GUIDELINES AND CRITERIA FOR EVALUATING VOCATIONAL REHABILITATION PROGRAMS: A DISCUSSION PAPER FOR THE PRIME STUDY GROUP ON PROGRAM EVALUATION, TENTH INSTITUTE ON REHABILITATION SERVICES

by
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PREFACE

The paper which follows was originally prepared as a draft discussion paper for the Prime Study Group of the Tenth Institute on Rehabilitation Services (I.R.S.) which was mandated "to develop criteria and methodology for evaluating effectiveness and quality of services within State Vocational Rehabilitation programs." Professor Collignon and Mr. Zawada were formal members of the Prime Study Group. Mr. Zawada is also the Director of Planning and Research in the State of Florida's Division of Vocational Rehabilitation. Professor Collignon is the Project Director of the Project for Research on Cost-Benefit Analysis and Resource Allocation for Rehabilitation Services Programs funded by the Rehabilitation Services Administration and lodged in the Institute of Urban and Regional Development at the University of California, Berkeley. He also serves as Assistant Professor in the Department of City and Regional Planning at that University. Ms. Barbara Thompson and Mr. Joel Markowitz assisted in the writing of the draft. Ms. Thompson, who holds graduate degrees in both social work and planning, is the staff coordinator for the Berkeley research project and is a specialist in program evaluation. Mr. Markowitz is a graduate student in the Department of City and Regional Planning at the University and a research assistant with the research project.

The final report which emerges from the Prime Study Group will incorporate many of the ideas within this paper. The report will be presented to the annual convention of the National Rehabilitation Association in Puerto Rico during the summer of 1972 and will subsequently be published by the Department of Health, Education, and Welfare and made available to state agencies and universities.

Because program evaluation is a priority concern of state rehabilitation agencies, the work of the Prime Study Group has aroused great interest. We are issuing this paper at the request of various members of the Prime Study Group who believe that the paper might serve as a useful interim working document for state agencies concerned with Program Evaluation. This paper will be superceded by the final report of the Prime Study Group and I.R.S., which will cover much broader ground than this current paper. The final I.R.S. document, which will not be published until 1973, will also cover the reasons for evaluation, the structure and sequential steps of the evaluation process, suggestions for organizing an evaluation unit (e.g. staff needs, relationships with other agency units, procedures for launching evaluation studies), methodological suggestions, and guidelines facilitating the implementation of evaluation findings. All interested readers of this working paper should examine the final I.R.S. report when it emerges.

Both the Institute on Rehabilitation Services and the particular Prime Study Group for which this paper was written are rather unique institutions. The Institute was initially developed through the joint planning of the Council of State Administrators of Vocational Rehabilitation, the Vocational Rehabilitation Administration, and

leading members of the former Guidance, Training, and Placement Workshops. Objectives of the I.R.S. include:

1. Identification of problem areas in the rehabilitation process.
2. Development of methods for resolving identified problems.
3. Development of methods for incorporating solutions into state programs.

Each year, an I.R.S. Planning Committee, composed of state agency administrators, leaders of rehabilitation professional associations, and D/HEW officials, meet in Washington to identify several major problems in the rehabilitation program requiring attention. One or more Prime Study Groups, consisting of about a dozen members each, are then designated to study and prepare a report on each problem identified. Members of the Prime Study Group are drawn primarily from state agencies. Several S.R.S. Regional Office and R.S.A. staff actively work with the Prime Study Groups. A university sponsor is also designated for each Study Group to provide technical and writing assistance. The drafts which emerge from the Study Group thus incorporate the best thinking of individuals actively working within rehabilitation programs. The drafts are tempered by the experience and wisdom of agency personnel who have spent years in the program. Indeed, many different perspectives are brought into each Study Group: Federal, state central office, field office and university. The drafts prepared by the Study Groups are then discussed in detail at a workshop attended by state agency staff from across the country. The suggestions made at these workshops are incorporated by the Study Group into its draft, the draft is re-written, and a final presentation is made to the N.R.A. annual

convention. When the reports are subsequently published, they are used as training materials in university and agency training programs for counselors and administrators. Because the materials have been prepared and reviewed at length by individuals drawn from all levels within the rehabilitation system, the materials are perceived as having come out of the program and the state agencies themselves rather than being developed by academic researchers or imposed by Federal agencies. This process by which the materials were developed bestows authority and legitimacy upon the materials. This process is, we believe, almost unique within social service and social action programs.

The Prime Study Group on program evaluation is unique because of the subject upon which it focuses and because of the anticipated use of the final report. Evaluation was identified by the I.R.S. Planning Group in the summer of 1971 as one of the key challenges confronting rehabilitation agencies. The problem, however, was not one which readily could be translated into a need for training materials, the traditional orientation of I.R.S. study groups. The Planning Committee decided nevertheless to sponsor a Study Group, a group which represented the first effort of state rehabilitation agencies to address collectively the needs and problems of program evaluation. The anticipation of the Prime Study Group is that their report will be used by State Agency Directors and evaluation staff as suggested basic guidelines for organizing and operating an evaluation unit. Because the pending renewed Vocational Rehabilitation legislation stresses the need for program evaluation and because Federal money is increasingly being made available to state agencies to create

evaluation units and expand their evaluation activities, the guidelines suggested by the Study Group should provide significant assistance to state agencies.

The authors of this working paper wish to express their appreciation to the other members of the Prime Study Group and to Professors Joseph Moriarty and Paul Leary of the Rehabilitation Research and Training Center, University of West Virginia, the University sponsor for the Study Group. Their comments have been most helpful in preparing this draft. We would also like to thank Mrs. Betty Dekeman and Dr. Paul Mueller of the State of California Department of Rehabilitation for their suggestions during the writing of the draft. Finally, we would acknowledge the helpful criticisms of Dr. Michael Teitz and the postdoctoral and graduate students who reviewed this paper and discussed it at length with several of the authors in the Workshop on Program Evaluation and Policy Analysis of Rehabilitation Services sponsored by the Department of City and Regional Planning, University of California at Berkeley.

Another working paper is also available from the Institute which presents other draft material submitted to the Prime Study Group by staff of the Berkeley research project.

April 3, 1972

TABLE OF CONTENTS

INTRODUCTION

This paper is primarily concerned with program and policy issues to be evaluated and the translation of issues into criteria for judging the worth of a program or policy. This stage in the process of evaluation is crucial to the linkage of activities to overall objectives. Without careful attention here, evaluation activities may be far removed from the rehabilitation aims and intentions of Congress, the taxpayer and the movement of concerned professionals and citizens. Further, decisions on issues and criteria at this stage will affect the ultimate utilization of study findings, since what is judged to be worthwhile or not worthwhile is likely to have an impact on practice.

The choice of issues and criteria is influenced by many factors, including the type of evaluation, the level and perspective of the evaluator or actor in the rehabilitation system and so forth. Thus, the first part of this paper is devoted to a discussion of important factors which influence the choice of issues and criteria.

I. CONTEXT FOR SELECTING ISSUES AND CRITERIA

A. Who is the Audience? Problems in Choosing Values and Criteria

There are many actors at different levels in the vocational rehabilitation system. These actors include administrative and service personnel as well as clients and evaluators.

In a typical rehabilitation service system, several levels can be distinguished:

1) Social Rehabilitation Service (Washington) -- concerned with alternative social service strategies, allocation among rehabilitation and other programs and needs.
2) Rehabilitation Services Administration (Washington) -- concerned with broad policy goals, needs of total state programs.
3) State Departments of Rehabilitation -- concerned with delivery of services in the aggregate to meet the needs of clients and the desire of the community for rehabilitation; obtaining more state funds and matching funds from the federal government and using them well; and planning and evaluation.
    a) Regions -- concerned with balancing money and personnel resources among functional subdivisions (districts).
    b) Districts -- concerned with actual service delivery to clients in localized areas.
    c) Supervisors -- concerned with control of quality and quantity of services delivered by counselors.

d) Counselors -- concerned with needs of clients, requirements of superiors; directly responsible for casework.

e) Client -- final recipients of services; contact with system usually confined to district office and below.

In descending the levels in the system, from SRS to clients concerns become less and less global, and more and more microscopic. The types of evaluation and the criteria selected might also vary at the different levels where evaluation might take place. It is the responsibility of the evaluator to determine precisely whom he is to serve, and what types of evaluation might apply to that level in the hierarchy.

Cutting across these vertical levels are other actors and programs. These additional perspectives should be noted, although evaluation of these programs is done according to state agency objectives. These are:

a) Other public agencies -- such as those represented by rehabilitation programs which serve welfare recipients, trust fund recipients or other specially funded projects.

b) Public governing bodies sponsoring jointly funded rehabilitation projects such as a county school district or a county alcoholism clinic.

c) Private community agencies or vendors of rehabilitation services, such as workshops.

Each actor has values and objectives which may be unique and which may conflict. When values conflict there are likely to be problems in choosing criteria by which a program should be judged. The program may be judged desirable (by one set of values and criteria),

but undesirable by another set of values and criteria. Or, value differences may result in different interpretation of a problem. For example, the counselor may see a client's major problem as motivational while the client sees it as situational. Or, administrators may ascribe program weaknesses to failings on the part of individuals, while others may interpret the same weaknesses as structural.

Often objectives will be ambiguous such as "to improve quality of life," "achieve vocational rehabilitation," "achieve self-sufficiency or maximum potential." Objectives must then be sharpened and distinctions made between ultimate and immediate goals. The evaluator becomes the catalyst for prompting administrators or line staff to more explicit goals. In this process, many levels and actors in the agency may participate in defining goals. This participation helps to assure understanding of goals and acceptance of their legitimacy. For example, the values of counselors and administrators may appear to conflict. Counselors often insist that they are concerned with "quality" while their administrators are concerned with "numbers." Yet, a better definition of goals by both might reveal that no conflict really existed.

When evaluation is seen as a part of planning, the values upon which program objectives are based are a consequence of the judgments arrived at through program evaluation. In most instances, however, values are formed and goals set before a program is to be evaluated. It is in this latter case that the evaluator works closely with operating-level staff in assessing the current situation to identify concerns to be evaluated and to determine objectives and criteria. Every effort should be made to recognize the differences in values among actors and the values reflected in the final selection of criteria should be

explicit. In this way the choice of issues is relevant rather than arbitrary and the context within which criteria are selected is well understood.

B. Contingency Analysis

Decisions about what should be evaluated are also influenced by anticipations about the likely outcome of the evaluation. For example, the consequences of a negative evaluation should be foreseen, particularly if this could result in the termination of the program. The need is for a "contingency analysis," i.e., the process of plotting out the most probable instances of "what would happen if..." Here, the judgment of the evaluator and the sponsor of the evaluation plays a significant role.

The contingency analysis should include:

1) an understanding of the entire program being evaluated

2) delineation of the place of evaluation in the program.

The former suggests in what directions impacts might be felt and where program modifications might be instituted. The latter demands a statement of the purpose of the evaluation. It may be either "formative," i.e., assessing progress toward an objective or "summative," i.e., assessment of final achievement. Of course, evaluation is hardly meaningful without an eye toward the realities of implementation of findings. Possible program decisions, might include some of the following:

1) Expansion of the program -

   a) the program is working optimally and current agency experience is anticipated as being a good predictor of agency experience with the kinds of new clients to be served in an expansion.

2) Termination of the program may be justified if -

   a) the problem the program relates to is solved

   b) public priorities, through the political process, determine that the program is of little merit relative to other felt needs

   c) the costs of operation are so prohibitive that continued operation on any scale endangers other valued programs

   d) no measurable or observable effects of program operation are in evidence

3) Continuation of the program (unchanged) may be based upon -

   a) indications of success in meeting objectives

   b) adequate sources of funding are available to risk regardless of success

   c) overwhelming public support for popular programs for emotional or humanitarian reasons

   d) hope that improvements will eventually occur; "It's the best we can do for now."

4) Revision of the program may occur at almost all points in the process -

   a) new knowledge or capabilities might redefine the problem

   b) legislation might be modified to change the direction or emphasis

   c) a different mix of resources (funds, facilities, personnel) might be proposed

   d) different management techniques could change the administration of the program (PPBS, PERT,etc.)

   e) changes in the staff might effect program outcomes (number of staff, educational level, experience, assignment of responsibilities)

f) different client groups might be served, or the way in which services are delivered might be changed (e.g., more intensive follow-up or job placement efforts).

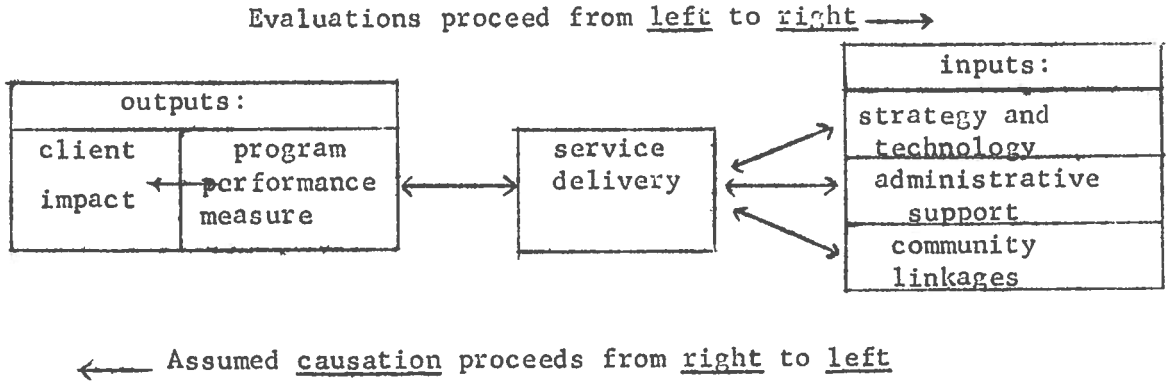
In each of the above cases, it is necessary to establish and apply some form of criteria to the program's operation.

C. Process of Evaluating

In general, in order to understand how well a program or a set of programs is operating, the following analysis is required:

1) Understand what exists, i.e., what are program inputs, what is the nature of the intervention, what are the conditions under which services are delivered, what was the original state of the client, what is the result of the program activity, what are present program outputs;
2) Determine whether the program had the desired outputs, given the criteria of success, failure or progress;
3) Explain why the resultant effects were positive or negative and whether there were unanticipated consequences;
4) Decide what action should be taken as a result of the evaluation.

The third and fourth steps in this scheme demand a focus on each of the stages in the process leading to the output to determine where and how changes are effected in clients. Essentially, the task is to trace backwards through the causal links in the chain, from the outputs to the inputs. Although the search may be for "what went right" as much as for "what went wrong," the process is identical.



The Evaluation usually starts with some determination of program outputs. Ideally, client impact is measured directly as the program output. One asks whether the client holds a job, how much he is earning, etc. Often, some proxy is taken for client impact and used to measure outputs. In the case of rehabilitation, this proxy is often the closure status of the case, i.e. whether or not the case has been successfully closed as a 26. Client impact proxies which are used to measure program performance usually come from the standard program data generated during the program's operation. They are routinely used for evaluating program performance because it is too expensive to collect new data continually on clients whose cases have been closed. Every so often, an evaluation unit should recheck the validity of the program performance measure which is used to assess program output. How reliable is the measure in proxying for actual client impact?

Once program output is determined, the evaluator seeks to understand how the level of output came about. What caused the program's good or poor performance?

Initially, he looks at the actual service delivery. What kinds of services were delivered? Were enough services delivered? Was the right service mix provided? Was the quality of service adequate? When did clients drop out and for what reasons? Where in the process did the failures come? Were the clients with whom services were ineffective characterized by particular socio-economic or demographic attributes?

What was the cost of services per unit of output? Did some districts show higher or lower performance and costs than other districts, even after adjusting for case mix and local conditions? Etc.

Even when the points in the service delivery system where failure occurs have been isolated, the evaluator still needs to explore how these failures came about. This understanding is needed if the evaluator is to be able to make useful recommendations on how the service delivery can be improved. The evaluator thus moves farther back along the causal chain to explore various inputs into the service delivery system.

First, especially in the tradition of evaluative research, he tries to assess the basic strategy or technology which is being employed. Does a program fail because the program's strategy is inherently ineffectual? In practice, however, few evaluations of rehabilitation programs really are prepared to make this kind of judgment. More often, the evaluator will assume that the basic program strategy is correct. The problem is simply that the strategy has not been adequately or efficiently executed or pursued.

The evaluator thus turns next to examining the administrative support given the program for carrying out the strategy. Are some counselors more effective than others? Are the right kinds of counselors being hired? Are counselors receiving the right kinds of training and administrative support from higher levels in the program? Does the counselor have adequate money and authority to secure the kinds of services which he perceives that a client really needs? Is the budgeted money arriving in time to the spending unit to assure maximum efficiency? Are counselors receiving the necessary secretarial and record-keeping support in the local office so that they can most efficiently utilize their time in delivering services to clients? Is counselor performance

better under administrative systems of tight supervision or under looser forms of oversight? Is each level in the program receiving the right kinds of management information on time to affect the decisions which must be made? Are guidelines and the regulations and the timing of their issuance in the system facilitating or hindering successful service delivery? Are ojbectives, priorities, and targets clearly being articulated and communicated through the program? Is the monitoring and evaluation of district activities by the state office effective in uncovering and correcting program weaknesses? If there are failures in coordination with other agencies, is this due to local counselor and district administrator oversights, to failures in leadership and administration at the state-level office, or what? Is research being efficiently directed at program needs, and are research findings then being effectively utilized? All of these different kinds of questions arise as one looks to the level, quality, and performance of the support system in delivering services to clients.

It may often turn out that a program is being administered well and that a strategy is effective, but that major feasible improvements in performance cannot be achieved without improvements in the environment in which the program operates. We call the determination of these environmental constraints upon program performance the evaluation of community linkages. More efficient utilization of society's resources may require better coordination with other public and private agencies. Such coordination is a two-way street, however. The rehabilitation agency cannot achieve such coordination solely through its own action. Alternatively, the effectiveness of the rehabilitation program in a given time and place may depend to a significant extent upon factors which are

beyond the control of the agency administering the program. Such factors could include the state of the economy as a whole or in particular geographic labor markets, the availability and quality of community infrastructure (e.g. hospitals, schools, Employment Security offices, rehabilitation facilities and sheltered workshops, public transportation), state-level policy and programmatic decisions (e.g. the existence of a strong Medicare program, the level and availability of income maintenance support), etc. These factors need to be identified. The state agency then confronts the challenge of whether and how to make the rehabilitation needs of clients which must be addressed by other agencies more salient to state executives and legislative decision-makers.

Similarly, there may be other more fundamental problems constraining the success of the service delivery of the rehabilitation agency: public attitudes and prejudices concerning the disabled and their potential, architectural barriers throughout the society, the philosophies of other professions and service agencies which may tend to stigmatize disabled people in their own eyes and in society's eyes, etc. State agency leadership here is unlikely to achieve major improvements in the environment in the short run, but can be a catalyst for long-run change. The roles of evaluator concerning these more fundamental constraints are really those of education, social policy critique, and research, rather than routine program review and evaluation. The periodic playing of such roles is nonetheless a legitimate function and need of program evaluation.

There is a strong assumption of cause-and-effect in evaluation although there is little theoretical or empirical foundation to support this belief. In regrettably few cases can all the results of any social

action program be identified and their causation determined. Yet, some of the possibilities can be studied as the evaluator chooses a mode of analysis and reads back through product to process. It is important that particular indicators not be taken at face value, or that comparisons be made too quickly. Causation must be determined as best as possible, even if only ad hoc judgments are possible. It may turn out that variations across districts in the data on performance refelct only variations in how certain actors manipulate the system, rather than variations on client impact. Also, causation cannot be determined if data is not comparable. For example, differences among districts in time from referral to closure may be based on different definitions of "referral date" (the date of the initial telephone call, the date the client came to the office, the date the client completed the application or it may even be synonomous with the date of acceptance). Such differences may indicate differences in total performance, differences in the number of referrals or may reflect efforts to reduce the amount of paper work. Thus, no causal statements can be made about "referral rate" until definitions throughout districts are standardized. This points up the need for uniformity in record keeping.

Evaluation can proceed logically and evaluation findings can be best understood when there is a thorough understanding of the total process that brings services to the client. Typically, the focus is on inputs, (assuming that a worthwhile output results from a worthwhile input) rather than on both inputs and outputs. Yet, judgments about the value of a program should be based on knowledge and assessment of all aspects of the rehabilitation process.

At each stage in the above evaluation process, the question, "What is going on here?," is followed by "Is it good or bad?" To make those judgments, guidelines, standards and measures of success, which are collectively labeled "criteria," are invoked. The next sections deal with problems in establishing criteria and types of criteria.

D. Establishing Criteria

Criteria determination, or the translation of objectives of the program into measurable indicators for judging success, is an important step. There is nothing simple or obvious about the selection of criteria. The evaluator must be aware of what is to be measured, what measurements are or might be available, and how strong the relationship is between the two. In the realm of social programs, especially, the effects to be measured may be difficult to quantify. As discussed previously, it is often necessary to resort to "proxy" criteria, which measure something close to the effect in question, when it is not possible to directly or immediately measure a particular effect. For example, status 26 closure (rehabilitated) is a proxy for vocational rehabilitation, i.e., long-run improvement in clients, vocational skills and earning capacity. No single proxy covers everything. The use of single criteria tend to distort behavior and to create measurements unrelated to the goal. Thus, there is a need in rehabilitation for multiple criteria.

Criteria selection is influenced by the time allowed for evaluation and by the kind and amount of information available about the program. An evaluation which must be completed quickly cannot be assessed by long-term output measures. There is a need in rehabilitation programs for an accurate informative system, i.e., an on-going method of reporting on various aspects of a program's progress for purposes of evaluation and

planning. Suchman lists six categories of information needed for formulating objectives and criteria:

1) What is the content of the objective? (Attempts to change knowledge, attitudes, behavior; to produce awareness, and/or action)
2) Who is the target of the program? (Individuals, groups, whole communities)
3) When is the desired change to take place? (Short or long-term effect)
4) Are the objectives unitary or multiple? (Single change or series; same for all or varied for different groups; what about unanticipated effects?)
5) What is the desired magnitude of effect? (Concentrated or widespread; complete or partial)
6) How is the objective to be attained? (Means to accomplish ends; voluntary or enforced participation).*

A major barrier in evaluation of rehabilitation activities is the lack of clear-cut criteria, rather than as might be believed, the lack of adequate evaluation designs. The right questions must be asked of the program in order to reach the right answers about current program performance and ways to improve performance. Generally, there are different levels of objectives: Short-term, intermediate and long-term. These levels are related to the chain of assumptions which are thought to result in a long-term effect. For example, a training objective is based on assumptions that training will lead to increased employability

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*Edward Suchman, Evaluative Research (New York: Russell Sage Foundation, 1967).

and to eventual improvement in income and employment. Specific output measures must be defined for each level of objective.

In vocational rehabilitation, for example, is a client "rehabilitated" when he is:

a) Fully employed

b) Fully employed in ajob he was trained for

c) Fully employed in a job he was qualified for

d) Fully employed in a job he is satisfied in

e) Fully employed in a job and capable of supporting himself and his dependents

f) Partially employed

g) Able to care for himself

h) Psychologically well-adjusted to his disability

i) Off the welfare roles?

Also, how long must employment last -- for six months -- for 3-5 years when the taxpayer's investment will be repaid -- or for the rest of his healthy working life? The task may be to measure qualities such as "happiness," or "well-being," but standard scales for such measurements are lacking. The evaluator must be explicit in his assumptions, interpretations, and manipulations of data in formulating criteria that purport to measure these qualities.

A further difficulty with criteria is that they may be approached as either relative or absolute. In the former case, the measurement would most likely be a ratio. For example, the ratio of the number of accepted for service to the total number referred for acceptance could point out differences in the operation of various programs. The ratio has less meaning, however, for a particular program, since some

threshold level for the ratio must be known to determine if the program is operating "properly." This level would be an absolute criterion. Is a ratio of 1:3 acceptable? Is it exceptional? The absolute criterion can be obtained from:

a) National averages

b) Performance in a similar state or program with similar characteristics or

c) Past history of own program.

If the aim is at quality, then the program director may want a rate that places state at top of national program, rather than at the average. It is the determination of these absolute levels, or "standards," that forms the crux of the criteria selection problem.

E. Types of Criteria

There are several different types of criteria by which the success or failure of a program can be judged. Although there is no uniform set of criteria by which all programs are evaluated, it is useful to categorize criteria according to the process of evaluating rehabilitation programs described above.

1. Client and Community Impact

This type of criteria concerns the success of the program in alleviating the social problem that spawned it. This type of criteria is much more general than the other types of evaluation, and not as fully subject to quantification. Criteria of success here concerns the degree to which performance is adequate in reaching the total unmet need, in accruing benefits to clients and in terms of the continuing relevance of the goals and values which underlie the program. How great and how stable is the improvement in client earnings and self-care

capabilities brought about by rehabilitation services? In addition to questions concerning client benefit, this type questions the intent of the program and assesses the overall success in terms of very broad social goals. What amount of total need has been met? Have community attitudes been effected by the program? How should social problems be approached? What is the responsibility of society for the individual? How much poverty and suffering can society afford to eliminate? What value does society place on working, and why?

2. Program Efficiency and Effectiveness

   a) Efficiency assesses the relationship of program inputs to outputs. This type of evaluation depends more on relative measures than absolutes. Efficiency is judged by several kinds of performance criteria related to the cost of achieving an outcome and to the sequence of events that must occur to achieve the expected outcome. A distinction should be made between lower level and higher level efficiency criteria. Lower level efficiency criteria deal with questions of use of time and resources, only in terms of input, such as case flow through time (measured by statistical analysis). Higher level efficiency questions concern both input and output variables, such as the program's net benefit to society or taxpayers, given all inputs and outputs (measured by cost-benefit analysis). Efficiency questions include: How are resources being used? How much impact is being achieved per unit of resources spent? Can be same results be achieved with lower costs? How does the ratio of

costs to benefits compare with alternatives, or standards? Has time been used efficiently? Have the necessary events taken place to achieve the expected outcome? (case flow)

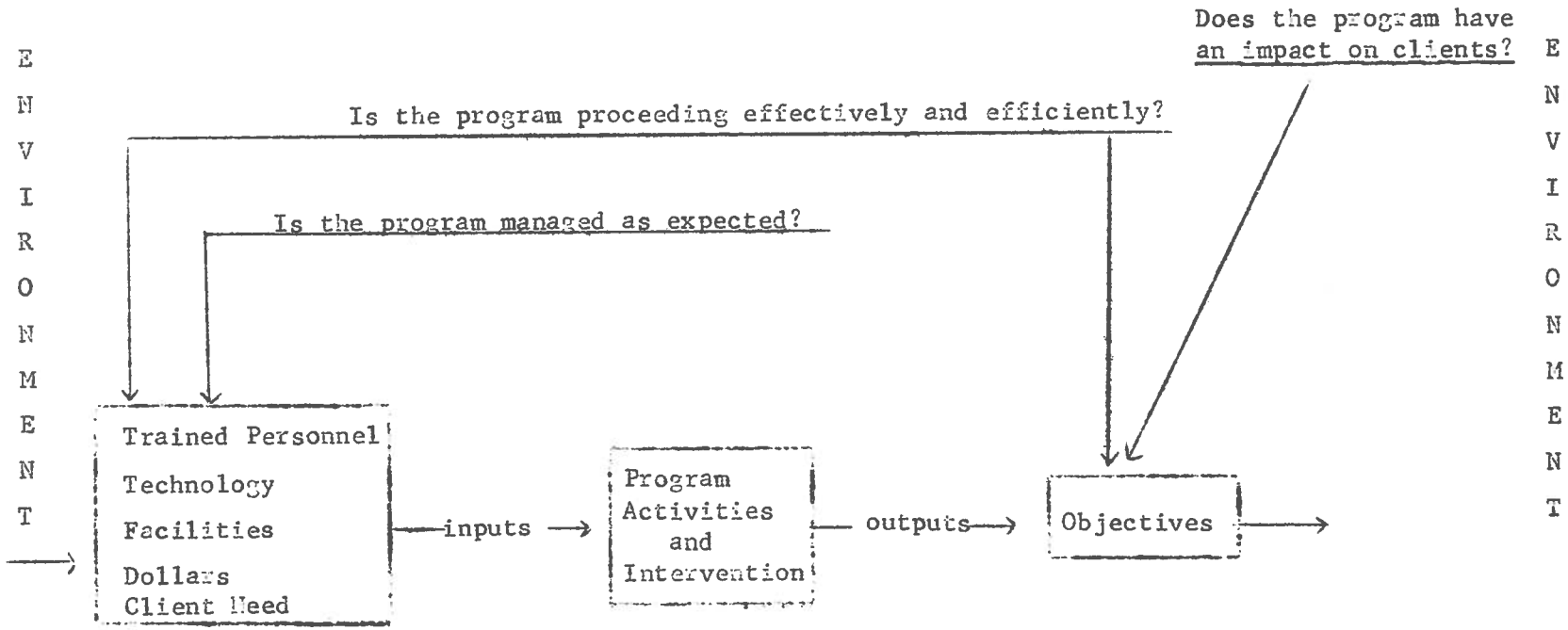
b) Effectiveness: the criterion of success is the performance of a program as judged by predetermined expectations of effect. Here program output is measured by outcome or benefit criteria which must be based on a clear-cut statement of objectives. Effectiveness focuses on the output of the program. At issue is the performance of the program as judged by holding up the results to the expectations or objectives. Effectiveness issues are: What was the effect of program activities on outcome? What was the effect of other activities on outcome? Why did the program succeed or not succeed?

3. Program Management

The criterion of success here is the quantity and quality of program effort. This is an assessment of program input and program performance. Typical questions are: Is the program proceeding as expected? How does the program effort compare with local or national standards with respectto number of staff, money spent, staff assignments, amounts of grants obtained, etc.? The emphasis is on the form of the program, rather than its functioning. This sort of evaluation is closer to "monitoring" than to evaluating.

The chart on the next page further explains the relationship between program and criteria. This chart differs from the previous chart on page 8 since this chart depicts the sequence of evaluation rather than the direct and indirect causation factors underlying service delivery outcome.

These criteria of impact, efficiency, effectiveness and management can be applied to the evaluation of a single program or individual project as well as to the evaluation of the relative effectiveness of different programs and projects. An additional aspect of this categorization is that different criteria will be of concern to different actors in the rehabilitation system. District Administrators are likely to be more concerned with management, effectiveness and lower level efficiency criteria. Higher level policy makers and/or clients, at the lower levels, would be more concerned with questions of impact and higher level efficiency.


Does the program have an impact on clients?
Is the program proceeding effectively and efficiently?
Is the program managed as expected?
ENVIRONMENT
Trained Personnel
Technology
Facilities
Dollars
Client Need
inputs
Program Activities and Intervention
outputs
Objectives
ENVIRONMENT

II. ISSUES AND CRITERIA IN EVALUTING VOCATIONAL REHABILITATION PROGRAMS

There are many significant policy and program issues to be evaluated in vocational rehabilitation. These issues usually are selected by the evaluator and program and policy personnel who have intimate knowledge of a particular program or a particular aspect of the rehabilitation process. The attempt here is to set forth questions and criteria as identified by IRS Task Force members. These are discussed within the framework of evaluation described in Charts I and II, i.e., program management, program effectiveness, lower level efficiency, client impact, and higher level efficiency or overall program worth. Measurement techniques will be discussed within the framework of particular issues.

Cost benefit analysis as an overall measure of program performance will be discussed at the end of this presentation. All these various criteria should be understood since it is important that no single measure be used to judge the success or failure of a program. Measures should be combined so as to obtain as full an estimate as possible of program performance. This suggests the importance of the cost-benefit model which integrates the previously established measures (program effectiveness, client impact, costs) in order to judge the overall worth of the program.

A. Program Management

1. Service Delivery

One significant feature of the vocational rehabilitation program is the rehabilitation process. Ideally, the process is a well defined and uniform system of providing vocational rehabilitation services to a disabled individual to reach the ultimate objective of satisfactory employment. All disabled individuals who enter the rehabilitation process do so through a common doorway. The process begins with referral and proceeds through evaluation and diagnosis, eligibility determination, development of vocational objective, development of plan of services, provision of services and closure because of satisfactory employment or a variety of other reasons. This is the theoretical rehabilitation model or standard, against which program indicators are judged. The task is to determine how actual practice deviates from the model.

The movement of individuals through the rehabilitation process is defined as case flow. Certain aspects of case flow are measured by management criteria and others by efficiency criteria. What are the various stages in the rehabilitation process and do these stages meet governmental and professional standards? This is a question of management. On the other hand, questions concerning delays in the flow of services are questions of efficiency.

Case flow information can give an indication of whether the program is proceeding as expected. The rate of successful (rehabilitated) closures, when compared with historical data or with the performance of other states, has been a typical criterion of this sort.

There is a two-step process in understanding ratios. First, look at the ratio to determine if a problem is indicated. Second, return to the R 300 form to understand the reasons for the non-acceptance. Take the example of the ratio of accepted to referred clients when compared with past performance or with the performance of other states. Has the ratio changed from the historic average? Is it high or low? Is there evidence of agency creaming? Or, does this indicate that outreach-referral procedures are poor? Are people referred who are not eligible? The State Data Book can provide reference points for interpreting ratios. A state's performance can be compared with the national average, or, if the objective is to improve performance, then a comparison with a "high performance" state is appropriate.

While this "production" view of the program is helpful, it must be tempered by consideration of the adequacy of services. These might include the following: Range of types of services available to clients-- What services is a counselor able to purchase? What linkages exist with other supportive services -- medical, psychiatric, orthopedic, etc.? What is the most effective role of the rehab counselor? Quantity of services available -- Can the client obtain enough of the required services to be meaningful? This depends on the magnitude of availability of the resources and the funds to purchase them, <u>not</u> just on their existence. Quality of services -- This might reflect a case flow measure, such as client caseload per counselor as a proxy for extent of personalized services. A sense of quality is also obtained by reviewing client case records on an informal sample basis, by asking the client about the management of his case, or by follow-up data.

When a State Agency's client load follows similar patterns of case flow year after year, the evaluator should determine if this pattern is by chance or by design. In an ideal world, unless the total caseload is beyond the capacity of the professional staff the number of cases entering the State Agency caseload usually is in balance with the clients exiting from the process through closure. In actual practice rehabilitation rates depend on a number of variables. For example, the rehabilitation rate for new counselors is typically lower, since rehabilitating clients takes time and new counselors have not developed the case load to match the flow of the seasoned counselor. In an expanding program then, the closure rates per counselor or per case accepted, will be much lower than in a stable program, even though the total number of closures and the closure rate per 100,000 base population may be increasing.

The seasoned vocational rehabilitation counselor annually closes clients at about the same rate as new clients enter his client load. The total number of clients closed by the seasoned counselor may vary from year to year depending upon the size of his client load. The percentage of cases closed from each closure exit of the total closed from all exits remain relatively constant. The total cases closed by the seasoned counselor could vary as much as a hundred cases but the percentage of closures from each exit to the total clients closed will remain relatively constant.

Another measure of client flow is to determine each year the ratio of clients closed in all statuses to the total clients involved in the program. A ratio of .501 or above reflects the agency is either in balance with new referrals or there were more cases closed than

entered the case load. Ratios only have meaning when adjustments are made for case mix and when comparisons are then made with past performance, the national average or other states. For example, in 1969 the national average rate of new referrals per 100,000 population equaled 368. One of the higher states, Florida, had a rate of 691.

2. Administrative Support

The stability and quality of the professional and administrative staff is an important criterion. Not only the absolute numbers of staff, and some fixed ratios of staff to clients or counselors to supervisors, but quality measures are indicated, such as, professional training and practical experience.

What kind of staff training is important? This question implies more than the customary concern with curriculum. The value as well as type of graduate training should be periodically examined. There is little evidence that productivity is higher among master-level graduate counselors (even controlling for case mix). The possibility remains that the quality of service is better, but this has not been measured. More in-service training may be appropriate.

Review of case records can indicate whether counselors are aware of the basic elements of the vocational rehabilitation process. Yet, additional data may be needed to determine if seeming counselor limitations are due to inadequate case recording or to the need for additional training or orientation. Or, the source of the problem may be shortcomings in training materials, or supervisory skill, or in opportunities for professional development. Evaluations of the staff should consider:

a) The kind of performance criteria set for the staff in relation to the objectives -- for example, the specification

of a quota of closures for each counselor may in some cases become a detriment to staff functioning and affect staff morale. In some states, the expectation is 30 rehabilitations per counselor per year. In other states, the expectation is even higher. Unrealistic production goals may lead to the premature closure of cases as rehabilitated. It has been reported that in 1968 the Comptroller General's office reported to Congress on a study of cases with expenditures of $100 or less in six states. The study found that in 60% of these cases the reviewers believed the cases should not have been reported rehabilitated for lack of evidence that the counselor had rendered substantial service to the client.*

b) The working conditions of the staff may make rehabilitative services more (or less) difficult -- not only caseloads, but the amount of paperwork and administrative responsibilities for rehabilitation staff may affect their work.

c) Staff interaction at all levels is significant -- does the administrator really know how those below him work? Are counselors well aware of what their supervisors and administrators do? Is the whole staff a single team working for the clients, or are there wedges driven between the levels, with mistrust and misunderstanding? Examination of communication channels can indicate potential morale problems.

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*Reported in California State Department of Rehabilitation, "Rehabilitation Program Review Report," June 22, 1970.

Another requirement for good administrative support of rehabilitation is a working information system. Not only must adequate records be kept on case histories and treatment given, but also details of referrals, costs of delivery, and follow-up efforts should be well-documented. Subjective reports on the progress of individual clients should supplement ratings of vocational achievement. Even more important, a management information system should link costs to client records, performance measures, and services received. This informs the evaluator of performance per unit cost and provides information which is of ready use in evaluation of management.

Information is also critical external to the agency. Is there adequate communication with regional or national professional organizations, which might provide new ideas and approaches to providing services? Is there a formal linkage to other state agencies to "find out what the other guy is doing?" Is there use made of findings of research and demonstration projects funded from federal sources? Is federally collected data meaningful and used? The state rehabilitation agency must look to the needs of its citizens, but also to the larger system of which it is a part. The agency may provide information to others as well as profit from others' experiences, and linkages to accomplish this should be established.

Budgetary and accounting considerations are as important to the rehabilitation agency as to any other going concern. The agency must keep a strict accounting of all vendor purchases, inter-agency transfers, and funds from outside sources. The accountability for expenditures will aid in the determination of the costs of "producing" a rehabilitated client. And, careful data collection on costs will help to establish meaningful guidelines for the control of purchase of services.

3. Community Linkages

The first responsibility is to determine the extent of utilization of community resources outside the rehabilitation agency. Besides formal co-operative programs (e.g., between rehab and mental health, or correctional institutions), links to all public and private agencies and client groups that could input to or profit from the rehabilitation agency should be forged. A fully co-operative system of inter-agency referrals and free exchange of information is required. Too often the primary goal of service to the client is clouded by inter-agency conflicts and competition for funds based on professional rivalries. This is not in the best interests of the client, nor of the public.

A second area of concern is for community awareness of the programs the rehabilitation agency offers and what results can be expected. These include awareness of eligibility criteria as well as details on how the program functions, so that potential clients might enter the program with a clear idea of what can be done for them. An active "outreach" effort, with the co-operation of the media and civic leaders, is desirable. Often community advisory boards of disabled individuals and program clients, related professionals, business leaders, and interested citizens can promote interest in rehabilitation programs. As a public program it is the agency's responsibility to attempt to keep the public apprised of its operations and results. Finally, a concern is the factors that impede effective relationships with agencies such as public assistance and employment services.

4. Other Management Indicators

There are indicators, such as a large number of certain types of closed cases, which assess several aspects of management. For example,

a large percentage of status 30 closures (closed before Rehabilitation plan initiated) or status 28 closures (closed after Plan initiated) may indicate one of the following: High counselor turnover, an inactive caseload, lack of client service funds, work performed by an inexperienced counselor or support personnel, insufficient data upon which to determine eligibility, and improper status classification which more appropriately should have been directed to status 04 or 06, extended evaluation. An annual evaluation of status 28 and 30 closures offers extensive information concerning the rejection of clients in the State Agency. Did the client drop out because he had found a job on his own, because he was dissatisfied with his plan, because he feared loss of his welfare support, or what?

Other indicators of program imbalance are:

a) Input exceeds output -- number of new cases is greater than the number closed from all categories of the vocational rehabilitation process;

b) Increase in new referrals over the counseling staff's ability to process them;

c) Lack of experience of the counseling and support personnel;

d) A critical budget imbalance for various program services;

e) Lack of funds;

f) High staff turnover rate;

g) Over-extended program expansion -- expanding programs at a faster rate than the capacity of the agency to deliver services;

h) Radical change in program direction or priority;

i) Management and organization constraints -- regulations, inadequate supervision and/or administrative direction.

All of any one of the above factors can contribute to the inability of an agency to function optimally. Most of the causative factors outlined above are external and may result from any number of circumstances, such as legislative mandates, rapid population increase, inadequate tax support, and increased awareness of community health and social problems.

5. Strategy

This discussion does not include an assessment of the efficacy of rehabilitation technology. This is a question of evaluative or applied research. It is difficult and expensive for state agencies to carry out such research. Merely raising the issue seems to question the very basis of the agency's existence. Such a study would be more appropriately carried out under the auspices of a university or the Federal government. Generally, state agencies must assume that the rehabilitation strategy or technology works. Program failures will and perhaps should not be viewed by state agencies as due to the nature of the strategy itself, but rather due to inefficiency or ineffective use of the strategy. There may in fact, however, be other strategies which may supplement or substitute for the traditional counselor model. Determining the existence and appropriateness of such other strategies is a function more in the realm of research utilization and not program evaluation. The inability of an evaluation staff to pinpoint sources of ineffectiveness and inefficiency which would explain program failure can serve, however, to create the frustration and sense of crisis which can lead an agency to look for and consider new technologies.

6. Management Measurement Procedures

Statistical analysis and comparison of program inputs against professional or governmental standards are typical means of measuring management criteria.

Statistical analysis is the most common and often the sole technique for measuring program criteria. Useful statistical measures include the mere ordering of observations (ranking -- better or worse, more or less), the use of weighted averages (mean, median, mode), the distribution of cases (standard deviation, variation), and making comparisons (correlation, factor analysis, analysis of variance, nonparametric probability statistics measuring strength of association, statistics measuring nonrandomness and chi square). Statistics can show the quantity of effort expended, imbalances in services to certain groups, the movement of clients through the rehabilitation process and so forth. Statistics provide gross data useful in pinpointing problem areas or areas in need of further study. To fully understand problems and their causes, higher order measures, or indepth investigation into particular cases is necessary.

The Rehabilitation Services Manual, Commission on Accreditation of Rehabilitation Facilities or standards of practice outlined by professional groups are examples of models for evaluation of program activities. Data would be collected and analyzed on parameters suggested by the model and conclusions drawn. The limitations of this approach are based mostly on possible inadequacies of the standards themselves. Standards may lack comprehensiveness. They may be dated in terms of their representation of current reality or be based on generalities not applicable to all individual cases. For example, RSA measures success in terms of the number of rehabilitations per 100,000 population, but this may not accurately represent large states. Also, this figure assumes that the incidence of disability is the same across all states. This may be a false assumption. For another example, the problem with facilities

accreditation standards is that these are input rather than output standards. Whether or not input is related to more and better output, i.e., client impact, has not been proven. Moreover, the input standards often do not focus on all key input factors -- such as size of facilities or procedures and staff training for provision of rehabilitation services.

The values built into the model may represent the biases of certain actors in the rehabilitation system and the exclusion of others, such as clients. Such factors could void the usefulness of the model in accurately reflecting the ideal rehabilitation system. Such norms can be useful in case review where it is essential that standard methodology be utilized so that each reviewer can obtain the same interpretations when examining cases and interpretations across districts and states will be comparable.

An example of the kind of criteria which can be used in case review is listed below. In auditing case records in California these criteria are used to determine the validity of reported rehabilitations (26 closures). Each criterion is specifically tied to sections of the State Rehabilitation Services Manual.

1. Was Client Eligible for Service?
    a) Physical or mental disability (behavioral disorders) (mental retardation).
    b) Substantial handicap to employment (under-employment as a substantial handicap).
    c) Reasonable expectation that handicapped individual can be rendered fit to engage in a gainful occupation.
2. Did Client Receive Appropriate Diagnostic and Related Services?
    a) Medical aspects

b) Social-Psychological aspects

c) Vocational aspects

d) Educational aspects

e) Cultural and environmental aspects

f) Economic aspects.

3. Was a Plan of Vocational Rehabilitation Services Formulated?

a) Vocational objective

b) Services to be provided by department

c) Services to be provided by other resources

d) Statement of how services will accomplish vocational objective

e) Reconciliation of any information obtained in case study which may have cast doubt on the successful completion of the plan.

4. Was the Plan Completed Insofar as Possible?

a) Was at least one of the following services provided?

A. Vocational traning

B. Physical restoration

C. Occupational tools, licenses and equipment

D. Job placement assistance.

b) Did services provided materially contribute to the client's vocational adjustment?

5. Was Counseling Provided?

a) To assist client by giving vocational guidance, fostering better attitudes or coordinating needed services.

b) To evaluate client progress (reports from trainers and treating physicians, transcripts from colleges and high schools, interviews, etc.).

6. <u>At Closure was Client Suitably Employed for a Minimum of 30 Days?</u>

a) Gainful employment

A. Competitive employment (competitive labor market, practice of a profession, or self-employment) (self-employment)

B. Noncompetitive employment (homemaking, farm or family work, sheltered employment and home industries or other gainful homebound work).

Were all the following criteria met?

(1) Improvement in adjustment or ability to function in a non-competitive occupation.

(2) The improved level of functioning enabled the client to make a significant contribution by participating in work activities in the family, home, or sheltered shop situation.

(3) As a result of (1) and (2), were socio-economic benefits realized?

b) <u>Suitable Employment: Were All the Following Criteria Met?</u>

A. Work was consistent with client's physical and mental capacities, interests and personal characteristics.

B. Client possessed or had acquired the necessary skills to perform the work successfully.

C. Employment and working conditions did not aggravate client's disability nor jeopardize the health or safety of others.

D. Wage and working conditions conformed to State and Federal statutory requirements.

E. Client and employer were satisfied.

F. Employment was regular and reasonably permanent.

G. Wage was commensurate with that paid other workers for similar work.

H. If part-time work, employment was consistent with the client's capacity to work and produce, such limitation of capacity having been recognized, insofar as possible, when the rehabilitation plan was formulated

c) Unsuitable employment:

A. Was client advised of the unsuitable nature of his job?

B. Was client offered assistance in securing suitable employment?

d) 30 day minimum follow-up (6 months for self-employment).

Finally, it would be useful if certain standardized questions are set forth, for which the responses have been tested for inter-rater reliability. This could be done by functional area, i.e., the breakdown of the vocational rehabilitation process into steps: intake, case evaluation, vocational plan, provision of plan, placement, and follow up. If specific questions related to each functional area are developed, then it would be possible to pick and choose which questions (already developed) to ask depending on which functional area you are interested in studying. These questions would be tried out and standardized and would form a kit for program review. California has wanted

to do this, but has not yet gotten around to assembling the kit.

When case records are sampled there should be an effort to include as many service statuses as possible and to be particularly cognizant of older cases. Usually the focus is on certain problems in case review. For example, Michigan focuses on the following types of problems which are tied to specific sections of Federal and State manuals:

a) Appropriateness of referral (timeliness, agency's ability to serve, severity of disability, etc.).

b) Adequacy of diagnostic data (recency, completness).

c) Adequacy and appropriateness of medical consultation

d) Adequacy of certification of eligibility

e) Appropriate use of service status

f) Adequacy of rehabilitation plan

g) Inclusion of vocational objective in rehabilitation plan.

h) Adequacy of follow-up (meaningful, personal follow-up throughout the rehabilitation process.)

i) Adequacy of supervision (evidence of ongoing casework supervision).

j) Adequacy of case recording

k) Adequacy of case file order (consistent with Regional and/or District Office procedures).

l) Degree of significant VR involvement

m) Investigation of other resources.

B. Program Effectiveness

Evaluation of effect is post facto or summative and requires a clear statement of objectives. How much is accomplished relative to

a given goal? The number of new cases, for example, would measure goals concerning increases in number served. The proportion and distinguishing characteristics of clients by districts can indicate progress toward goals of improved service to certain groups. In California, an increased emphasis on service to public assistance recipients led to increases in the number of this group serviced. The degree to which this objective is reached can be determined by comparing percentage increases in public assistance recipients served with past year's performance.

It is important to note that the measure of performance is the change in the percentage of caseload which is composed of public assistance recipients, and not mere changes in the number of such clients served. The latter is not an adequate measure since the total caseload of the agency may also have increased. Looking back to case finding activities and to coordination activities with other agencies, such as the public welfare department, can help to explain percentage increases.

If the agency policy is to serve minority groups relative to their proportion in the community, then data on this client characterisitc, by district, should be compared with local community data.

1. Procedures for Measuring Effectiveness

A. Field experiments or demonstrations and judgment by experts are techniques for measuring effectiveness. Field experiments and experimental demonstrations are two research designs for testing the relationship between experimental and dependent variables in the natural setting of ongoing programs. These are widely used in social science research because of the difficulty of controlling and manipulating variables in the human sphere, as required by the ideal experimental model. These are useful in testing new methods or when new client

groups, such as migrants, are being reached. In the field experiment there is control of some variables without removing the subjects from their natural setting.

The evaluator either controls the persons who are and who are not to be exposed to the program by manipulating a program variable, such as controlling the work load of two different staff groups, or by manipulating the individuals such as by varying the workers who are already assigned to different size workloads. The demonstration differs from the field experiment in that the social setting is manipulated by the program administrator rather than by the evaluator. Research goals are generally of secondary importance while deliberate action goals are primary (to justify service to a small group or to discover new methods of practice). In the demonstration complex variables are manipulated and since the same controls operate as in the field experiment, it is impossible to make causative inferences.

In utilizing these designs, errors may result from: inappropriate topic for inquiry, conception of a faulty experimental design, or failure to introduce or to retain appropriate controls. Successful field experimentation and demonstration rely on careful advance planning.

B. Judgment by experts, although the least objective, is one of the oldest techniques of evaluation. Expert opinion is useful in selecting among several alternative courses of action when there is a lack of objective or theoretical knowledge, that would clearly single out a preferred course of action. Experts may be from within or outside the rehabilitation system and may be either specialists or generalists. Expert judgment may be based on the application of existing theories, or on intuition. There may be factual judgments and value judgments.

The Delphi technique is a procedure for systematically eliciting and refining the judgment of a group of experts. Generally, this technique involves

a) obtaining opinions from experts by use of a questionnaire

b) controlled sharing (or feed back), and reformulation, of the results among the participants in the group

c) aggregating individual opinion into an overall group judgment.

A modification of this approach could be used to elicit opinions from actors at various levels, including the client level within the system.

C. Lower Level Program Efficiency

Efficiency issues concern time and costs. The services generally provided directly to a client by a counselor are counseling, guidance, placement, and follow-up services. When other services are needed the counselor arranges to purchase those from resources available in the community.

One routine way of evaluating is to observe and study the client's progress through the statuses and his exit from the rehabilitation process. Evaluation focuses on the flow of the client through the process and the choice and speed of services delivered to the client. The time a case is in process from referral to closure and the balance of clients entering the process to those exiting are benchmarks which give a general overview of the effectiveness of program operations. Yet, it is important to remember that whether the client received what he needed as quickly as possible, may not measure quality of service. Thus, there is a need for combination measures and for the periodical review of a sample of cases.

Also critical to program evaluation is an examination of the individual's progress through the various stages (statuses) from referral to closure. The length of a client's stay in any one status reflects the counselor's ability to guide the client through the many services needed to affect his rehabilitation. The assumption, which is borne out by cost data, is that a long period of time on various statuses often indicate that resources are not being effectively used. The client's goals are not being achieved, and the probability increases that the client may drop out in frustration. The counselor is often expending considerable amounts of his own time and energy and case service money in efforts which are not producing results.

The State Agency, to perform evaluation, must develop the ability and expertise to measure client flow at frequent intervals. The first step in developing this ability is to identify those points in the rehabilitation process that require major decisions by the counselor and client.

For example, a quarterly analysis of the flow of cases through strategic points of the rehabilitation process, such as referral and applicant status 00, 02, 12, 20, and 24. (Some agencies do not make use of these statuses in order to reduce paper work.)

a) Analyze clients in status 00-02 (referral, applicant) three months or longer. Statistical testing shows a negative correlation between the length of time which a case stays in status 00-02 and a successful closure status 26.

b) Analyze clients in status 10 (Plan Development) and 12 (Plan Completed). The number of months a client remains in status 10 or 12 may reflect the counselor's ability to make decisions at crucial points in the rehabilitation process.

c) Analyze clients in status 20 (ready for employment) and 24 (service interrupted). The length of time a client is in status 20 may reflect on the quality and choice of services planned and implemented. If the client remains in status 20 longer than three months the services rendered may not have been adequate or direct counselor intervention is necessary for placement purposes. If a client stays in status 24 three months or longer, in most instances, the client should be rephased through the rehabilitation process or closed through one of the closure exits.

D. Measurement of Lower Level Efficiency Criteria

Probability estimates, arrived at through network analysis, can be made for achieving each subgoal as the client progresses through the rehabilitation process. Network analysis, or path analysis, is a planning and management technique useful in evaluating flows of action necessary to complete a task. A heuristic model of time, functional or causal relationships is depicted as a network of alternative paths for achieving an objective. The Program Evaluation Review Technique (P.E.R.T.) and Critical Path Method (C.P.M.) are examples of network technique. The limitation of such techniques usually lies in error in human judgment when estimating probabilities, completion times or functional or causal relationships.

E. Client and Community Impact

There are a number of important questions which arise in evaluating the impact of the rehabilitation program upon handicapped individuals and the general community.

1. Case Mix

What kinds of people are being reached by the program? Most state agencies define service priorities in terms of the needs of the citizens of its state. The budget, no matter how generous, must be carefully allocated to provide quality services to the greatest possible number of people in need and priorities for service must be chosen.

The priorities may be with respect to the geographic distribution of services in the state, the types of client disabilities stressed, the types of programs pursued, initiated, or supported. Even when a state claims it has no set of priorities, its operating practices enforce implicit priorities of their own.

An example is the general desire, seldom perceived as a priority, of a "balanced" case mix. In fact, unless the true distribution of case types (drug, MR, physically disabled, etc.) in the population is identical to the "balance" chosen, there will be an inherent bias. Maintaining an historical percentage of the budget or caseload for disabilities does not keep the program in balance unless the historical percentage reflected proportionally prevalence rates in the population. If balance is taken to mean an equal number of all disability types, then there is likely to be an over-representation of uncommon disabilities and an under-representation of the more typical ones. Similarly, if balance means an equal share of money, there will be an imbalance away from the more severely disabled who require disproportionate amounts of resources for each case. Also, if the mere fact of prevalence does not coincide with a need for publicly provided rehabilitation services, a balance defined by equal proportions of the disability groups in the base population also is open to challenge. Indeed, as society redefines

what and whose "needs" it sees as a priority (e.g. minorities, P.A. recipients, severely disabled), is a balanced case mix truly appropriate as a declared goal? Even if a "balanced case mix" is adopted as an agency's goal, implicit decision being made on priorities must be acknowledged. There is no such thing as a "no priority" policy which does not in practice involve substantial preferences toward particular disability types. Even a "first come, first served" policy favors those who have ready information and access to services.

In order to measure the achievement of a priority, one usually must have a clear statement of the program target desired by the agency in specifying a priority. Unfortunately, agencies often do not formally set targets when announcing the priority. Rather, the evaluator must work with the agency director after the fact to determine what a reasonable level of accomplishment was intended when the priority was announced. How does one express a priority or a "reasonable" level of accomplishment? Usually, the agency will say that we intend to serve "x" more individuals of this disability than last year or, more appropriately, that we wish to raise the percentage of this disability within our mix of 26 closures or of people served to "y" per cent. The percentage approach avoids the misleading inference which can occur in a program which is generally expanding when the agency indeed has served "x" more individuals of the priority disability than the previous year; closer inspection sometimes shows that the percentage of the total caseload represented by the disability is either the same as in previous years or has even declined. In such a situation, it is meaningless to say that a priority has been given this disability group.

2. Coverage

What is the program coverage, i.e., what portion of the total client population has been served? This asks for a determination of the total extent of need for services in the state, and then the proportion of need not met by the program. Estimates from disability prevalence or incidence rates in the population can show the number of citizens who might benefit from rehabilitation services. Matching this against the number of clients actually seen by the rehabilitation agency would give an indication of unmet need. Rehabilitation service targets are therefore declared in terms of percentage of need that is sought to be met by a particular program or set of programs in a stated time period. The success or failure in reaching such targets determines the subsequent choices or targets, so that the agency "learns" over time what targets are feasible with varying levels of committed resources.

3. Consumer Satisfaction

Are consumers and the public satisfied with rehabilitation services?

Public and consumer satisfaction with rehabilitation programs is seldom explored. Yet, such satisfaction is critical to the success of the program. Consumer dissatisfaction can lead to clients dropping out before the completion of their plan, dropping out of the labor force even after the case is closed as rehabilitated, refusing to return for further needed services if difficulties do arise after closure as a 26, not keeping counselors informed of employment status after completion of plan, and discouraging other clients from coming to the agency for needed service. The failure of many rehabilitation plans to lead to employment success may very well be that certain critical needs of the

clients were not perceived and addressed. When the pressure of large caseloads and other responsibilities keeps counselors from maintaining the intimate relationship and mutual feedback between counselor and client which is the ideal of rehabilitation services, the counselor may never understand the reasons for client failure. A more formalized acquisition of client feedback and evaluation can be quite useful. Similarly, the satisfaction of the general public is critical to program improvement. The general public are, after all, the taxpayers who must approve through their representatives expansions of programs, whether expansions of budget or authority. Also, the success of the program in removing the handicaps resulting from disability depends heavily on the public's attitudes and behavior toward the disabled. Community education concerning what the program is doing and achieving thus serves multiple purposes. In the absence of such community education, the citizen's understanding of the value of rehabilitation programs is limited. Only if the citizen has direct encounters with disabled persons is he likely to have an awareness of rehabilitation.

Clients are not generally asked, at the conclusion of their formal program with the rehabilitation agency, if they are satisfied with rehabilitation. There are many cases where all the needs of the client cannot be fully served or his handicaps totally removed. There may easily be serious conflicts between the opinion of the professional and the self-image or aspirations of the client. Even when the counselor and others on the rehabilitation program maximize the program's capacities in the interest of the client, it still may not be enough to "satisfy" the individual client.

Client feed-back into the rehabilitation program should not, however, be minimized. The core idea of rehabilitation is that the

professional and client should jointly determine the client's potential and plan for its maximization. Yet, in rehabilitation agencies, the client perspective is often a totally ignored and yet invaluable resource for program improvement. It would be desirable if state agencies would routinely append questions to the R-300 form for all or samples of clients which probed the clients' evaluation of the services he received. Such questions might include probes on:

a) whether the job in which the client is employed makes use of the training he received as part of his rehabilitation plan

b) whether his employment or other status at a 26 closure reflects that the needs for which he came to DVR have been met

c) what other problems does he foresee that might interfere with his keeping his job

d) his or her assessment of improved personal capabilities in non-job activities as a result of the rehabilitation services received

e) changes in the employment status of other family members during the rehabilitation process as a result of services received

f) his evaluation of the quality and sufficiency of services received, and of any difficulties or problems encountered during the rehabilitation process

g) the amount of money which the client and his family may have personally paid for services, etc., during the rehabilitation process

h) any savings in medical, child care, housekeeping, attendant, or other costs which the client and his family have achieved as a result of the client's improved capabilities

i) services received by the client from agencies other than those recorded in his rehabilitation plan

j) client suggestions for improving services to future clients

k) client willingness to participate in consumer organizations working with rehabilitation agencies and with future clients

l) reasons for lack of success or dropping out of the program as perceived by the client, in cases of other than 26 closures.

Sources of information on consumer and community satisfaction might include:

a) critical letters from clients, or from legislators who have received complaints from client-constituents;

b) opinions expressed in community forums or hearings on programs;

c) results of follow-up client studies;

d) recommendations of state advisory groups of professionals, civic leaders, or client organizations.

It is up to the evaluator to establish how much weight should be given in the evaluation to consumer and community satisfaction. It might well turn out to be the over-riding factor on which all else depends.

4. Client Work Stability

Has the "rehabilitated" client gained work stability? Stable employment and rising income such that he is a normal participant in the labor force? The task here is to determine, in those cases where the

client is judged rehabilitated to the extent that he can seek meaningful employment, how well the client can hold down a job. This is a relative criterion. Highly localized labor market conditions must mesh quite well with the training capabilities of the vocational rehabilitation agency for satisfactory results to occur.

One difficulty is the choice of the length of time after the completion of rehabilitation that employment is to be found. This is dependent on a whole set of factors, including:

a) how well the client was trained in skills relevant to the local labor market;

b) how well the client was trained in job-seeking behavior;

c) how good a job the rehabilitation agency, and/or the employment agency, can do for the client in placing him;

d) local economic conditions.

Similarly, an important issue is how long the rehabilitated client is able to hold a job. This is presumably an ex post facto judgment on the adequacy of services. Turnover of the particular jobs in which clients were placed at closure should not be viewed harshly, however. There may be a lengthy trial-and-error search to find truly suitable employment which satisfies the client and uses his skills. Turnover is also often necessary for job advancement. Young people and those with limited previous work experience are especially likely to turn over jobs several times as they seek their niche in the labor market.

An interesting point here is questioning whether placement in a job for which the client was specifically trained is a central criterion for success. What's more important is that clients' employment use the skills and knowledge they acquired in training, even though

the specific job or career at which the training was directed has been abandoned. Recent findings point out that the more highly educated segment of the population tends to change jobs quite frequently in its work life. Is this deemed "unstable work behavior"? Usually not. This casts doubt on the use of absolute "work stability" as opposed to real income stability and growth as a criterion for the rehabilitation.

Another vocational impact to be considered is the change in income of the client after rehabilitation. It is assumed that his earning ability has been at least maintained, if not enhanced. It is a fairly common criterion to look at the increase in personal income from acceptance to closure as a measurement of success. Agencies in follow-up studies should also explore whether over time the wages of former clients continue to rise at rates similar to the rise experienced by the general population in the clients' age/education/sex group. If such a rise is not experienced, the client may have been placed in "dead-end employment", bringing into question whether the client can rightfully be called rehabilitated.

In all these determinations, there is an effort to try to control all the criteria for local community conditions, e.g., unemployment rate, and for the demographic and disability characteristics of particular clients. It is not possible to have a uniform set of outcome expectations for the wide range of clients who come to the rehabilitation agency for help. It is possible to say that each rehabilitated client should experience income stability and usually growth over time, however.

Evaluations of work stability are best done through follow-up studies of clients some time after case closure. This is best done with a sample design drawing clients' names randomly from R-300 records

across the full fiscal year. Clients are best contacted by phone or in person. Mailed questionnaires can be informative, but the biases in response are usually quite significant, since the overall response rate may be less than 50% or even 25%. The characteristics of clients who do not return mailed questionnaires must be carefully analyzed, and the generalization and interpretation of questionnaire information modified to reflect such response biases.

At some point in the future, it might ideally be possible to trace client earnings over time after closure via their Social Security records. Samples could be drawn and then routinely followed each year making use of Social Security numbers. The client himself need never be contacted. Before this approach can be adopted, it would of course be necessary to obtain client permission for such use of his Social Security number, to find ways of assuring protection of client rights and confidentiality, and to develop an efficient set of procedures with the Social Security Administration. Leadership in this evaluation method, which would save states much money and inconvenience, is required from S.R.S. and R.S.A. in Washington.

5. Client Impact

What has been the actual impact on client behavior, i.e., has the delivery of services, and the basic objectives, been appropriate? Rehabilitation, as acknowledged by most professionals, seeks to treat the whole individual, not just the working man. Concern must then turn to consideration of psychological and personal goals. Has the individual's functioning in society been improved by services delivered? For the client not rehabilitated into paid employment, what has the effect been? In the case of homemakers, the restoration of their abilities should be

valued on par with their alternative paid employment opportunities or the replacement costs of the services which the homemaker performs. There is a feeling that this aspect of rehabilitation benefit has been undervalued.

It is also important to look at the effects of rehabilitation on the immediate family of the client. Has their behavior been affected by rehabilitation of the client? Has it been supportive or has it had a negative effect on the client? Have family members had to make adjustments in their lives to accomodate the client or the rehabilitation process, and have these adjustments been beneficial, or not?

Another indication of impact on client behavior is the extent of "recidivism," or re-entrance of a "rehabilitated" client into the program at sometime after closure. This can be assessed through analysis of reopened cases. In some cases, this might be encouraged to guarantee the continued ability of the client to adapt to the changing conditions in his life and in the economic conditions of the day. In others, it might be considered a failure of the process. It must be determined whether in particular cases rehabilitation is a continuing or terminal process. For comparison, it is useful to examine the evolving view of education as a continuing process throughout life, with people re-entering colleges formally or informally at various stages in their life cycles.

6. Community Impact

This question covers some of the same points discussed in #3 concerning public satisfaction. "Community" is seen here as the broad environment from which the inputs of rehabilitation are derived and through which the outputs flow, but which is outside the direct control of

rehabilitation services. Pursuing the goal of reducing the degree of restriction with regard to independence and quality which disability imposes, state agencies can undertake activities aimed at preventing disability, modifying community conditions and attitudes which create handicaps when disability exists, and increasing support and cooperation on the part of the public with efforts to help the disabled person overcome his handicaps. Activities which agencies might pursue include changing public attitudes and increasing public knowledge about the capabilities and potential of disabled persons, making the public aware of rehabilitation needs, removing impediments to mobility and access to services, correcting or modifying current architectural barriers, supporting changes in the private and public employment structure of the economy to create more jobs for disabled persons, creating more professional and paraprofessional opportunities in the rehabilitation field for disabled persons, assisting handicapped individuals in drawing on their own group resources for mutual support and advocacy of their interests, working with other agencies to design programs in preventive medicine and removal of hazardous conditions that give rise to disability, etc.

Agencies need generally to evaluate their activities and role in the light of the accelerating changes which are occurring in society and in the consciousness of the public. How are economic and social trends likely to affect rehabilitation services in the future? Has the passage of new legislation (whether or not directly affecting rehabilitation agencies as organizations) created new opportunities for improving services or the condition of disabled persons?

The reduction in taxpayer or institutional costs from rehabilitation services is often considered as an impact. Indeed, in some circles, the whole cycle of vocational rehabilitation is considered to be the process of reducing the public's responsibility for the disabled.

7. Measurement Procedures

Methods of obtaining such information on client impact include:

a) adding questions to the R-300 form to be completed by samples of clients or all clients at case closure, as described under issue #4.

b) follow-up studies of clients sometime after case closure.

c) group sessions with clients and/or their families.

d) assessments of state advisory groups comprised of former clients and representatives of client organizations.

e) survey of client satisfaction at each closure exit (08, 26, 28, 30) should be done at frequent intervals.

f) employment stability survey of clients rehabilitated several years after closure.

g) survey of employer satisfaction.

h) analysis of counselor and support personnel stability.

Overall client impact can also be measured by experimental research techniques. Such techniques go beyond measuring changes in client behavior and experience to inputting causality, that is, how much of the measured change is actually attributable to the client's receipt of rehabilitation services. Sometimes this concern for causality is also rephrased as the question, how does the client's current experience (after closure) compare to what would have been his experience had he or she never received rehabilitation services.

The experimental model ideally involves five procedures:

a) definition of the target population

b) drawing a representative sample

c) allocation of the sample at random into experimental and control groups

d) administration of the program to one group and the "placebo" (something inert which resembles the dependent variable) to the other

e) comparison of resulting differences between the two groups.

There are generally considered to be nine categories of experimental and quasi-experimental designs. These range from the one-shot case study or "after-only" study, or (observations or measurements are made of the group or individual after exposure to the program being evaluated), one group pre-test, post-test (the recipient[s] is measured before and after administration of treatment), to the pre-test, post-test, control group design. (There are two randomly selected, equivalent control and experimental groups. A "before" and "after" measure is made of both and comparisons made.) The latter design is the classic true experimental design and is the "strongest" in terms of the degree to which variables are controlled and unbiased. The one-shot case study, although the most commonly applied design in evaluations of rehabilitation programs, is the weakest.

In rehabilitation it is rarely possible to obtain equivalent control groups, since this would be difficult to justify politically and to arrange administratively. One such study with an experimental control group is currently being conducted at Ohio State University,

under R.S.A. sponsorship. It has been argued that this barrier would be eliminated by inventing quasi-realistic "social placebos" although there have yet been no such innovations. Another alternative is to compare rehabilitation with other programs serving the disabled, eliminating a control group which receives "no services." Indeed, it has also been argued that it is misleading to believe that "control" groups receive no treatment. The most commonly used designs are the "one shot" follow up study and "before and after" design. This happened to be the "weakest" design in terms of isolation of variables so that it is difficult to directly attribute observed changes to rehabilitation. Other problems in research which the experimental design makes explicit, concern potential bias in the design of measuring instruments, the collection of data and the interpretation of results.

E. Higher-order Efficiency

All of the above efficiency and productivity measures based on case flow and exit rates fail to consider the paramount questions of resource costs and the benefits society derives from these expenditures of resources. Ultimately, agencies need to integrate measures of client impact with data on cost and program performance to assess overall program worth. Such an assessment is necessary if the agency is to compare the relative impact of different kinds of program strategies and decisions in relation to the costs necessary to implement the strategies. Similarly, when Governors, Legislatures, and State Finance Departments or Budget Bureaus make decisions on the overall budget for rehabilitation services, they wish to compare the social returns of investment in rehabilitation services with the benefits which might accrue from expansion of other kinds of programs.

Typical efficiency questions about the cost of services relative to benefits are: Are resources, i.e., personnel and money, used to their optimal potential? What should be the relationship between the financial benefits received from services and the payments made from them? How should funds be distributed among the disability groups? What amount of resources should be distributed among what projects? These kinds of questions are clearly of prime concern to agencies charged with achieving rehabilitation goals with limited budgets for providing staff, case services, and other kinds of program assistance to disabled persons.

1. Program Budgeting

One of the most effective tools for asking and trying to answer these questions is the program or performance budget. Coupling the use of such a budget with the process of planning, managing, and assessing programs, which has been labelled "PPBS" (actually, Planning, Programming, and Budgeting Systems) can yield quite powerful insights and control to the policymaker and program manager over how his program is performing. A performance budget is a compilation of dollar estimates for each important type of unit output. Similarly, a program budget is the compilation of dollar estimates for each major objective to be achieved. This is a useful accounting technique in encouraging program personnel to tie results to objectives.

2. Cost-Benefit Analysis and Other Techniques

In pursuing the evaluation of program effect and alternative program strategies in a "PPBS" context, one seeks to assess impact and to tie impact to costs. Such an overall program evaluation we are calling assessment of higher order efficiency. The attempt to integrate measures of impact with measures of program effect, effort, and

costs encompasses many of the evaluation questions and techniques previously discussed: Determining client impact (follow-up surveys, R-300 measures of different kinds of impact), measuring effort levels (cost accounting, monitoring counselor time usage, etc.), determining community impact, etc.

There have been three general techniques used in the past for assemblying the information to conduct such an overall program evaluation of efficiency. Each technique assesses the program in terms of very different criteria. The criteria of the three techniques are:

a) Minimizing the length of time before the client "pays back" the public for their tax expenditures on his rehabilitation. Such repayment takes the form primarily of taxes paid by the client as a result of his increased income and of savings in institutional costs and welfare payments which the government would in the absence of rehabilitation have incurred.

b) Maximizing the net increase in real income of clients and client satisfaction from government programs and employment.

c) Obtaining the most favorable ratio of social benefits to social costs among alternative programs and strategies for achieving the same objective. This criterion is more properly formulated -- in the economist's language -- as maximizing net present value of social benefits.

The first approach looks at the program from the perspective of the taxpayer. The second approach views the program solely from the perspective of the client. The last approach, the one most generally known as cost-benefit analysis, tries commonly to aggregate benefits and costs over society as a whole without regard to distributional effects.

More recently, cost-benefit analysts have focused not only on society as a whole, but also on the experience of particular populations. When cost-benefit analysis is applied in this manner, the first and second approaches become special cases of the third more general approach.

Before discussing the three approaches in more depth, several points should be made.

First, in using these investment approaches for assessing the worth of the resources expended in rehabilitation, program directors should be careful not to stress solely or even first the monetary returns of these programs. Rehabilitation programs serve major humanitarian goals, and these goals come first. Even if rehabilitation programs did not "pay" back their costs in increased production, they ought still to be continued. The programs express the basic social values which underlie this society: Social justice, a fair chance for all, dignity through maximum self-sufficiency, work and vocation as a creative need of all men and women, compassion, the desirability of maximum human growth and development. The fact that rehabilitation really does "pay" in economic terms as well as serving social and moral needs is simply an extra advantage.

Indeed, what is more amazing is that the large monetary returns from rehabilitation programs actually understate the actual economic returns. Many gains in productivity (e.g., improved homemaking and child care capability, unpaid work) cannot be readily valued in monetary terms. In addition, there are many benefits (e.g., the relief in the burden borne by the family of the disabled and an improved home environment for siblings and children). Although these benefits and impacts are often called "intangibles," they are not really so much intangible

as difficult to number and readily value in monetary terms. The "intangibles" do indeed exist, however, and can be demonstrated. Cost-benefit analysis, properly employed, can be used to help focus on the full range of impacts. At the same time, cost-benefit analysis can be misused if the evaluator focuses only on those benefits and costs which can directly be measured in monetary terms or which appear in GNP national accounts.

Second, the techniques do not eliminate the necessity for directly evaluating program effort, effect, and lower order efficiency. Even when the final cost-benefit estimates are known, the agency must still consider whether to cut back, expand, modify, or drop a program. A number of other considerations come into play here: Was the program well administered? What alternative programs are available in this locality or for this disability group? Would the results have been more favorable if only a few more services were given or if clients were placed in different kinds of jobs? Can one expect that the experience with additional new clients in an expanded version would be the same as experienced with the clients in the current program? To gain information and understanding of these kinds of problems, one needs the evaluative information and approaches discussed in earlier sections. What cost-benefit and similar techniques do best is to raise a flag as a danger signal when costs are outstripping benefits and to focus the evaluation more specifically on meaningful client impacts, and to facilitate program comparisons.

Third, the techniques represent a major shift from how many agencies currently assess their programs. Many agencies really focus on rehabilitations per counselor or cost per rehabilitation as the key

data for rank-ordering programs and strategies. Such an approach counts every "rehabilitation" (translate "26" closure) as equivalent to every other "rehabilitation". This is true even when such measures are adjusted for disability mix, something not currently done in most agencies. In fact, from the perspective of the taxpayer or society, some "rehabilitations" are of much more quality than other rehabilitations. If a client's earning capacity is increased by $1000 a year in one case, but $10,000 a year in another case, the degree of impact on society and the client is quite different. Cost-benefit and the other techniques explicitly recognize that some rehabilitations have more impact than other rehabilitations, and this impact is directly related to the cost of producing the impact. The techniques try to zero in on the quality of rehabilitation services and vocational impact. Impact, moreover, is measured in terms of the change in client conditions rather than in terms of earnings at closure.

The results of cost-benefit analysis often fail to confirm an agency's a priori expectations. Analysis often shows, for example, that the most expensive kind of rehabilitations often produce proportionally much greater benefits than less expensive rehabilitations. The returns to society -- in crude monetary returns -- of rehabilitating the more severely disabled, the public assistance recipients, the nonwhite, the unmarried, the uneducated, and other low productivity groups are often higher than the returns to those individuals who are more easily rehabilitated (higher ratios of 26 closures to number accepted), less expensively rehabilitated (costs per rehab), and even have higher earnings at closure.

Current agency behavior, by looking at numbers of rehabilitations and at costs, could in fact be described as trying to assess the value of the program from the perspective of the agency rather than of the society, taxpayer, or client. Thus, agencies -- since they are evaluated in terms of the number of rehabilitations we produce -- try to maximize their performance with the limited budgets they receive by maximizing numbers of rehabs produced per dollar cost. That the taxes paid back to government are greater with some rehabilitations than others is irrelevant since the agency does not receive the benefit directly. Similarly, the agencies often look only at the costs they must pay directly out of our own budgets for the rehabilitation. Costs absorbed by other agencies or the client and his family are not considered. Cost-benefit and other techniques try to break this mode of thinking and redirect attention to the broader impact and worth of rehabilitation programs. Agencies can play a major role in increasing legislative understanding of the program's impact (and indirectly legislative support for the programs) by employing such higher-order efficiency techniques.

A fourth point which should be made at the outset is that cost-benefit analysis should not be used for allocating resources among different client groups or for comparing programs with very different purposes (e.g. social work programs versus Department of Labor manpower programs versus rehabilitation programs). Objectives and thus benefits are not commensurate in such cases. Also, in cost-benefit analysis of any particular program, many assumptions must be made on the basis of tenuous data. The quality of the data sources which underlay the assumptions can determine the results of the above comparisons. The more proper use of cost-benefit analysis is when comparing

different strategies or programs for achieving the same objective, or when deciding whether or not to expand a program. In such uses, the same assumptions are being used for all strategies being evaluated. The conclusion of the analysis is thus not dependant as much upon assumptions. Also, we would stress that the mandate of rehabilitation agencies is to serve the rehabilitation needs of each disability group in the most effective and efficient manner, not to maximize the total number of rehabilitations each year or even to maximize the financial return to the public sector budget. Yet when agencies allocate resources among disability groups on the basis of cost-benefit, they are acting as if the agencies' mandate were indeed the latter goals.

Let us now discuss each of these techniques briefly in turn. The payback period model analyzes returns and costs borne by taxpayers. This model may be particularly useful in rehabilitation since the major cost of services is financed by non-client taxpayers, while most benefits of increased earnings are enjoyed primarily by the client recipient of services. Because the payback period approach concentrates on the net return to taxpayers, it can be an effective tool for showing legislatures and government executives the value of investing more resources into rehabilitation programs. Few, if any other social service programs represent such a good investment for the taxpayer, and this is true even for programs serving the most severely disabled and hard-core public assistance cases. Indeed, payback period analyses often show that the taxpayer's return is greatest in investing in these more difficult cases, since the taxpayer might otherwise be supporting these individuals for life on the public welfare rolls.

The technique of looking at the efficiency of the program in terms of the client's experience is probably the least applied of the

three approaches to measuring higher-order efficiency and overall value of the program. The technique views as benefits the increase in client earnings. Reductions in welfare payments as a result of increased earnings and income are viewed as a negative benefit, however. Similarly, program costs are not considered at all. Rather, the perspective of the client is concerned solely with foregone earnings while in the rehabilitation process and the costs borne directly by the client and his family. The value placed by the client on reducing his state of dependency becomes very important. The value of considering this perspective is the insight it can give in understanding why and how clients may respond to various kinds of rehabilitation services.

The cost-benefit model is the most commonly applied. The technique is subject to many pitfalls in practice. The evaluator may choose to look at or emphasize only those benefits or costs which are easily measured and valued in monetary returns. Readers of the analysis may focus only on benefits and costs based on "hard data". Agencies can be motivated by such analysis to focus on providing services only to those clients who provide the "greatest return", rather than using such analysis to evaluate alternative strategies and programs for rehabilitating particular disability groups. The results of the analysis can be highly sensitive to particular assumptions which are made, and these assumptions and their sensitivity are often not made explicit. As the analysis extends to valuing benefits (e.g. homemaking) which are not directly measured through market-set prices, agencies could conceivably adjust assumptions on valuing benefits to justify virtually any program, however inefficient or ineffective. The real need in cost-benefit analysis is to establish conceptual models with commonly accepted assumptions

which most state agencies would employ, so that the results of the analysis would be comparable and changes in assumptions could readily be identified and assessed by readers of the analysis.

In employing cost-benefit analysis, state agencies should pay careful consideration to various conceptual issues which are often ignored in current agency evaluations of effect and efficiency. These considerations include:

1. The estimation of lifetime earnings or earnings after closure of the rehabilitant. Simply extrapolating earnings indefinitely into the future at closure leads to serious errors. Follow-up data on the length of periods of unemployment following closure, changes in wages, etc. are essential in projecting long-run benefits and client impact. Where such data is not available, agencies should make use of surveys sponsored by other states or by research groups, SRS, and RSA to provide estimates for the likely experience of the agency's own rehabilitants. Consideration should also be given to modifying extrapolations to consider the normal experience of labor force participants over their lifetime cycle in the labor market. Thus, young people's wages are almost always relatively low. As they gain experience, they can experience relatively great increases in income. Their income gradually levels off, and a decline in income can be experienced in the last years of labor market participation. Routinely projecting earnings at closure indefinitely into the future for young people, even with an adjustment for general productivity increases, seriously underestimates the impact of rehabilitation services upon their lifetime earnings.

2. The choice of discount rate. It makes no sense to value dollars earned by clients in the years following closure as equivalent

to dollars earned in the current time period. Such a practice, often followed by state agencies, runs against the practice of banks and private industry and proper government accounting methods, as well as against the technical and theoretical norms of cost-benefit analysis. Such a practice amounts to applying a zero discount rate on future earnings. While there is much debate on the proper discount rate to be applied, it clearly is greater than zero and equal or less than the going interest rate on loans in the private market.

Until a common standard is established with SRS/RSA leadership, a good rule of thumb could be to use the effective market yield (as opposed to the coupon interest rate) on Federal government long-term bonds.

3. Treatment of foregone earnings. While cost-benefit analysis focuses on the change of earnings due to rehabilitation services, the use of earnings the week prior to acceptance as the before-services measure of earnings grossly underestimates the earnings potential of most rehabilitation clients. A three months prior earnings estimate would be more appropriate. Until such data is available, agencies should use earnings at acceptance as an estimate of the social costs of rehabilitation services borne by the client, if the client is forced to abandon such earnings while receiving rehabilitation services.

4. Savings in welfare payments. Such savings are not properly considered as a benefit in a benefit-cost calculation because welfare payments are transfers between citizens of a society rather than net decreases in the aggregate production or resources of the society. In contrast, such savings would be a benefit in a payback period model. In the latter model, however, only the taxes on the increases in client

earnings would be considered as a benefit, not the total increase in such earnings. In no efficiency analysis, is it proper to treat both savings in welfare payments and the total increase in client earnings as benefits of rehabilitation services.

5. Treatment of unpaid productive activities. The cost-benefit analyses of agencies should be extended to include the value of home-making and child care services and of unpaid work by individuals regularly employed. There are conceptually two alternative approaches for valuing such work: (1) the earnings which the rehabilitant foregoes by remaining in the household and engaging in such labor, and (2) the replacement costs for such labor, i.e. what the person would have to pay for such work if he or she were unable to do it.

6. Inclusion of costs not borne by the agencies. In addition to foregone earnings, agencies should include estimates of costs incurred by other agencies and by the clients and their families during and as a result of rehabilitation services.

7. Inclusion of indirect benefits. Changes in the labor force participation of other family members and changes in payments routinely made for medical, nursing, housekeeping, and custodial care which are the result of rehabilitation services should explicitly be considered in cost-benefit studies. Such changes will usually be positive, but can occasionally be negative benefits.

8. Estimates of program costs. The costs of rehabilitation are clearly not only case service costs but also administrative and personnel costs and expenditures for research and development. Income maintenance support which arises during and as a result of rehabilitation services should not be treated as social costs in a cost-benefit analysis, however.

9. Treatment of intangibles. Rather than simply listing intangibles -- the psychic gains to society as a result of reducing poverty and dependence, the benefits to the families of the disabled as a result of reducing the stress created by the presence of a dependent disabled person, etc. -- explicit attention and emphasis should be given such benefits. The presentation of such benefits in a report can often by enhanced by including individual case studies, quotes from the client and his family, and scenarios of what might happen in the absence of rehabilitation services. Such qualitative information can enhance a reader's understanding of the social importance of these benefits which are not easily quantified and valued in money terms.

10. Treatment of unemployment conditions in society. It is, of course, possible that placing disabled individuals in jobs through the provision of rehabilitation services merely causes the unemployment of more able bodied individuals. This would be true if large-scale unemployment were the overall experience of the society. The mandate of rehabilitation agencies, however, is to rehabilitate disabled persons so that they can be competitive within the labor market and thus be capable of self-support and independence to the maximum extent possible. Agencies should assume in calculating the social costs and benefits of their services that Congress and the national government have already provided for national full employment within the economy. The decision by society to tolerate unemployment for the sake of other social goals (e.g. combatting inflation) is beyond the influence of rehabilitation agencies, and such agencies should not be compelled to adjust their assessment of the effectiveness and impact of their services to consider the effect of macro-economic policies which tolerate unnecessary unemployment.

11. The control group problem. The problem of determining the extent to which observed client impact is actually causally attributable to rehabilitation services remains in cost-benefit analysis. The experimental design model can thus be useful in providing information input into a cost-benefit analysis. What would the client's experiences have been in the absence of rehabilitation services? Agencies need to be very careful in defining control groups for study, however. Using 28 to 30 closures as control group(s) can lead to serious under and over-estimates of the impacts of rehabilitation services. Moreover, the problem remains with such control groups that the measured experience of clients closed in such statuses may actually reflect in part the effect of rehabilitation services provided such clients.