the term as in labeling students and locking them prematurely into fixed education and training paths.)

<i>Training-Relatedness</i>	The degree to which instruction provided in a particular field of study corresponds to the requirements of employment for a specific occupation or cluster of occupations; i.e., the degree to which the knowledge, skills and abilities imparted by a particular instructional program meet the needs and expectations of those who are expected to hire that program's completers.
<i>Traditional Labor Exchange</i>	Labor exchange efforts that are state-specific and not fully automated -- relying instead on the intervention of a case manager.
<i>Traditional Students</i>	Individuals generally considered to be of "school age" whose pursuit of education and training is "age-appropriate" or on a pace commensurate with "normal academic progress" without interruption up through the highest level of desired educational attainment.
<i>Transition Support Subsystem</i>	Activities designed to help dislocated workers, displaced homemakers, ex-offenders, first-time labor force entrants, etc. obtain and retain jobs in order to achieve economic security and/or reduce their welfare dependency; a key component of School-to-Work, Welfare-to-Work and One-Stop initiatives.
<i>Triangulation</i>	Observing a phenomenon from several angles or using several tools to measure the phenomenon in order to determine its location and/or dimensions. (See also <i>Convergent Validity</i> and <i>Multiple Instruments</i> .)
<i>UI</i>	<b>Unemployment Insurance:</b> programs established to provide temporary benefits to workers covered by a state's Unemployment Compensation Act; intended to sustain individual members of the workforce and their families economically while they search for work; also the name commonly given to the unit within a state's economic security agency that administer the Unemployment Insurance program.
<i>UI Agency</i>	The entity in a state that administers Unemployment Insurance benefits, collects quarterly employer reports and maintains the UI wage record database -- typically the state employment security agency. (See also <i>SESA</i> .)
<i>UI Benefits</i>	The services and assistance to which an eligible UI claimant is entitled; used almost exclusively, however, to describe income assistance payments.
<i>UI Claimant</i>	Unemployed person who qualifies and registers for benefits under a state's Unemployment Compensation Act.
<i>USPS</i>	<b>United States Postal Service:</b> a source of labor market outcomes typically not covered in a state's Unemployment Insurance wage records.
<i>Validation</i>	Confirming the suitability of a measure and fine-tuning its application to take into account peculiar practices or special circumstances.
<i>Validation, Employer</i>	The process of subjecting assessment instruments and automation tools to the inspection and approval of employers and the fine-tuning thereof based on employer recommendations.
<i>Validation, Ex Post Facto</i>	Using historic data to validate a model by showing after the fact that the model adequately predicted subsequent historic events; a process used to build confidence enough to rely

on the model to predict future events. (See also *Validity, Predictive*.)

<i>Validity</i> ( <i>Definition #1</i> )	A rule of logic where if the premises of an argument or proposition are related to the conclusion in such a way that the conclusion must be true if the premises are true.
<i>Validity</i> ( <i>Definition #2</i> )	Among persons doing empirical research, the extent to which an indicator actually measures what it purports to measure. (See also <i>Indicator</i> and <i>Reliability</i> .)
<i>Validity,</i> <i>Construct</i>	A determination that an indicator relates to other indicators consistent with theoretically derived hypothesis concerning the concepts being measured. Prior to actual data collection, the indicators are presumed to share common implications for the hypothesis being tested.
<i>Validity,</i> <i>Convergent</i>	A condition where confidence in an inference from empirical data or a measure used in the research design increased because the same results are obtained when two or more techniques or instruments were used to measure the constructs. (See also <i>Multiple Instruments</i> and <i>Triangulation</i> .)
<i>Validity,</i> <i>Face</i>	The subjective or intuitive determination that an indicator measures what it purports to measure.
<i>Validity,</i> <i>External</i>	The determination that all the necessary conditions were met in the research design and by strength of the relationships uncovered in order to generalize the results; also known as <i>generalizability</i> .
<i>Validity,</i> <i>Internal</i>	The determination that the research design was sufficiently robust to eliminate spurious interpretations of the results; in empirical research, the degree to which non-experimental re-search designs approximate the rigor of well-conceived experimental designs.
<i>Validity,</i> <i>Predictive</i>	The determination that an indicator can be used to accurately predict the value or position on some other indicator. (See also <i>Validation, Post-Hoc</i> .)
<i>Value</i>	In empirical research, the number or code assigned to an observation. (See also <i>Variable</i> .)
<i>Value-Added</i>	The contribution made by a program, service or activity in the employment and training system to the knowledge, skills, abilities, employability, or work-habits of participants; net gains achieved as a result of program participation. (See also <i>Outcomes, Gross</i> and <i>Outcomes, Net</i> .)
<i>Variable</i>	In empirical research, a label for properties that are more or less directly observed and that can take on different values. In data processing, fields in records are represent different variables while the specific entry in a field is the value of a recorded observation. (See also <i>Construct</i> and <i>Variable</i> .)
<i>VEDS</i>	<b>V</b> ocational <b>E</b> ducation <b>D</b> ata <b>S</b> ystem: a national database on secondary, postsecondary and adult vocational and technical education; maintained by the National Center for Education Statistics.
<i>Venue-Neutral</i>	A measure or instrument that is not biased in favor of a particular type of service delivery setting or modality. For example, a count of books in a postsecondary institution's library would favor traditional brick and mortar institutions over virtual institutions that deliver distance learning whereas access to information would be a <i>venue neutral</i> measure.

<i>Wage Records</i>	A relational database containing: a) information submitted quarterly by employers to a state's economic security agency on the earnings of workers who are covered by that state's Unemployment Compensation Act; and b) information about the employers who are required to submit quarterly reports. States maintain wage record systems in order to determine the eligibility and level of benefits for unemployment insurance claimants. (See also <i>Quarterly Reports</i> and <i>UI</i> .)
<i>Wage Request or Wage Report</i>	A precursor of wage record reporting on a quarterly basis whereby employers submit employment and earnings information on individual workers only upon the request of the entity that administers the state's UI system in order to settle a disputed benefit claim.
<i>Wagner-Pyser</i>	Federal legislation that established the Employment Service and ancillary functions in 1935 and as subsequently amended.
<i>Waiver</i>	A request to be exempted from the detailed specifications but not the intent of a federal regulations or directive; usually predicated on the desire to deploy innovative strategies to achieve some specified objective in a more cost-effective fashion, improve performance, resolve incompatibilities between conflicting directives --especially regarding paperwork reduction and employer burdens.
<i>Waiver Plan</i>	A document submitted in support of a requested waiver showing that the requesting party thought through the implications of its requests and has devised a workable alternative that will achieve the desired results expressed in the original directive or regulation.
<i>Walk-Aways</i>	Bargaining positions that an organization or its leaders will not compromise when negotiating with other organizations or individuals.
<i>Whitewash</i>	To suppress negative findings and/or to exaggerate positive findings through selective perception and reporting of data by self-interested parties.
<i>Work First Model</i>	An approach to weaning welfare recipients from public assistance gradually by requiring them to find employment by a date-certain; this model may include additional education and training and transition support services to help individuals move from low-skill/low-wage/high turn-over entry-level jobs to the kind of high-skill/high-wage jobs that are more likely to sustain their long-term economic security. (See also <i>Personal Responsibility and Work Opportunities Reconciliation Act</i> .)
<i>Work-Order</i>	A request -- typically in writing -- that certain duties and tasks be performed in a specific timeframe by a specific individual or entity.
<i>WRIS</i>	<b>Wage Record Information System.</b> (See also <i>ITSC</i> .)
$\Sigma$	Standard mathematical notation for the "sum of."

**ADD YOUR OWN TERMS**

## Annotated Bibliography

Anderberg, Marc. *Automated Student and Adult Learner Follow-Up: Final Report for Program Year 1992-1993*. Austin, TX: Texas State Occupational Information Coordinating Committee, August 1993.

See in particular the model depicted on page 14 showing the relationship between automated follow-up and other labor market information data collection and analysis activities. Concepts therein were explained in greater detail in Whitter (1995) and by Richard Froeschle in the monograph cited below as Froeschle, 1996.

-----, *Automated Student and Adult Learner Follow-Up: Final Report for Program Year 1993-1994*. Austin, TX: Texas State Occupational Information Coordinating Committee, August 1994.

See in particular, pages 10 through 14 introducing ways to assess the maturity and performance of a central follow-up entity; pages 26 through 41 for prototype report cards and 47 through 49 for detailed crosstabulations that illustrate what can be gleaned from follow-up data for program management purposes; Appendices IV-VI (pages 86 through 105) for ideas on ways stakeholders can use follow-up data.

-----, *Final Report of the Automated Student and Adult Learner Follow-Up System for Program Year 1994-1995*. Austin, TX: Texas State Occupational Information Coordinating Committee; November, 1995.

See in particular p. 61 for a first introduction to the connection between automated follow-up and consumer reporting; p. 63 for an introduction to using follow-up data as a point of departure for studying emerging and evolving occupations; and pages 81 through 83 for information about the way Texas handles supplemental follow-up by education and training providers to fill gaps in data that result from shortcomings in record linkages.

-----, *Final Report on Automated Student and Adult Learner Follow-Up for Program Year 1995-1996*. Austin, TX: State Occupational Information Coordinating Committee, 1997.

See in particular the report card format used at the end of each chapter to standardize the presentation of follow-up data for partner agencies and the programs they operate.

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## Public Laws Cited

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Carl D. Perkins Vocational and Technical Education Act (Perkins)  
Chief Financial Officers' Act of 1994  
Clinger-Cohen Act of 1995  
Computer Matching and Privacy Protection Act of 1988  
Family Education and Right to Privacy Act (FERPA)  
Freedom of Information Act  
Goals 2000 Educate America Act of 1994 (Goals 2000)  
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Information Technology Management Reform Act of 1996  
Job Training Partnership Act (JTPA)  
Paperwork Reduction Act of 1995  
Personal Responsibility and Work Opportunities Reconciliation Act  
Privacy Act of 1974  
School-to-Work Act (S-t-W)  
Social Security Act  
Student Right-to-Know and Campus Security Act of 1994  
Wagner-Pyser Act

### State Legislation

#### Florida

Workforce Florida Act (1996)  
Work and Gain Economic Self-Sufficiency (*WAGES*) Act (1996)  
Senate Bill 1688 (1997)

#### Texas

Senate Bill 645 (1993) aka Texas Workforce and Economic Competitiveness Act  
House Bill 1863 (1995)





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