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# A Working Manual of Simple Program Evaluation Techniques for Community Mental Health Centers



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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
ALCOHOL, DRUG ABUSE, AND MENTAL HEALTH ADMINISTRATION

National Institute of Mental Health

# A Working Manual of Simple Program Evaluation Techniques for Community Mental Health Centers

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NCJRS

SEP 8 1978

ACQUISITIONS



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Division of Mental Health Service Programs

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5600 Fishers Lane
Rockville, Maryland 20852

This manual was written under Contract No. 278-75-0031(MH) from the National Institute of Mental Health. The opinions expressed herein are the views of the authors and do not necessarily reflect the official position of the National Institute of Mental Health or the Department of Health, Education, and Welfare.

DHEW Publication (ADM) 76-404
Printed 1976

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402
Stock No. 017-024-00539-8

ACKNOWLEDGEMENTS

This manual was prepared under Contract No. 278-75-0031 between Arthur D. Little, Inc., and the National Institute of Mental Health (NIMH).

Valuable source suggestions, conceptual aids, lucid commentary and discerning criticism came from the continuing contributions of our friends C. Clifford Attkisson, Ph.D., Anthony Broskowski, Ph.D., and Gary L. Tischler, M.D. Charles D. Windle, Ph.D., was our Project Officer and (like the three just named) truly a collaborator. His contributions were of major significance both in substance and editorially, though any shortcomings in the manual are not his responsibility.

We met or corresponded with at least twelve NIMH central or regional office staff members, who gave freely of their time and counsel: Steven S. Sharfstein, M.D., Director, Division of Mental Health Service Programs; Howard R. Davis, Ph.D., Chief, Mental Health Services Development Branch; Rosalyn D. Bass, Statistician; Selma Goldblatt, Chief, Program Analysis and Evaluation Section, Office of the Director; Leonard Goldstein, M.D., Staff Psychiatrist; Benjamin Liptzin, M.D., Medical Officer; Susan Salasin, Chief, Research, Diffusion and Utilization; Carl A. Taube, Chief, Survey and Reports Branch; O.B. Towery, M.D., Staff Psychiatrist; Cecil R. Wurster, Chief, Statistical Program Development Branch; Richard T. Woy, Ph.D., DHEW Region II. Special mention: we are particularly grateful for the extensive and judicious commentary of Elizabeth D. Ossorio, Ph.D., of DHEW Region VII.

Extramural members of the NIMH Task Force on Program Evaluation provided timely assistance and review, and contributed materials of their own. James A. Ciarlo, Ph.D., Director of the Mental Health Systems Evaluation Project, Northwest Denver Mental Health Center and University of Denver, Denver, Colorado, not only reviewed a draft version but prepared a number of paragraph-length contributions now incorporated in the manual. The other members of this group were: Marcia Guttentag, Ph.D., Harvard University, Cambridge, Massachusetts; Nancy El-Hehiawy, Chief, Program Evaluation, Area C Community Mental Health Center, Washington, D.C.; and Donald W. Tiffany, Ph.D., Director of Evaluation, High Plains Comprehensive Community Mental Health Center, Hays, Kansas (also liaison with the National Council of Community Mental Health Centers).

We specifically requested materials or received textual review from a number of persons throughout the country. These included: Theodore I. Anderson, M.D., and several of his then-colleagues of the Department of Mental Health, Commonwealth of Massachusetts, Boston, Massachusetts; Nancy Barron, Ph.D., Evaluation Specialist, Department of Mental Health, State of Missouri, Jefferson City, Missouri; Neil Benson, Ph.D., Director, Research and Program Evaluation, Weld Mental Health Center, Inc., Greeley, Colorado; Robert W. Carrick, Program Consultant for Mental Health, Jean Cobb of the Public Health Service Planning and Evaluation Office, and Martha Jacobs, HEW Management Intern, DHEW Region IV, Atlanta, Georgia; Gary L. Feldman, Ph.D., Director,

Program Planning and Evaluation, Mid-Missouri Mental Health Center, Columbia, Missouri; Pamela Gunnell of the Wyandot Mental Health Center, Inc., Kansas City, Kansas; Robert H. Heighton, Jr., Director, Mental Health Program Evaluation Project, and Harold L. McPheeters, M.D., Director, Commission on Mental Illness and Retardation, Southern Regional Education Board, Atlanta, Georgia; T. Edmund Lakeman, Director, Planning and Evaluation, Mobile Mental Health Center, Mobile, Alabama; Lorraine L. Luft, MCP, Director of Program Evaluation, Community Mental Health Center, Peninsula Hospital and Medical Center, Burlingame, California; Sander H. Lund, Assistant Director, Program Evaluation Resource Center, Minneapolis, Minnesota; Robert O. Lunn, Jr., Director, Blue Ridge Comprehensive Mental Health Center, Charlottesville, Virginia; Dr. Paul McCollough of WICHE, Boulder, Colorado; Frederick L. Newman, Ph.D., Special Consultant to the Deputy, Secretary for Mental Health/Medical Services on Evaluation, Eastern Pennsylvania Psychiatric Institute, Philadelphia, Pennsylvania; George E. North, Ph.D., Director, Northwest Community Mental Health Center, Inc., Lima, Ohio; Jean Thrasher, Ph.D., Director, Evaluative Research, Division of Mental Health Services, Department of Human Resources, State of North Carolina, Raleigh, North Carolina; Harvey Tillman, Mental Health Planner, Hennepin County Mental Health-Mental Retardation Area Program, Minneapolis, Minnesota; and James C. White, Jr., Ph.D., Director, Program Evaluation Section, Department of Mental Health and Mental Retardation, State of Tennessee, Nashville, Tennessee.

A number of additional persons submitted papers or other materials early enough that these shaped some of our thinking, whether or not we directly utilized the documents. These included: Thomas E Backer, Ph.D., Senior Staff Associate, Human Interaction Research Institute, Los Angeles, California; John Bilbrey, Ph.D., Research Psychologist, Alcohol Counseling Center, Community Mental Health Center of Escambia County, Inc., Pensacola, Florida; Merle Canfield, Program Evaluation Coordinator, Prairie View, Newton, Kansas; Don Catalina, Research Scientist, North Richmond Community Mental Health Center, Staten Island, New York; John R. Doidge, Ph.D., Director, Fremont Counseling Service, Lander, Wyoming; George E. English, Ph.D., Associate Director, Evaluation, Community Mental Health Board, Community Services Center, Lansing, Michigan; Alan R. Fiester, Ph.D., Director of Research and Evaluation, Community Mental Health Center of Palm Beach County, West Palm Beach, Florida; Ardyce Haring, Ph.D., Director, Program Evaluation and Research, Department of Mental Health, County of Orange, Goshen, New York; Douglas D. Irving, Ph.D., Evaluation Coordinator, Southwest Mental Health Center, Las Cruces, New Mexico; Morty Lebedun, Ph.D., Coordinator, Research and Training, Tri-County Community Mental Health Center, North Kansas City, Missouri; Robert G. Packard, Pikes Peak Family Counseling and Mental Health Center, Colorado Springs, Colorado; Ed Paulette, Research Analyst, Washtenaw County Community Mental Health Center, Ann Arbor, Michigan; Catherine E. Rosen, Ph.D., Director, Research and Evaluation, Northeast Georgia Community Mental Health Center, Athens, Georgia; David J. Senn, Ph.D., Research and Program Evaluator, Anderson-Oconee-Pickens Mental Health Center and Greenville Area Mental Health Center, South Carolina; and Daniel Weaver, Assistant Program Supervisor, Washtenaw County Community Mental Health Center, Ann Arbor, Michigan.

In a work of this kind, a great deal of material is summarized or extracted. While we have attempted to acknowledge all of this material in the text itself, some extended extracts required special permission. We are indebted to Ballinger Publishing Company for permission to use extracts from Patient Care Evaluation in Mental Health Programs (1974) by Donald C. Riedel, Gary L. Tischler, and Jerome K. Myers; to the American Psychiatric Association and Alex Richman for permission to use material in the article "Utilization Review of Psychiatric Inpatient Care" by Alex Richman and Henry Pinsker in the American Journal of Psychiatry, 130(8), 1973; to Frederick L. Newman for permission to use extracts from a paper by Frederick L. Newman and James E. Sorensen, "Using Client Cost Outcome Data in Program Analysis and Management" (draft, December 1975); to Sage Publications, Inc., for permission to use material by Howard R. Davis and Susan E. Salasin in the Handbook of Evaluation Research edited by E. L. Struening and M. Guttentag (1975); and to Jean Endicott for permission to use material from "The Global Assessment Scale: A Procedure for Measuring Overall Severity of Psychiatric Disturbance," an unpublished manuscript by Jean Endicott, Robert Spitzer, Joseph Fleiss, and Jacob Cohen (March 1975).

## FOREWORD

## DEVELOPING PROGRAM EVALUATION CAPABILITY

Public Law 94-63, the Community Mental Health Centers (CMHC) Amendments of 1975, is imposing in its requirements for program evaluation by CMHCs on a broad variety of subjects and its expectation that a minimum of 2% of a CMHC's operating budget will be devoted to program evaluation expenditures. Many observers of the CMHC movement, both within and outside NIMH, have suggested that the literal requirements of the legislation with respect to program evaluation outstrip the state of the art of program evaluation methods and the amounts of resources currently available. Many CMHC personnel have pointed out that even if adequate evaluation methods were available, CMHCs would still not be able to satisfy the requirements of the law to evaluate every dimension of CMHC performance mentioned in the legislation on an annual basis, given limited staff time, resources, and limited prior experience in program evaluation. Other forces bearing on the CMHCs increase further the urgency of program evaluation, but also complicate its utilization--for example, requirements for quality assessment to qualify for certain forms or third-party reimbursement.

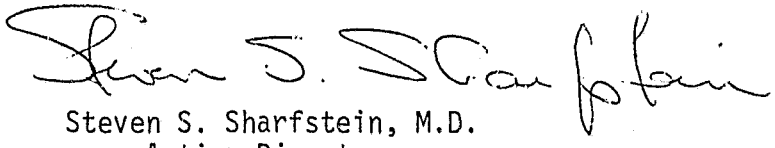
The development of program evaluation capability in CMHCs should be gradual. PL 94-63 is a mechanism for building and perfecting CMHCs' program evaluation expertise over time. Neither the legislation nor its implementing regulations should be interpreted by CMHCs as a listing of program issues all of which must be evaluated every year. Rather, *CMHCs are expected to choose from various available evaluation possibilities those most important to improve their own operations.*

This manual is presented as one of the tools available for helping to make choices: what to do first, how much to do, how often, for what specific purposes. The manual itself cannot make choices for a Center; but it can provide several kinds of assistance: (1) supplying information about specific evaluation instruments and techniques with sufficient detail to guide a user through an evaluation project, or to enable a valid decision on whether to use a particular technique; (2) bringing issues to the surface that must be considered while setting evaluation priorities; (3) providing some of the background needed for working up an overall evaluation strategy and developmental plan.

Freedom to choose among evaluation topics, methods and systems will permit CMHCs to use evaluation for their own most important needs, while gradually evolving an heightened evaluation capability. CMHCs will not be expected to sacrifice quality of evaluation effort in favor of quantity of studies performed, if what they do seems genuinely relevant to their circumstances. Neither will they be expected to stand still in improving their ability to conduct some of the more difficult, extended evaluation studies. The law is meant to be flexible, but not lock CMHCs into the status quo; to provide

latitude in program evaluation while insisting on progress in gaining new expertise. The requirement that CMHCs *plan* their evaluations each year (see Chapter 2 on setting up a program evaluation plan) is a method of assuring that the CMHC squarely confronts the issue of choice among alternative evaluations, while thinking through its ability to conduct the evaluations it needs.

Ultimately, PL 94-63 is meant to inspire development of program evaluation capability in CMHCs in an incremental way. As the Centers Program continues in the last half of the 1970s, CMHCs will be expected to gain additional evaluation expertise, to evolve an increasingly self-initiated approach to program evaluation, to improve the quality of evaluation studies, and to use program evaluation more directly in program modification and improvement. When each CMHC has developed the capability to evaluate all of the program considerations stated in the law and regulations, the ultimate promise of PL 94-63's program evaluation requirements will be fulfilled.



Steven S. Sharfstein, M.D.
Acting Director
Division of Mental Health Service Programs

# PREFACE

The purpose of this manual is to assemble in convenient form a variety of techniques and approaches to program evaluation, useful to CMHCs as they extend their evaluation efforts under PL 94-63. Our criteria were availability, apparent utility, responsiveness to PL 94-63 requirements, and (wherever possible) simplicity. The book is intended to help a new evaluator or Center administrator to get started, by providing guidance on which technique to use and how to use it. But the manual should also provide conceptual guidance: setting program evaluation in a management perspective, suggesting the planning and project cycles in which evaluation may be conducted, reciting the basic values on which program evaluation is founded. Finally, though not intended as a systematic critical appraisal of the literature, this manual is expected to open up the literature and other materials of program evaluation to its users.

The manual presents concepts and administrative materials first, then reviews several basic tools either preliminary or ancillary to program evaluation (management information systems, needs assessment, patterns of utilization, and cost analysis). It next takes up a series of technical topics in program evaluation: outcome studies, cost-effectiveness analysis, evaluation of consultation and education, and quality assessment. The final section is on citizen review of CMHCs, which reveals our general intention to make visible those topics of evaluation stressed in PL 94-63. But our purposes go beyond assuring a capability to achieve passive compliance with the law. Indeed, we interpret NIMH intention to define "compliance" as including an obligation to adapt program evaluation to local need, and to exhibit initiative in doing so. Thus, the organization of the manual is meant to be compatible with a variety of developmental strategies for program evaluation: opportunism, rational planning of the management information system and its uses, or strategy based on program improvement.

Each chapter is organized somewhat similarly. An introductory discussion of issues and the rationale for including the topic appears first. Specific techniques or general approaches are then discussed, wherever possible in the following format:

(1) What is the technique?
(2) When should the technique be used and what are its limitations?
(3) How do you implement the technique?
(4) What is the level of effort required?
(5) What are the primary sources of information about this technique?

We were determined to include estimates, arbitrary if necessary, of the level of effort required for implementation, because this information is so fundamental, even though it should never be literally believed. Too much depends on circumstances: previous experience and skill level of the evaluator, volume of work, difficulties encountered, time required to communicate with others, etc. Where we found information on effort required, we used it. Where we found none, we made estimates.

This manual has not advanced the art of recognizing the equal potential contribution of both sexes in technical and management roles. While we wince at the attitude implied by the universal "he," "chairman," and the like, we also cringe at the condescending awkwardness of elaborate substitutions: "he or she," "person-days," "one." In a manual concerned with the work of an emerging occupational group happily not yet confined to one sex, the matter is of some importance. We do not want our work to influence attitudes against the equal opportunity of women to become program evaluators.

Finally, we would like to invite interested users to write to us, to point out errors or shortcomings in the manual, to offer improvements, provide possible materials for inclusion in subsequent versions of the manual, or refer us to sources other than those we have used. NIMH has authorized us on its behalf to collect these kinds of responses, in the hope that an improved second edition will be possible and desirable in a year or two, and in the belief that whoever is chosen to prepare a second edition should have maximum benefit of user response. Write to: Dr. Homer J. Hagedorn, Arthur D. Little, Inc., Acorn Park, Room 35/345, Cambridge, Massachusetts 02140.

HJH

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# CHAPTER 1: THE CONTEXT OF PROGRAM EVALUATION

## A. SUMMARY PERSPECTIVE ON PROGRAM EVALUATION AND THE PROGRAM EVALUATOR

This chapter asserts a view of program evaluation, explains how that view relates to the current basic federal law (PL 94-63) on Community Mental Health Centers (Centers or CMHCs), and explores a variety of relationships of program evaluation to the Centers. The view made explicit in this chapter pervades and shapes the entire manual. Understanding the chapter should be a useful aid to interpreting the remainder of the manual. In particular, the chapter seeks to ascribe to program evaluation a function as an aid to management. It includes quality assessment and citizen review. The chapter also suggests a preferred stance for the person called the program evaluator.

"Program evaluation is a type of applied research in which program process and outcome characteristics are related explicitly to a set of values, such as program goals, objectives and costs."[1] The associated rationale is that improved information will be made available through program evaluation, information which can be used to improve management decision-making, to shape the services offered, and to make these services more responsive to clients and citizens. This brief definition of program evaluation will probably have become official policy prior to publication of this manual. It is a definition that can be applied most faithfully by Center management's taking an active view of their own need for evaluation. External evaluators could conduct evaluation studies in Centers, relate the results to objectives and costs, and perhaps impose some kind of implementation process on a Center. But *improvement* in characteristics like decision-making and responsiveness to citizens depends on a continuous or at least a steady and persistent influence, as well as local intention to make the improvements effective.

If program evaluation as a management aid for the Centers cannot work well unless Center managers want it to work, it would be unrealistic for Congress to mandate compliance. How can anyone's positive feelings be effectively requested? Under PL 94-63, Centers must comply with the requirement that they have an effective procedure to develop, compile, evaluate and report statistics and other information relating to basic operational characteristics. Categories specifically enumerated include (1) costs, (2) patterns of use of services, (3) availability, accessibility and acceptability of services, and (4) impact of the services on the mental health of residents of the catchment area [Section 206(c)(1)]. Compliance in reporting and compliance in developing procedures have been mandated. Expenditures for evaluation and for the improvement of program management have been mandated [Section 206(c)(4) and Section 206(e)]. But general control and operation of the Centers is denied to federal officials [Section 239]. Reality is reinforced by law. It is up to Center management, and perhaps potentially to the

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[1] Guidelines for Program Evaluation. National Institute of Mental Health, December 1975 (Draft).

states, to connect and thus to activate the required efforts in self-reporting, evaluation, and management improvement. The law, it seems, does recognize that much of the initiative for effective evaluation is up to the Centers themselves. Certainly, NIMH recognizes this fact. "Many of the conditions essential to useful program evaluation, such as commitment to problem solution and trust in the good will of others, cannot be legislated."[2]

Later sections of this chapter explore and expand on certain crucial implications of the two preceding paragraphs. In this section, one task remains: to highlight a view of the program evaluator's role consistent with the complex considerations just summarized. These considerations flow from the possible conflict between the active behavior which has to characterize effective Center management and the passivity induced by enforced compliance with the requirement to do program evaluation in the CMHCs. The result offers useful guidance on how a program evaluator may effectively function.

The evaluator must be a competent professional person, increasingly knowledgeable and skilled in the arts and techniques of evaluation, and able to work autonomously and on his own initiative. But his utility is totally dependent on the success with which he becomes a responsive and interactive member of the extended management team of the Center, and thus supports active rather than passive management processes. He must relate to other Center staff well enough to develop a reasonably accurate and intimate view of what is going on in the Center and in its programs. He must achieve a working understanding of what is important, an informed perspective on what the problems of the Center are, and some awareness of how these problems affect the people of the Center (clients, citizens and staff). Without both working knowledge and the capacity to be objective about it, the program evaluator will fall short in attempting to apply his research or technical skills. Thus, the required skills of the evaluator emphatically include interpersonal and administrative competences. The evaluator must quickly learn or come to his post knowing how to shift easily among several team roles. He will sometimes temporarily assume leadership within the management team. Most often he will be expected to provide administrative support. With some frequency he may come to be thrust into the role of technical advisor and resource, but this is an earned role and cannot usually be bestowed. Like all effective administrative officials, he will usually and typically function as intermediary and facilitator. At rare intervals, he may be thrust into acting as an Authority, but this is a position of great vulnerability since it tends to deteriorate into just that kind of personal isolation almost invariably lethal to the utility and effectiveness of the evaluator, especially if his Authoritative Posture is maintained for periods longer than two minutes at intervals separated by less than two months. Thus, the program evaluator is in the position of being in fact a researcher who cannot hope to protect himself with the panoply of scientific authority. Appeals to science may save his ego, but

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[2] Ibid.

he will probably in the long run thereby lose his influence and possibly his job.

This manual assumes no particular bureaucratic prerequisites for the evaluator. Charters of official status, guaranteed access to management, specific grants of authority, and formal relationships spelled out between evaluator and clinical leadership are insufficient substitutes for real membership in the management team, and are not always productive for attaining real membership. Do not ignore them, but do not believe that their acquisition will necessarily improve the effectiveness of the evaluator--until he is "on the team." This manual assumes that most evaluators will have to make their own way, which requires a measure of common sense, decency, courtesy, human warmth, and a desire to be useful, qualified by a healthy skepticism about what usefulness is. "Many of the conditions essential to useful program evaluation...cannot be legislated."

## B. WHAT IS PROGRAM EVALUATION? A WORKING DEFINITION

Program evaluation is a systematic set of data collection and analysis activities undertaken to determine the value of a program to aid management, program planning, staff training, public accountability and promotion. Evaluation activities make reasonable judgments possible about the efforts, effectiveness, adequacy, efficiency and comparative value of program options.

In its most basic form, evaluation is comparison of actual program operations and results against a standard. The standard of comparison is usually data from similar programs or a judgment by an accepted authority or group on what should be expected.

It is important to recognize that there are usually multiple perspectives on what represents appropriate impact or good program outcome. Different viewers, such as clients, families, clinicians, administrators, citizens, funding sources, regulatory authorities, and program evaluators, often have different preferences for program results. The standards and norms used to evaluate a program may thus vary depending on whose value system is used to establish them. The criteria of reaching the maximum number of people, achieving a minimum level of social functioning for all clients, and decreasing costs are not consistent with each other, yet each could be applied to the same program by administrators, clinicians, and funding sources, respectively. Who evaluates a program can directly influence what dimension of the program is evaluated.

Program evaluation includes a number of types of activities and approaches which are often differentiated because they serve special functions. One such concept is monitoring. Monitoring is a simple form of program evaluation in which a program is compared to a set standard, as in determining compliance with program requirements. There is little analysis of reasons for deficiencies, assessment of direction and thrust of the activity being evaluated, or comparison of program options or recommendations for improvement. Monitoring tells simply whether the activity is running right. Monitoring is

most often done by external funding agencies, but is also a limited form of self-evaluation.

Program evaluation consists of a series of activities located along a complex spectrum running between administrative judgment and carefully designed and documented research studies. Monitoring is reasonably close to the administrative end of the spectrum. Nonrecurring evaluation research projects tend to fall near the other end of the spectrum. In the context of self-evaluation, this spectrum can be depicted as in Figure 1 on the following page. Four characteristics of the spectrum are displayed. "Program evaluation activity" defines the crucial evaluation step at each of several points along the spectrum, and links those steps to the related data base. "Evaluation theory" identifies the evaluative process emphasized in each of the corresponding activities. "Operational theory" refers to three general theories that seem broadly to correlate with the spectrum. One theory holds that processes are related in strategic interaction and can be influenced, if not controlled, by appropriate feedback. What is managed is a stream of activity, which can and should be validly sampled. At the other extreme is the concept of cause and effect. Both theories are special cases of a general if vague notion that knowledge is power. All three of these notions are present and operative all along the spectrum, but relative emphasis among the three may be different at different points on the spectrum. "Generalizability," the fourth characteristic, is not sought at one end of the spectrum, but is a very important issue at the other end of the spectrum. The figure is included in order to suggest why program evaluation, conceived as a management function, necessarily contains such a breadth of activities.

## C. THE CMHC AMENDMENTS OF 1975 (PL 94-63): LEGISLATIVE MANDATE FOR PROGRAM EVALUATION

Growing experience with federal grant-in-aid programs in the human services over the past decade has resulted in increasing federal awareness of the need to verify the efficiency of these programs and to assure that they are as effective as possible. Program evaluation is one device rather widely advocated for these purposes, but as yet neither fully developed nor completely demonstrated in its value. Public Law 94-63, the Community Mental Health Centers Amendments of 1975, requires CMHCs to conduct program evaluation, and in so doing incorporates program evaluation into the ethos of CMHCs for the first time in a formal way. The legislation stipulates that Centers will allocate not less than 2% of their previous year's operating budgets to conducting program evaluation and mandates three general types of evaluation:

(1) Quality assurance of clinical services: Each Center is to establish an ongoing quality assurance program of its clinical services. The law stipulates no methods more specific than utilization review and peer review, but the PL 94-63 requirement for quality assurance is listed in the

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|---|---|---|---|---|---|---|---|
| PROGRAM EVALUATION ACTIVITY | Administrative judgment based on immersion in the living data of the program being evaluated, and buttressed by documented answers to specific, sometimes rather trivial-seeming, questions | Conclusions drawn from routine monitoring of explicit program data arranged in preselected categories, processed, analyzed and displayed to enable implicit or explicit comparison with norms or with other experience | Analyses, conclusions and recommendations based on recurring studies of routinely and peridically reported data | Analyses and interpretations of recurring studies augmented by specific one-time investigations | One-time studies requiring special care in data-gathering procedures; methods used and questions asked are mainly related to managerial utility of results | Quasi-experiments and carefully controlled research studies, with clear and specific management focus | Research studies with broad management implications; but the surest predictable payout will be research results: validated rules of thumb which may or may not turn out to be applicable in the setting where the study was done |
| EVALUATION THEORY | Intuitive judgmental integration of data, some of which data may be kept relatively implicit | Interpretation of trends and variances in the data clarifies and verifies necessary corrections | Complex analytical interpretations of regularly recurring data series leads to advice and recommendations | Ingenious use of specially gathered information to resolve uncertainties resulting from trends in recurring data or otherwise | Complex analytical interpretation plus anticipatory testing of emergent trends, crises, new patterns produces useful advice for management | Scientific back-up to help in defense of management action; reduces management uncertainties | Resolution of scientific issues that may or may not impact directly on the management problem first impelling interest in the subject; the usefulness of truth |
| OPERATIONAL THEORY: WHAT EVALUATION "DOES" FOR MANAGEMENT | Using feedback to guide the influencing of interactions between the program and other entities | | | "Knowledge is power" | | | Increase the confidence level that management has in particular diagnoses and remedies by demonstrating cause and effect relationships |
| GENERALIZABILITY | Slightly generalizable if at all | | | Generalizability occasionally possible | | | Moderate to high level of generalizability |

FIGURE 1: A SPECTRUM OF PROGRAM EVALUATION ACTIVITIES IN THE CONTEXT OF MANAGEMENT SELF-EVALUATION

same paragraph with the requirement for an integrated medical records system assessing all patient health status information, and a professional advisory board to establish policies governing medical and other services provided by the Center's professional staff on behalf of the Center [Section 201(d)]. Evaluative process, information base, and standards are, of course, key to any kind of program evaluation.[3] The reasonable conclusion is that a Center may integrate its quality assurance activities to whatever extent seems practical. But quality assurance could also be kept somewhat separate from other program evaluation activities. In this manual, the two are kept conceptually separate, though some of the many possible overlaps and interconnections are indicated, especially in Chapter 10, Quality Assessment. Separate presentation seemed appropriate because of the special nature and independent institutionalization of the Professional Standards Review Organizations (PSROs) through which many of the CMHCs can be expected to have their first systematic exposure to externally regulated quality assessment, and the incentives (third-party payors) for quality assurance.

(2) Self-evaluation: Each Center, according to the thinking behind the draft guidelines, will collect data and evaluate its services in relation to program goals and values and to catchment area needs and resources. It will report these data to NIMH annually. The data shall consist of:

- Cost of Center operations;
- Patterns of use of services;
- Availability, awareness, acceptability and accessibility of services;
- Impact of services upon the mental health of residents of the catchment area;
- Effectiveness of consultation and education services;
- The impact of the Center on reducing inappropriate institutionalization.

Methods of information-gathering and evaluation are not stipulated in the law itself, but the draft regulations perpetuate the existing NIMH Biometry Inventory (Form ADM 25-3). The "2%" provision in the law, requiring each Center to obligate funds for evaluation and quality review [Section 206(c)(4)] points toward and is consistent with self-evaluation.

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[3] However, the same paragraph in the law ends with a regulation stipulating creation of an identifiable administrative unit to conduct consultation and education activities, so it could be plausible to interpret the first three passages, summarized above, as themselves being unrelated to one another. PL 94-63, 94th Congress S.66, July 29, 1975, Section 201(d), page 18.

(3) Residents' review: Each Center will at least annually publicize and make available all evaluation data of the type listed above to residents of the catchment area [Section 206(c)(1)(A)]. In addition, it will organize and publicize an opportunity for citizens to review the Center's program of services in order to assure that services are responsive to the needs of residents of the catchment area [Section 206(c)(1)(B)]. The Center will report the procedures it has used for such catchment area resident review, the suggestions received, the program actions taken in response to the program evaluation, and the plan for evaluation for the next year based on evaluations already made and citizens' suggestions.

How these procedural requirements will be carried out substantively is again left to local Center initiative. Interpreted narrowly, the law provides a guaranteed right for those who use Center services or live near a Center to comment on how the Center fulfills their needs. Interpreted slightly more broadly, the law partially opens the Center's processes of record-keeping, evaluation and disclosure to annual public review, when it subjects to public review the information produced by these processes.

So interpreted, this requirement becomes as challenging to program evaluators as to clinicians. It also offers special opportunities for achieving regular feedback on public attitudes toward the Center, feedback that can be received relatively unconstrained by the Center's own frame of reference. Guidelines and methods of conducting resident review are yet to be discerned clearly and consensually. Chapter 11 reviews techniques found in the literature on the subject and judged to be most applicable to this manual.

## D. PRESSURES ON CMHCs TO CONDUCT PROGRAM EVALUATION

The Community Mental Health Centers Program has come under increasing pressure, both internal and external to the program, to conduct systematic program evaluation. The most recent and explicit of these motivations is the statutory amendments contained in the Community Mental Health Centers Amendments of 1975, discussed in the preceding section. But these requirements have arisen in large part because of the growing shortage of funds for services and the awareness that mental health facilities must justify their eligibility for reimbursement. This justification includes assurance of efficient forms of needed service.

The utilization review requirements of Medicare and the expansion of such requirements in the Professional Standards Review Organization (PSRO) program for quality assessment of clinical services are one form of program evaluation required to evaluate services requiring third-party payments. Dramatic increases in unit costs for health services, per capita spending,

and the national health budget have brought cost considerations squarely into the mental health care arena. These issues mean that quality assessment systems are being asked to focus on questions of service, duration and appropriateness, with their consequent cost implications. Results per dollars spent and per unit of time are becoming focal indices of performance in the health field generally, though only reluctantly accepted. Program evaluation techniques can help to obtain valid measures of these indices.

Opponents and skeptics--and friends--have from time to time raised the question of effectiveness of services in the mental health field. Lack of common measures of effectiveness has proved a major barrier for bringing some of this questioning to reasonable agreement. One impulsion for program evaluation, therefore, is the need and desire to investigate effectiveness better. This impulsion may take various forms. Some state hospital-oriented people have questioned the effectiveness of community-based treatment, and vice versa. Private practice psychiatrists also have tended to question the cost-effectiveness of the Centers, and physicians (among others) have maintained a certain skepticism about the whole mental health field. Any such advocacy groups may unite to request program evaluation.

New and broadened demands for public accountability also provide a vehicle, if not an impetus, for program evaluation. Nearly a decade of growing advocacy for program evaluation has produced a group or at least a series of networks whose members believe in program evaluation and who see consistency between the general application of program evaluation techniques and improved accountability.

Court and legal pressures against malpractice can also be related to program evaluation. Both the fact of evaluation and its results can serve as part of the defense against certain aspects of malpractice suits, by demonstrating adherence to current best practice, or by persuasively presenting typical results of treatment programs.

One additional force beyond the program evaluation requirements of PL 94-63 is likely to stimulate program evaluation in CMHCs. Under contract to NIMH, the Joint Commission on Accreditation of Hospitals is developing a working draft of voluntary accreditation standards for CMHCs. The draft standards contain a section of standards for the research and evaluation activities of CMHCs. Particular issues addressed include collection of baseline data on catchment area population characteristics, analysis of patterns of services utilization, peer review, preparation of an annual report, and integration of evaluation results in the modification of program operations.

## E. PREVALENT ATTITUDES TOWARD PROGRAM EVALUATION

Administrators and evaluators will develop their own attitudes about evaluation from their own experience. They frequently become aware of the real or expressed attitudes of others as well. This section summarizes or stereotypes

some of the attitudes most commonly encountered among and by those charged with carrying out program evaluation, or being evaluated, or using the results of evaluation. The context provided by this section is that of a series of not altogether consistent answers to the question, "What is program evaluation *really* good for?" The function of these paragraphs is to sensitize evaluators and administrators to the possible need for discovering which of these attitudes are present in a particular situation. The attitudes present will significantly affect the reception and utilization of evaluation results. When the attitudes of different sponsors, participants and users of a proposed evaluation study differ significantly or are in conflict concerning what the use or function of the evaluation will be, the evaluation is likely to be found unhelpful or unresponsive by some who are important to it. If the evaluation was not actually devised to meet their needs, those who are dissatisfied may well be right to conclude that it does not help them. But what they should be most angry about is the failure of the evaluator or his boss to have noted the attitudinal differences in advance, and to have discussed these differences and their implications with anticipated users. This section begins to introduce local practicalities into the manual's discussion of program evaluation context.

To some evaluators, what they do is research, discovering or verifying program-specific knowledge, and reducing uncertainty about what is the truth. To others, evaluation is justification, occasionally even a defense or a put-off--something with which to fend off unfriendly outsiders. By those under evaluation, the process may be perceived as punishment, and evaluators as hatchetmen. More positively, evaluators are sometimes seen as supportive management specialists providing useful feedback to administrators and practitioners and useful verifications to those who need them. Trouble ensues when the evaluator, the user of the evaluation, and those whose work is being evaluated have different views on the evaluative function being performed, as suggested in the preceding paragraph. Trouble is worst when each party to the evaluation imputes discreditable and possibly hidden motives to the others (such as empire-building, self-protection, or excessive professional competitiveness). People tend to avoid bringing such subjects to the surface and do not know how to test for their absence of presence skillfully and without taking foolish risks. "Interpersonal skills" are, however, important for the evaluator to develop and to use in coping with situations which will otherwise unfold in ways ultimately damaging in their potential.

It appears that Centers must learn to live with external demands for evaluation coming from state, federal and local governments. The issue for the evaluator is how to shape external requirements so that they are, and Centers perceive them to be, in the Centers' interest--which should be feasible on the merits, but may become very difficult because of the circumstances. Anything experienced as imposed by external force is potentially judged internally as being against the local interest, and illegitimate, at least in the sense that "they don't really understand our problems here." A positive approach to program evaluation can be gained if Center management comes to understand how evaluation can contribute to Center management and the improvement of Center operations. Evaluation

results can be used to help Centers respond more adequately to their constituencies, to understand better what services they are actually delivering, and thereby to justify themselves more convincingly. One major key to wise use of program evaluation in CMHCs that helps cut through many of the attitude-related problems is to close the feedback loop by linking evaluation, management processes, and constituency-building for public support. We discuss this issue at greater length in Section F of this chapter, "Linking Evaluation to Program Planning and Change." Evaluation that reports results to management and can be used to improve program effectiveness and the funding process is potentially of great benefit. Linking evaluation to matters of common concern helps to focus all the parties to the evaluation on a common quest for usable and valid answers to valid and significant questions. The evaluator, with a reasonable amount of support from his management, can achieve at least the beginnings of constructive linkages, which is what is needed in order to then deal effectively with the often irrelevant but destructive kinds of attitudes enumerated so far in this section.

There are also other attitudes worth noting. Despite gains made in evaluation technology over the past five years and increased recognition that human services will be subject to closer, more comprehensive, and more rigorous evaluation, many have a skeptical viewpoint toward evaluation. This viewpoint consists of a number of elements, including (1) resentment that resources allocated for program evaluation are diverted from direct services to clients; (2) reluctance to cooperate with evaluation processes; (3) desire to minimize disruption of the organization during the evaluation process; (4) concern that focus on what can be studied easily will lead to distortions in program emphasis; (5) skepticism regarding the validity of evaluation study results, especially when gross quantitative situations fail to capture idiosyncratic clinical criteria; (6) great concern that the results of evaluation may be used destructively; (7) recognition that program evaluation results are often not used at all, thus wasting scarce resources. In addition, federal interest in and requirements for program evaluation seem dominated currently by cost concerns. This emphasis suggests a propensity to cut rather than improve programs. As a result, both management and service staff regard evaluators as agents of control, and perceive evaluation as an extension of external forces bent upon regulating service practices primarily in order to contain cost rather than insure excellence. Where these attitudes reflect the facts, the evaluator does well (when he can) to recognize and probably to acknowledge the facts. Where attitudes do not reflect the facts, the evaluator should at least consider what can be done to overcome these attitudes.

Pressures related to skeptical attitudes are further compounded by the strong tendency to proselytize evaluation. The proliferation of conferences, seminars, manuals and monographs in the field creates vivid expectations concerning what evaluation can do to enhance or erase the survival capability of troubled programs. It is thus imperative to recognize that many of the tools and scientific underpinnings of evaluative theory and practice are rudimentary. Since the output of evaluation is intended primarily to facilitate decision-making on both programmatic and social policy levels, it is important to be aware of its limitations so that false expectations are overcome.

Like most other judgmental processes, program evaluation can serve a useful purpose or have little value, depending on its technical adequacy and the attitudes and needs of users and managers. Clearly, evaluation is neither a panacea nor a consuming threat. The bet on program evaluation is the old bet inherent in a democracy on the reasonableness of well-informed people, the power of well-presented, valid information to counter distorted views, and the possibility that persons of differing views can sometimes agree on processes to resolve the differences.

Some conclusions follow from the preceding value statement that have proven useful to at least a few evaluators forced to cope with negative attitudes of their own or other people:

- Evaluation can occasionally answer questions that were not asked. Having such answers may turn out to be either serendipitous or wasteful and irritating. In either case, it is usually not much of a compliment to the competence of the evaluator when the major answers provided by an evaluation are for questions never asked. Correspondingly, it is never reasonable to expect, nor justifiable to demand, that an evaluation in its closing phases answer questions that were not asked in its beginning phases.

- Evaluation is not in itself a process for setting program objectives, determining program strategy, or making an initial allocation of the resources available. All these management processes may be clarified and stimulated by the evaluator, or by the mere expectation that an evaluation is to be conducted. Program objectives, strategies and other basic management decisions (which then become part of what is subject to evaluation) should be clearly those of the program, not those of the evaluator, though possibly only implicit previously.

- Evaluation at its best is judgment justified by facts appropriately revealing of the situation under evaluation, and not merely appropriate in helping to build selective support for a case being made. Evaluation is intended to help people to face facts, not to suppress facts.

- Evaluation judgments are not in themselves management decisions on the future of the programs evaluated. They are useful when they can assist or help to guide such decisions, but it is rare that a single formal evaluation study can, should, or will by itself determine the fate of the program it has evaluated.

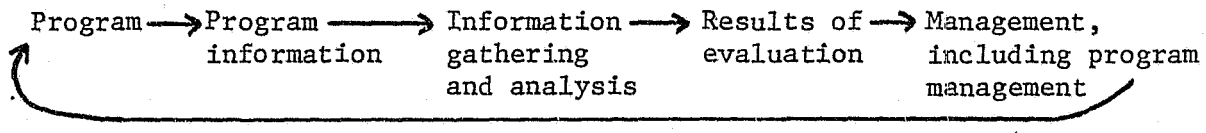
- Evaluation studies deserve skillful and technically competent design, so that any claims of validity are well founded, and so that what is said to be measured in the evaluation is in fact being measured. Design, however, must be guided by healthy realism and good sense. Good judgment is always required in deciding on such issues as the adequacy of available or researchable information, the appropriateness and power of the questions being asked, and the likelihood of taking any of various possible projected actions on the basis of a particular evaluation process.

## F. LINKING EVALUATION TO PROGRAM PLANNING AND CHANGE

### 1. Linkages of an Evaluation Project

Evaluation properly exists in a practical context. Evaluation can be useful if it is used. Evaluation can be used if it is usable. Evaluation can be usable if enough of the right people have arranged for it to be usable and have worked steadily to that end. What is required of the administrator and the program evaluator is the effort necessary to connect evaluation processes into active feedback loops.

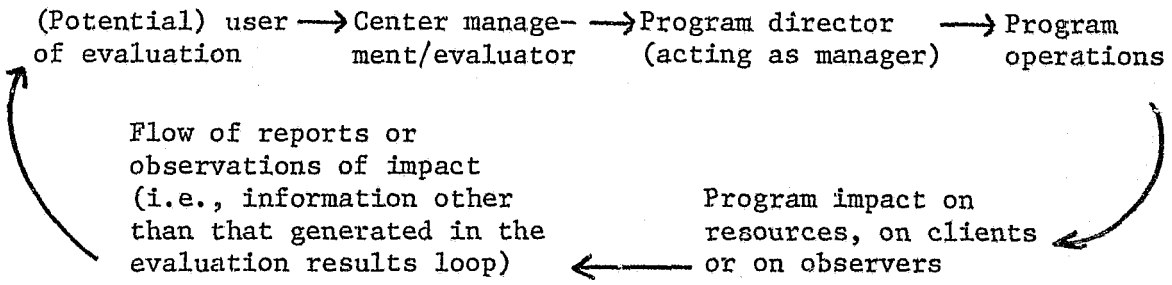
The most obvious feedback loop is the chain through which evaluation results flow:




Every evaluator quickly learns to conceptualize this loop; many evaluators take some of the steps necessary to make it operational. It is necessary to identify the persons and offices through which specific pieces of information must flow, what these pieces of information will be, formats for the information, the time schedule according to which the flow will take place, and the number of feedback cycles required (e.g., per evaluation project or per other unit of evaluation activity such as program cycle or funding cycle).

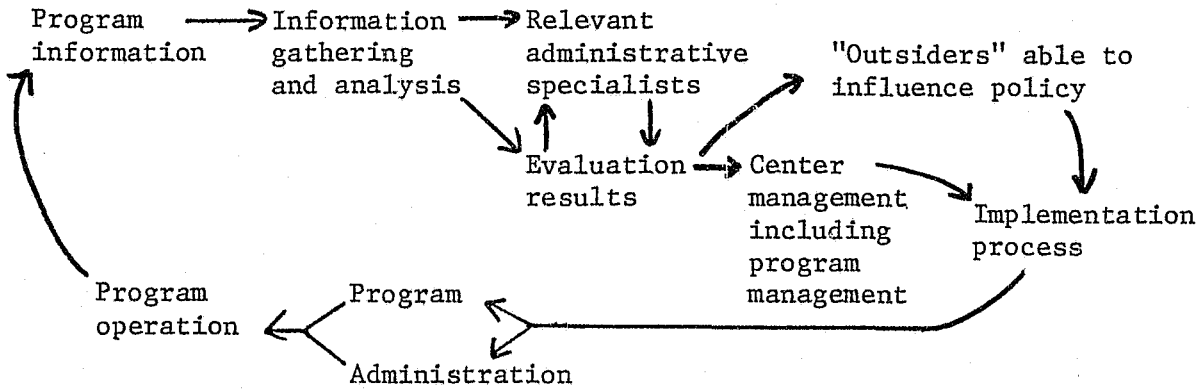
Where the evaluation user is different from Center management, a second subsidiary loop includes the user. Maintaining this loop is largely the responsibility of the evaluator, though it may occasionally be equally in the interest of others to take the lead in doing so. It is almost always in the Center's interest to have the evaluator keep this loop working well. Through it he can establish (and if appropriate, modify) his own accountability for obtaining results in a particular evaluation process. He can also use this loop gradually to change expectations for the outcome of an evaluation process. The program evaluator does not create or change his own accountabilities unilaterally, of course. Full utilization of this feedback loop, however, provides a stream of information on which to base an accountability for the evaluator in individual evaluation projects that is understandable, known to those who need to know, and kept relevant as the situation evolves or is more closely discerned.

The obvious loop which carries evaluation results is not sufficient by itself, even when completely activated and carefully operated. Evaluation intentions represent another loop of equal importance that should operate simultaneously:




The information carried in this loop communicates the program-related matters that maintain or change (1) user priority for the evaluation, (2) substance of the evaluation questions being asked, (3) timing for producing useful evaluation results, and (4) extent to which program changes may be brought about without evaluation, which in turn implies additional specificity for evaluation issues. This loop is again one that has to be made operational. It is possible that the potential user will be both interested and empowered to make and keep the loop working effectively, but in general the potential user (if different from Center management) is going to be unable and somewhat unwilling to go beyond a process of advocacy and pressure which turns out to be just sufficient to cause the management to set up an evaluation project. It is in the interest of the Center for the program evaluator to maintain this loop as an operational entity. Messages flowing through it will help shape the presentation of results, assist in the framing of acceptable and feasible recommendations, and keep program personnel conscious of pressures which stimulated the evaluation in the first place. The evaluator should be aware if a corresponding loop runs through various activities external to the Center. "Environmental" changes may, in other words, also affect a user's ideas about the importance and scope of a particular evaluation. The environmental loop should be tapped by the evaluator, and information from it fed into the loop under discussion in this paragraph.

A third feedback loop should also be maintained contemporaneously with any particular evaluation activity. It carries the possible implications of the evaluation for administrative changes. While some evaluation studies carry small or no implications for administrative change, in general it is through modifications in procedure, policy, administrative system, or redefinition of roles, goals or relationships that changes coming out of an evaluation study are implemented and sustained. The administrative feedback loop, like the other two, should be conceived in general form. Whether the administrative personnel who will be included are business manager, accountant, information systems supervisor, head of personnel, intake supervisor, medical records specialist, or others will be a function of the size of the Center and the nature of the evaluation activity undertaken.




The evaluator is interested in maintaining this loop because it accredits him as a responsible and trustworthy member of the Center administration, obtains for him necessary information on how to make his evaluation recommendations implementable, and assists in building timely administrative commitment to a course of action.

All three of these specialized feedback loops may involve some of the same persons. Accordingly, it is sometimes possible for all three functions to be quite competently carried out by someone quite unconscious of doing so. However, it is worthwhile to pay separate attention to all three because they represent the irreducible minimum for achieving constructive change through program evaluation: (1) sufficiently shared opinions on the facts established by the evaluation and their significance; (2) satisfaction of the pressure which launched the evaluation; (3) mobilization of the means necessary to bring about changes found appropriate as an outcome of the evaluation. What the program evaluator can do about these major requirements is largely independent of his position in the hierarchy and of his technical training as an evaluator. It does have a lot to do with his skill in recognizing, packaging and transmitting the right information to the right people at the right time.

## 2. Linkages of the Program Evaluation Activity as a Whole

Additional cycles in the life of the Center are unrelated to particular evaluation processes, but are no less important to understanding and properly reacting to the context of program evaluation. These cycles include: (1) program development; (2) annual information reporting; (3) evaluation planning and reporting as such; (4) documentary requirements related to funding cycles; and (5) strategic planning and overall management of the Center (the "cycle" being the effective life of a governing strategy before it is modified into or replaced by something else). These subjects constitute the major subject of the next chapter. In this subsection, they are developed only as aspects of the program evaluation context. The program evaluator can certainly relate his overall thinking to the broad cycles, and many specific evaluation studies are advantageously to be viewed from

the perspective of one or more of these cycles. For example, what any one evaluation process can accomplish obviously relates to the developed stage of the program or service being evaluated. Similar remarks apply to the other four categories listed in this paragraph. But somewhat unique qualities also relate to all five cycles. It is the task of this subsection to outline some important linkages of the evaluation activity related to each cycle.

Evaluation is linked to the program development cycle when an evaluator is called to conduct work related to stage of development, such as needs assessment studies to be done in advance of a program decision. Somewhat different linkages exist when the evaluator takes part in decisions on when and how to evaluate a new program (decision to evaluate program process, outcome, impact or more than one of these). Accordingly, linkages through study efforts may exist on at least three development levels: preparatory studies serve the ends of program developers and Center management; management studies determine from the actual state of a developing program what stage a program has reached and what sort of evaluation is therefore appropriate; comparative studies establish for Center management the costs and related benefits of a developing program compared with some other program. These linkages are *program* specific, in contrast to the feedback loops outlined in the preceding subsection, which were specific to individual *evaluation* projects. Developers of new programs are not likely to think about the need or advantage of evaluation studies as a high priority of program development in its early stage. The Center administrator and evaluator should initiate inquiries from time to time with the leaders of new programs being developed.

Annual information reporting, notably a Center's response to the NIMH Biometry Form (ADM 25-3) and any supplementary material prepared for the states, will become the province of the program evaluator in some Centers. Much of the information required in this form is basic; users of this manual should be able to use passages from every chapter from Chapter 4 to the end of the document as justification for assuring the accuracy of what will be reported to the Biometry Division. In one form or another, the information has to be acquired if the Center is to be able to answer basic descriptive questions about whom it serves, how it serves them, and at what cost. It is required to provide this information annually under PL 94-63, as outlined earlier in this chapter. The linkages obviously useful to make are among the Center's required information system, the capability to complete the required Biometry form with minimal effort and maximum accuracy, and the ability to tap the information system easily, in fulfilling other purposes of program evaluation. A new program evaluator should choose to take responsibility for completing ADM 25-3 rather than to leave it in the hands of a clerk in the business office (or the director's office), if the clerk uses best available estimates as the basis for the task.

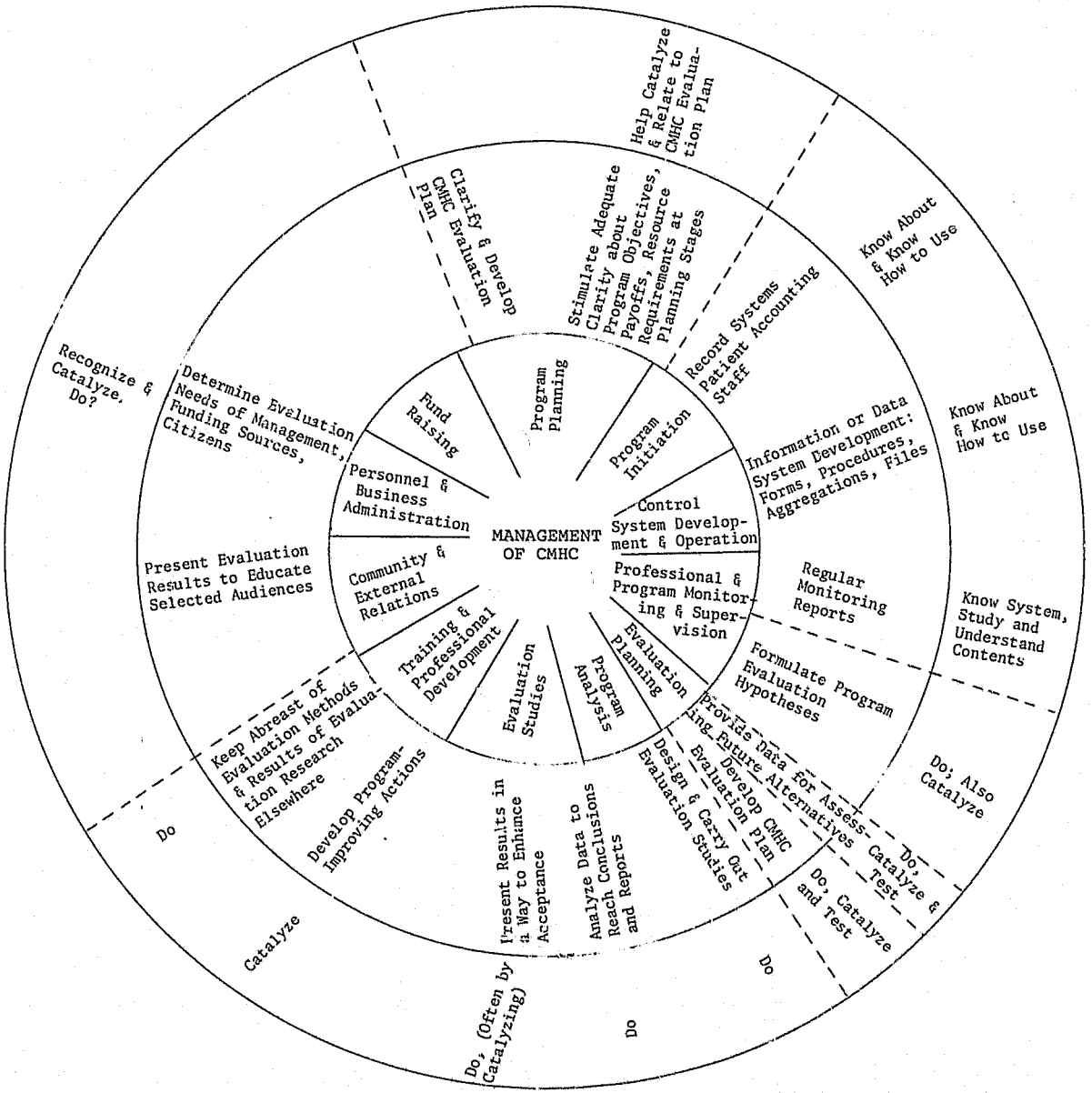
Annual reports of evaluation activities will also be required under PL 94-63. Suggestions will be offered in more detail in Chapter 2. The NIMH draft guidelines make it clear that the annual evaluation plan should be linked

with the report of the former year's activities in evaluation, and incorporated into additional grant applications. They should also be linked to the overall objectives and strategy of the Center. Thus, categories (3), (4) and (5) listed at the beginning of this subsection should all be linked to one another.

A way of visualizing management linkages of program evaluation is shown in Figure 2, Program Evaluation as an Aspect of CMHC Management (page 17). Essential management functions are arranged within the "hub" of the wheel diagram. The evaluation staff is usually involved directly and principally in only four of these activities: monitoring, evaluation planning, program analysis and evaluation studies. (These are shown at the bottom of the hub as occupying over one quarter of it, but in fact will rarely loom so large in the total CMHC management effort.) The kinds of activities that correspond to evaluation staff interests are shown in the "spokes" of the wheel. Inputs to or outputs from all of the essential functions of management are of interest to the evaluation staff, whether they are supposed to carry out specific tasks in a particular functional management area or not. The "tire" of the wheel specifies the responsibility of the evaluation staff with respect to the management processes listed among the spokes. Several of the broken lines which run from the outer edge of the "hub" straight to the surface of the "tire" are offset from the functional divisions of management as shown by solid radiating lines within the "hub." These offsets suggest overlaps of activities across functional lines, which require linkages of specific kinds. Thus, the diagram makes two points: (1) Evaluation interacts or links with all other management functions of the Center, and is linked to specific aspects of the CMHC program (in part) through these management functions. (2) Because of these inextricable linkages to all management functions of the Center, evaluation is itself a management function, though it may require many skills that are unlike the skills needed in other management activities and are more closely akin to the delivery of clinical and other services, or conducting research into those services.

## G. LINKAGES NECESSARY FOR OVERALL MANAGEMENT OF THE EVALUATION FUNCTION ITSELF

Since program evaluation is itself a function of management, some of the linkages important to it are those by which evaluation itself is managed. The planning and reporting cycles outlined in the preceding section represent several linkages of importance. Most of what was discussed there, however, dealt with issues of federal compliance, or with service-related processes of the Center such as program development. Here, we are concerned with processes the program evaluator cannot escape (where they exist), and which constitute general guidance and supervision for him. These linkages connect evaluation and its sources of basic policy. They regulate the division of labor within the Center. They also afford direct reporting routes for the evaluator. Thus, they also lead to those who will evaluate the evaluator, not only in terms of specific tasks, but generically and cumulatively. Those bodies with which linkages may occur include (1) Center




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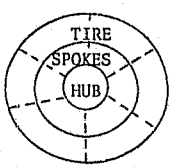



FIGURE 2: PROGRAM EVALUATION AS AN ASPECT OF CMHC MANAGEMENT

administrator/Center director, (2) Board of Directors, (3) Utilization Review Committee, (4) Professional Advisory Committee, (5) outside agencies like "the public" or the Regional Office. Each of these bodies is important for three reasons, though not with the same emphasis. They all possess management clout and influence, at least a minimum of sheer power. They all represent important constituencies, and they offer access to these constituencies when needed by the program evaluator. Finally, they are all (potential) major users of program evaluation results.

With all of these bodies, their participation in evaluation projects is particularly important at three points: (1) early formative period, in which basic objectives, priorities, thurst of program, methods of evaluation, and potential value are (or should be) considered as open questions; (2) commitment stage(s), when decision or redecision is made on the scope, cost, duration, method and purpose of a particular evaluation project--or a continuing evaluation process; (3) the process of preparing and disseminating results.

Many important operational issues go beyond the scope of this chapter: how to prepare material for these bodies, how to ask for policy guidance, how and when to ask for support, how to obtain necessary interpretation for decisions laid on by any such bodies in a position to do so, etc. Skills in carrying out staff work are naturally a part of the evaluator's job merely because he is a part of a management team. The evaluator new to management is fortunate if his immediate supervisor will and can train him in these skills. If this is not the case, he may be able to call on others in the staff of the Center for advice and support. Sometimes evaluators in neighboring Centers can help. Like the linkages through which technical evaluation information is conveyed to users, these linkages to management place a special burden on the evaluator to say things right the first time. There may not be a second opportunity for any given message to be sent. From the viewpoint of those management bodies being linked to, evaluation is not usually a matter of prime importance. Messages of unnecessary complexity will simply not get through. Yet communication with these bodies is a matter of vital importance to the evaluator, and his success in doing so will vitally affect the value of his work, as well as its acceptability. Exhortation of program evaluators to "involve" their management is to the point. But management bodies have a way of accepting involvement most readily when they see why their involvement is appropriate, and when they also regard the mode of involvement as acceptable.

## H. CONCLUDING NOTE ON THE CONTEXT OF COMMUNICATIONS

Program evaluation is useful to the extent that its processes and products can be linked into the life of the Center and its constituencies. Earlier sections explain some of these linkages. The evaluator's words and numbers simply have to be understood by a wide variety of people, none of whom necessarily shares heavily in the substance, the methods, the language or the professional interests of the evaluator. Evaluators typically need a year or two to learn how to speak, write and draw charts that varied audiences can understand and use.

The rules are deceptively simple and tiresome. Write simply. Avoid jargon. Break up large bodies of data into smaller reports, or issue one-page bulletins on a single issue. Put out frequent reports to overcome time lag. Keep the specific audience constantly in mind while preparing material for it: What does the audience know? What does it need to know? What will the audience want to to with the information provided? What should it want to do with the information? (Early oral discussion of results with important users serves many purposes, one of which is to identify the audience and specify its needs at a time when the formal presentations are not yet prepared.) Clarity in itself is difficult to attain. Clarity and technical qualification interfere with each other. Footnote and document the caveats, limitations, reservations and ambiguities. But don't try to weave them in among major findings. Clarity is often aided by simple charts and graphs. Tables and printouts do not often communicate well or clearly. Vague references, indefinite pronouns, complicated sentences decrease clarity. Self-editing and rewriting are mandatory to achieving minimum clarity.

The program evaluator who will take the trouble to be clear about what he says and take the risk to be direct and simple in how he says it will already have avoided many of the pitfalls which it is a function of this chapter to identify, in the process of describing what is necessarily a complicated context.

## REFERENCES


Hatry, Harry P.; Winnie, Richard E.; and Fisk, Donald M. Practical Program Evaluation for State and Local Government Officials. Washington, D.C.: The Urban Institute, 1973.

Included here because of its simplicity and clarity in discussing and providing examples of the issues it takes up. Concise, effective discussions of many methodologic issues which should prove useful to program evaluators both for clarifying their own thinking and in explaining some of the difficulties faced by other people in program evaluation.

National Institute of Mental Health. Guidelines for Program Evaluation. Rockville, Maryland: NIMH, December 1975 (Draft).

Southern Regional Education Board. Program Evaluation in the State Mental Health Agency: Activities, Functions and Management Uses. Atlanta, Georgia: SREB, November 1975.

Concise, sane and perceptive discussion of generic issues. Specific discussion of problems at state level may actually be helpful to CMHC readers.

Suchman, Edward A. Evaluative Research, Principles and Practice in Public Service and Social Action Programs. New York: Russell Sage Foundation, 1967.

Standard reference. Conceptual orientation.

Van Maanen, John. The Process of Program Evaluation. Washington, D.C.: National Training and Development Service Press, 1973.

A simple and relatively inexpensive (paperback) description of issues, processes, and pitfalls in program evaluation. Should be very useful for board members or others who require a working knowledge of what program evaluation is about, without needing detailed information on how to carry out specific tasks or needing to know precisely what those tasks are. For a broad readership the book will be useful both on the context of program evaluation and on matters internal to evaluation: what the evaluation questions are, measurement issues, and design. Similar in these respects to the book listed above by Hatry et al.

Weiss, Carol H. Evaluation Research: Methods of Assessing Program Effectiveness. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1972.

Very good discussion of major issues. Goes into enough explicit detail to be helpful to the practitioner as well as stimulating to researchers in the evaluation field. Particularly useful in its sections on conducting evaluation in an action setting and on stimulating the use of evaluation results.

Weiss, Robert S., and Rein, M. The Evaluation of Broad-Aimed Programs: Experimental Design, Its Difficulties and an Alternative. Administrative Science Quarterly, 15(1), 1970.

Activities like those of the CMHC are among "broad-aimed programs." This paper should, among its benefits, give evaluators a good conceptual basis for deciding what kinds of human services programs to turn to for relevant examples or potentially helpful methods, and what the limitations are on program evaluation because of the peculiar characteristics of broad-aimed programs.

Zusman, Jack, and Wurster, Cecil R. Program Evaluation: Alcohol, Drug Abuse, and Mental Health Services. Lexington, Mass.: D.C. Heath & Co., 1975.

A current compendium of thinking that grew out of an NIMH conference in 1974. It covers most current issues and summarizes principal positions of numerous experts whose work is not directly included. It will serve as a useful introduction to the thinking of about 20 of the leaders in the field, on topics in which each has a claim to respect. Includes examples as well as general philosophical discussion and advice.

# CHAPTER 2: ADMINISTERING PROGRAM EVALUATION IN THE CMHC

Chapter 2 is made up of suggestions for conceptualizing and analyzing the administration of program evaluation to make it manageable to cope with. In contrast to Chapter 1, which emphasizes "why," and only at selected points becomes explicit about "what" or "how," Chapter 2 primarily deals with "what." It considers what to do in order to meet hypothesized evaluation cycles. Were this manual intended to cover all aspects of the job of the program evaluator in depth, this chapter would contain much additional material on methods for carrying out the work indicated. It tells less than is known about "how." The overall purpose of the present manual is to describe substantive (evaluation) techniques, rather than administrative (planning, control or management) techniques needed by program evaluators. To compile an administrative techniques chapter would be a major task in itself, for we know of no comprehensive manual on administrative techniques for the program evaluator. The literature of project management, participative planning, and organization development contains presentations, however, of many suggestive or otherwise helpful concepts and useful case studies and examples. These could be profitably sifted and synthesized from the perspective of program evaluation. The literature of program evaluation, on the other hand, does provide a systematic framework. It raises most of the issues, but usually without explicit and detailed discussion of how to cope with them. The authors of this manual believe that more widespread understanding of relevant administrative techniques would enable program evaluation to become a much more effective tool. This chapter should help to document that position by providing orientation and practical suggestions.

Three cycles are hypothesized: evaluation projects; annual funding, operation and reporting; and developmental cycles that last several or many years. The evaluation project cycle is presented first because evaluation projects are basic units of evaluation activity, and because they correspond to the evaluation techniques that are the building blocks of Chapters 4-11. "Techniques" are used to carry out "studies." But the program evaluator cannot escape the other two cycles and should plan his work to accommodate them. Compliance with PL 94-63 requires attention to the annual cycle. The logic of information system development enforces attention to longer cycles. Other manual writers (among them Carter and Newman, Attkisson, Hargreaves, Chapman referenced in this manual) call attention to the developmental nature of information systems and other management and technical supports to evaluation.[1] The objective of the present work is to help the program evaluator to plan, organize, set priorities and control those elements of the job that are cyclical, and therefore subject to anticipation, orderly procedures and, to some extent, routinization.

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[1] See references as follows: Carter and Newman, page 267; Attkisson, Hargreaves, et al., page 121; Chapman, page 97.

## A. THE EVALUATION PROJECT CYCLE: A CHECKLIST OF ISSUES TO BE CONSIDERED IN EVALUATING A SERVICE PROGRAM

The checklist that follows is for administrators and evaluators to use at all stages of planning and conducting particular projects in program evaluation. It contains some issues that may not be relevant to a given project, and it may not include all those that are relevant to some projects, but it is intended to be reasonably complete. Because of the need to double back and interweave many related subjects in order to resolve them, the checklist is at some points redundant. The checklist should be used to stimulate reflection by users and readers somewhat uncertain about how and whether to proceed. In that sense, it constitutes a self-programming device to help the evaluator or administrator begin a process of eliciting and clarifying the material he will need and the issues he will have to face in order to make the necessary and timely working choices. Doing an evaluation project normally requires uncovering and using at least some data that are not already arranged and ready for interpretation. At points at which the user is saying to himself, "Shall we proceed?," consideration of the appropriate subsection of this list may--or should--produce the assurance that what must be considered has been or can be taken up, that what can be done is done, and that the time for the next step has arrived.

Experienced evaluators have their own styles and approaches, and many of the questions asked here in explicit form might be considered only implicitly by them. For the experienced evaluator, this section may represent primarily a method to test and extend one's own perspective and to compare different perspectives on reality.

The checklist is presented in the following eight categories:

(1) The use of the annual evaluation plan (the plan required under PL 94-63);

(2) Choosing programs to evaluate (i.e., identifying issues and determining their evaluatibility);

(3) Choosing specific aspects of a program to evaluate, and identifying explicitly all resources available or attainable for undertaking the evaluation;

(4) Designing the evaluation project and committing resources needed to support the effort;

(5) Conducting the evaluation;

(6) Analyzing evaluation data;

(7) Presenting the results; and

(8) Facilitating utilization.

1. The Use of the Annual Evaluation Plan

What is the annual evaluation plan?

- The annual evaluation plan required under PL 94-63 was mentioned in the preceding chapter, and will be discussed in the next section, in connection with the annual evaluation cycle. It should contain a clear, general description of evaluation activities intended for the year to come, of course subject to revision as appropriate to meet the changing flow of events.

Should a proposed evaluation project not included in the evaluation plan be considered or should it be deferred until the plan can be appropriately revised?

- Annual evaluation plans should be related to Center service delivery and evaluation capabilities, to catchment area needs, and to Center objectives. Most anticipated evaluations thus should be visible in the plan. If proposed evaluations do not appear in the current plan, it is important to understand why they do not and to be able to explain it if some are actually chosen other than those in the evaluation plan. (See also the suggested outline in the PL 94-63 Guidelines.)

Will the proposed evaluation be a one-time evaluation; will it entail creation of a monitoring system and feedback loop that will probably function over time; or will the question of one-time versus ongoing system be deferred? If deferred, when will it be taken up, by whom and at whose initiative?

- One-time evaluations are often proposed by persons who assume that available information is not sufficient to resolve the evaluation issue which they have brought to the surface. They may also assume that one-time and continuing evaluations are the same in design and conduct. It is not their responsibility to check up on these assumptions, but it is the responsibility of the program evaluator. The questions asked above are useful for probing the thinking of the proposers, as well as clarifying the program evaluator's understanding of the purpose and the resources required for the evaluation.

  There is, of course, no simple list of principles by which to decide whether or not a project should be treated as a one-time evaluation. Some of the considerations important to the decision will come up initially, but it is often not possible to know if other considerations will later emerge. The question should under those circumstances be deferred. It is important to specify when, by whom, and under whose aegis the issue will be raised again.

  If the evaluator is unsure about the answer, he should probably assume responsibility for keeping it alive and designating when

to ask it again. If someone else is concerned but the evaluator is satisfied, it may be preferable to ask the concerned person to be responsible for raising the question again at the appropriate time.

The decision to make a particular project a one-time versus a continuing evaluation can have considerable impact on the capability to meet other, apparently unrelated objectives of the annual evaluation plan. This factor should be among those examined every time the question comes up.

Should experience with current evaluation processes and projects be reflected in evaluation plans for next year? (See also section B, below.)

- Feedback from ongoing evaluation projects can provide valuable input to the plan for next year. This input will be different for evaluations at different stages of development:

  -- Evaluation project in preparation: What will it accomplish? Why is it so high in priority? What new evaluation capabilities will it require? How high a fraction of the evaluation resource will it absorb? When will it start and end? Will it end in time to influence an anticipated management decision?

  -- Evaluation project underway: What problems is it encountering? Will it accomplish what was intended? Is it on time and budget?

  -- Evaluation project completed: What did it accomplish? How are the results being used? Were there unanticipated consequences? What did the evaluation unit learn from the experience?

  Although the evaluator may find it sufficient while preparing his annual plan simply to review projects underway or under consideration, he will miss important material if that is his only review. The evaluator should keep notes on "implications for annual evaluation plan revision" with every project file, so these can easily be assembled when needed.

2. Choosing Topics to Evaluate (or to Write into the Evaluation Plan)

Four things need to be considered by the program evaluator when choosing topics or issues to evaluate: the willingness of the staff concerned to have their activities be evaluated, the needs or demands for that evaluation, the probable "success" of the evaluation, and the cost of the evaluation. These factors are all crucial. Accordingly, topics proposed for evaluation should usually be deferred or rejected if exploration indicates that the process or the results of the evaluation under any of these four categories will be unsatisfactory. The decision to include or exclude a topic will require an analytic and judgmental process usually to be initiated by the evaluator, but typically shared with both program and Center management. In this process, the evaluator should, so far as practicable, keep

all four of these generally applicable factors visible and under consideration. Special factors or criteria may, of course, also apply in particular situations. When the potential gains are very great or the pressure to evaluate a specific program is unusually high, the evaluator may be asked (or catapulted) into accepting responsibility for conducting an evaluation that only marginally satisfies the criteria developed under the four named categories. Deciding what to do will perhaps test the evaluator's ability to discern and express how much responsibility for results can be sustained by evaluation and by the evaluator. Finding a position that is both professionally and administratively acceptable is well worth an effort. Three of the four factors are discussed further below. Cost of evaluation is not discussed. Whether the cost of an evaluation is judged prospectively to be worthwhile, however, is largely governed by local considerations at this stage.

a. Need or Demand for Evaluation and the Results of Evaluation

How may the evaluator assess need or demand for a proposed evaluation?

- The evaluation plan should show how evaluation will potentially improve services or accountability. Evaluation should serve the needs of both the service element and other prospective users of the evaluation: Center management, advisory board, citizens, or funding agencies. Responses and contributions to the plan provide pre-existing evidence on need or demand. The evaluator should marshal the reasons in the plan and responses to the plan, and either summarize them in a brief memo or be able to discuss them with interested parties. How do earlier evaluations support current proposals?

- Test the importance of the contextual issues of evaluation.

  -- Who are the parties to evaluation? What do they think of the prospective evaluation? What do they think as to the validity, importance and researchability of the issues? What do they think of one another's views on the proposed evaluation?

  -- Will agreement to evaluation reduce "political" pressure on some advocates of evaluation, or on those to be evaluated? Is this result of a decision to evaluate appropriate, or would it be better to let the pressures work and defer the evaluation meanwhile? Why? Who thinks so?

- Test the importance of prospective evaluation results. What possible outcomes could arise from the evaluation? What would be done by whom to respond to the evaluation? Does the nature, scope and significance of these possible actions warrant the evaluation? In whose terms? How likely is it that decision-makers will be influenced by the results of the proposed evaluation? Are there obvious factors that mitigate against eventual application of the results

of evaluation? What can and should be done in advance of committing to the evaluation project to cope with these factors? (Some of these factors related to the data and certain qualities of the element under evaluation are listed under Chances for Success, below.)

b. Willingness of Program Personnel to Permit Evaluation

How may the program evaluator assess the willingness of staff to have their activities evaluated and obtain valid data without seeming to allow the program to veto its own evaluation?

- The previous experience of the evaluator in month-to-month evaluation plan preparation and interaction with other staff should provide obvious clues.

- The evaluator's early suggestions and attempts to prepare the program to be evaluated will produce responses. These interactions constitute "pre-tests" of willingness and also provide a psychological preparation period during which program personnel can consider their own willingness to be evaluated.

- The level of the relationship the program evaluator has previously established with program personnel counts. If no such relationship has been established, mutual misunderstandings or hostility may all too readily be created. If the program evaluator is on the other hand too close to the program element, he may be coopted and lose his objectivity in conducting the evaluation. What is best to establish is agreement and willingness on a level at which the evaluator and his program counterpart share a common interest in making judgments about the program from a mutual perspective.

c. Chances for Success

How may the evaluator conduct a feasibility assessment?

- Test limitations and peculiarities related to the nature, purpose and structure of the service elements to be evaluated.

  -- What difference does geographic location make, for instance? Does the evaluator have the time and resources to cope with a multiple-site service delivery system? Does the evaluator have to test for uniformity, to conduct orientations of necessary personnel, to assure that characteristics of two groups of clients are identical, or to demonstrate that differences (if any) are of no importance? Do not start what cannot be finished.

  -- What evaluation consequences related to the requirements of funding source(s) can be anticipated? Is service financed by categorical grant, by several grants, or in any manner that seriously contrains the manner or objectives of the services delivered or

the information that can be gathered about the services? How? Will these constraints affect the evaluation? How? "The piper calls the tune," recognizes reality--though not all of reality.

-- Were program objectives and a service strategy ever made explicit? Whatever the history of the element to be evaluated, if objectives are not very explicit can they be made explicit? What level of effort will it take to clarify objectives and is that effort feasible? If not, are there constructive alternatives for evaluation? Do not substitute your own views on what should be accomplished by a program for concensual and/or official statements.

-- Is the information needed for the evaluation attainable? Problems of quantity, quality, privacy, confidentiality, and of ephemeral or transient interfering qualities may exist. Sometimes there is a "tangibility" problem. Sometimes the significant seems to dissolve into the nebulous. Anticipate!

-- Can information be gathered in ways that do not alter the behavior of the element being evaluated? Would such changed behavior invalidate the proposed project, or is the proposed evaluation more like "action research" or "formative evaluation"--a deliberately undertaken project to improve project performance through interim "feedback" and open interaction of evaluator and evaluated?

-- How much time, energy and money will be required to do the evaluation? Are the necessary resources available? What needs to be learned about the program by the evaluators before others can trust the evaluation? Is it feasible for the evaluators to learn these things? If not, is it feasible and can the integrity of the evaluation be maintained by involving expert consultants who do understand the service program well enough to satisfy critics? (The reciprocol side of these issues appears below under capabilities and credibility of the evaluator.)

- Test the likelihood of clear and significant outcomes from the evaluation.

-- Do available data suggest that larger quantities of carefully gathered information will genuinely fill a gap or resolve an uncertainty? Or is the situation essentially ambiguous, with little likelihood of clear resolution? Would a confirmation of uncertainty be useful? How so?

-- How likely is it that the data to be gathered will be usable and acceptable? If probable data are not acceptable to some parties, what would be required to make them acceptable?

- Test the capabilities and credibility of the evaluator.

  -- Does the evaluator "know what he is doing" in conducting the proposed evaluation? On what is the judgment of evaluator adequacy or inadequacy based? Is the basis relevant and sufficient? If not, what can be done to reach an adequate judgment? Who would be able to make the judgment validity (not just arbitrarily), or who would know how to make the judgment validly, or who would know whom to consult?

  -- Do the potential users of the evaluation have adequate faith in the evaluator? On what is this judgment based? Is it adequately founded? If the evaluator's credibility is insufficient, what can and should be done about the proposed project? (Defer, cancel, ratain another to do the evaluation, train the evaluator, conduct a project to raise the evaluator's credibility?)

- Test for utility. Will the results be available in a manner in which they may have impact (usable form, appropriate timing, consistency with other simultaneous trends and activities)?

The principal administrative or organizational issue addressed in the above questions is whether the process of preparation for evaluation has brought into being a "subsystem" capable of doing the work and using its results. If this is not the case, can it be? If it cannot be, should the evaluation be done at this time? A one-time evaluation project must develop organizational qualities like any other temporary organization.

3. Defining the Boundaries of the Topic to Evaluate

What "boundary conditions" must be agreed upon between the evaluator and those whose activities are to be evaluated before detailed negotiation and design can begin?

- Part of the decision whether to evaluate a service element is to decide specifically what in that element to evaluate. At an early stage in the decision process it is necessary to look at much more specific questions than those in the preceding section. This stage will often not occur until the following points have been mutually established:

  -- The program activities to be evaluated are quite clearly defined, or at least seem not to be subject to dispute.

  -- Overriding requirements, if any, have been taken into account. (For example, if the Center director mandates a comparison of professional services costs and patient outcomes in all service elements of the Center, the factors to be examined in each individual service element will be chosen for comparability, though still subject to discussion and further clarification.)

-- The applicable questions listed in the preceding section have been subjected to preliminary discussion (i.e., cost, chance of success, existence of need, and willingness to be evaluated).

What are the questions to be negotiated within the "boundaries" relevant to a particular program or service element?

- Final discussions should result in clear agreement on what will be examined, why, what information is required, and what the sources of information will be--that is, the management questions whose answers are the output of program evaluation.

- Have adequate description and analysis of *program inputs* been developed? Are the resources actually used ("program inputs") recognized as serving the program to be evaluated and "charged to its account?"

  -- Is there agreement as to the quantity and quality of the inputs? Can these quantities and qualities be measured in terms acceptable to interested parties, practitioners, management, the CMHC board, and Medicare, NIMH or other funding sources?

  -- Is there a way to measure inputs (e.g., a management information system that keeps track and produces regular quantitative summaries)?

  -- Is there an agreed standard(s) against which the inputs should be compared (e.g., rules of thumb on "critical mass," or service level per thousand population)?

  -- What is the result of comparing available resources and requirements stipulated by rules of thumb? Are input resources on such a scale as to absolutely predestine and thus render useless the results of evaluation?

  -- What is the program rationale? Its objectives? Its strategy? Are there self-evaluation criteria for judging quantity or quality or input resources? How does program rationale on the amount of resources required hold up?

  -- What is the rationale by which the numbers of practitioners at various levels of the program are justified?

  -- If there are apparent or alleged "problems" with the program or service element to be evaluated, they relate to information deficiencies, including information about how much resource is <u>actually</u> used?

- What are the work *processes* used by the program element to be evaluated and how well are they carried out? Are the resources assigned being used appropriately, given standards of treatment and resource management that are (should be) applied, and given the situation or problem area that the program is intending to address?

  -- Is it agreed as to who and how many are the patients/clients?

  -- How does program management characterize "their" client population? Whom are they trying to reach, or whom do they think is trying to reach them? How well does this agree with other aspects of the evaluation and its findings?
  (N.b. These questions can also be regarded as input questions, in the sense that professional leadership perceptions condition the use of the resources, but they do so by altering the provider-client process.)

  -- How closely do the actual clients correspond to the picture of the program managers?

  -- Are existing observers qualified to comment on what the program does with the resources it has? What do they think and how seriously should their opinions be valued?

  -- Are there reasonable preparations to gather baseline data on clients/patients, or develop a reasonably objective view of their situation (or the situation of the "community," if it is the client)?

  -- What actually happens to patients/clients? (What procedures, with what frequency/group of patients, at what intervals, at whose hands?) Do the patients/clients actually take the drugs, or use the advice, or act on the referral suggestions? How does their action compare with what program protocols predict or require?

- What *outcomes* are sought by the program element under evaluation?

  -- What is changed by the things the program does? Are they or can they be clearly described?

  -- What difference do these changes make? To whom? If others disagree, what is the disagreement about, and how is the evaluation related to the disagreement?

  -- Is there debate about the value of the outcomes of the program, given its costs? How should this debate affect the choice of what will be evaluated?

-- If the program may not now be worth doing (or is not well enough conducted), what would improve it? (Potential improvements, if too costly, may not be really practical, in which case it is of lower priority to design an evaluation capable of demonstrating applicability of these particular improvements.)

- What *impact* does the program have?

  -- What would be different if there were no program?

  -- If there were no program, who would miss it? How much? Why? How do you know?

  -- What is different about the impact of this program and other programs of the CMHC? What is important about these differences? In whose opinion?

  -- Under what assumptions should program impact on the "community" be expected? Under what assumptions would there be no community impact? What evidence is there on which assumptions to accept?

  -- Should a selection of explicit program evaluation questions be formulated before deciding to conduct the evaluation? If so, what are they? If not, why not, and when should they be formulated.

Some of the foregoing questions will turn out in the course of discussion to be adequately answered and will not require evaluation. Some will turn out to be inapplicable, premature, or not researchable. But some will turn out to be inadequately answered and important to defining the evaluation project. The evaluator can use the answers to these questions to guide collaborative discussion of scope, emphasis, and shaping of evaluation issues. Before initiating design of the evaluation project, however, the evaluator should seek specific concurrence for his plans, especially if evaluation project design will require a major effort on his part. Previous acceptance of an annual evaluation plan means that the evaluator's intentions have been recognized, but does not necessarily convey approval for a particular project. Nor should earlier expressions of willingness to be evaluated and general indications of feasibility be assumed to convey full acceptance. Take things step by step. Explain to the interested parties why further consent and support are important. Do not get into a spot where program directors can legitimately say that an evaluation project turned into something different than expected. The discussions and negotiations necessary to answering the questions posed in this section of the manual will in fact provide sharper focus for potential users of the evaluation results, including those to be evaluated.

Later approvals of the evaluation project will in most cases also be required. Deciding on an appropriate review and approval schedule should take place about the same time as the go-ahead on evaluation study design

preparation (the next step to be described). Done earlier, a review schedule is too abstract and includes planning for too many projects that will never be carried out. Done later, such a review schedule begins to look like a unilateral effort, and may tend to isolate the evaluator from his colleagues. He will have gone so far, learned so much, and invested so much that he may look as though he is trying to put something over when he produces a schedule based largely on his own needs.

### 4. Designing the Evaluation

Evaluation project design, now to be checklisted, is the most technical step encountered thus far in the checklist. Successful design depends on the evaluator's experience and knowledge being adequate to permit his taking the initiative in selecting, proposing and developing plausible methods to conduct a projected evaluation study. Materials from all subsequent chapters of the manual (or similar materials) provide guidance on many possible methods and techniques to be invoked.

What does the evaluator know (or guess) about the substance of the projected evaluation, as he begins the design process? (Summary of what has been generated by using the checklist thus far, expressed as a hunch about what is to be done, why, and with what possible range of applications.) In more detail:

- Substantial guidance on proposed evaluation project significance to the Center.
  - -- Priority of management's need for answers;
  - -- Potential value to those whose work is to be evaluated;
  - -- Pressure by Board or outside sources for the proposed evaluation project (if any).
- Limited or substantial guidance on what will, could or should be learned from the proposed evaluation project.
  - -- Evaluation questions to be answered;
  - -- Issues resolvable by answering the suggested evaluation questions;
  - -- Courses of action or future decision that may be affected by evaluation outcomes;
  - -- Hunches, theories or hypotheses to be investigated.
- Limited (and probably inadequate) guidance on feasibility.
  - -- Availability of information, and on whether additional necessary information can be gathered;

-- Whether skills of evaluation staff are adequate, and whether they and others will have time to do the work by the project completion date;

-- Whether the program being evaluated will be disrupted too much by the evaluation process;

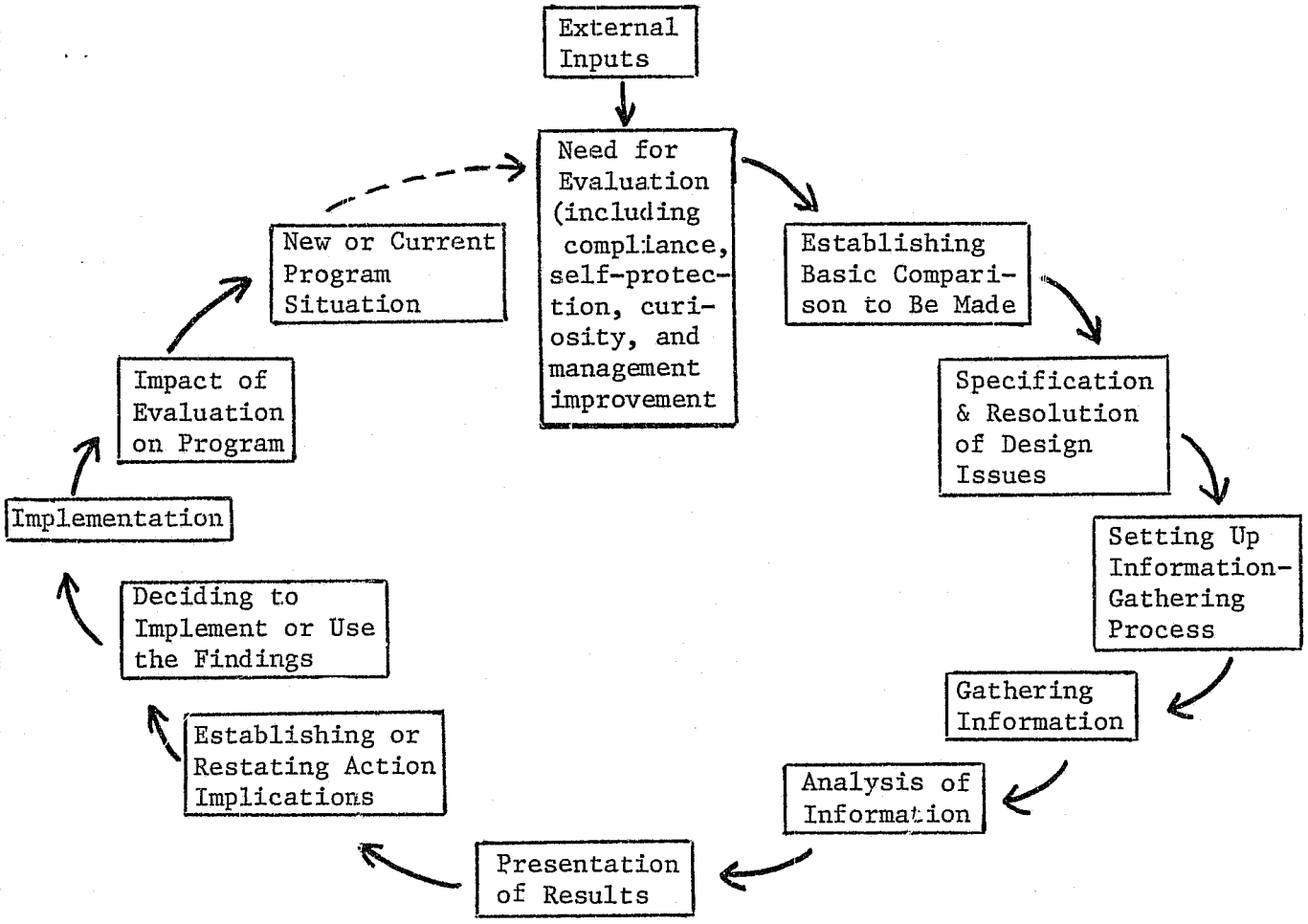
-- Whether total costs of evaluation will be reasonable.

What is the logic of the evaluation?

- A flow chart can state the steps to be taken and reveal why and how these steps start from a reasonable assessment of need for an evaluation and progress to a reasonable conclusion in a new and changed situation. Note that in the example shown on the following page, most of that included in the checklist so far is compressed into two boxes: Need for Evaluation and External Inputs.

- Relationships can be laid out between the steps and triggering actions indicated (the decision processes that lead from one step to the next, to replanning the project, or to aborting it).

- The accompanying flow chart is merely administrative. A substantive theory of the evaluation must also be embodied within it (could emerge from answers to next five questions).




What basic comparison will be made in the evaluation?

- Behavior at two different time periods (same entity).
- Behavior of two different activities compared with each other.
- Behavior compared with, or measured against, a standard, or program objectives.

Will the comparison be valid?

- Meets formal tests (if any exist).
- Makes sense on the face of it.
- Satisfies academic authority and agrees with technical precedents.
- Is consistent with form and substance of other information and comparisons in management use at the Center.

What research design issues need to be dealt with?

- Type of design and how well it fits the circumstances of the evaluation project, and possible uses of results.

- Manageability of the design. Over-complicated? Too many inter-dependent features, or critical path that is impossible to follow?

- Generalizability of conclusions: how important a criterion?

- Availability or attainability of competent interviewers.

- Availability of appropriate forms, instruments and scales or capability to design them: carrying out the designs.

- Sampling method, sample sizes required and attainable, probable quality of data (technical tests of data to be used).

- Adaptability or compatibility of existing information sources and processes to meet needs of the evaluation.

- Utility, reality and acceptability of analytic categories and classification schemes proposed.

- Analytic plan (and supporting computer programs/software when appropriate). Is the plan as explicit and clear as appropriate: coding, sorting, compiling, categorizing, tabulating, testing for statistical quality, interpretation by formal and informal statistical and other intellectual techniques, cross-tabulating, display?

  -- Was an appropriate decision reached on hand versus machine analysis of data?

  -- Are instruments coded to permit efficient entry of data for processing?

  -- Are instruments and data analysis arranged, formatted and expressed so as to make the data gathered most useful toward answering the intended evaluation questions?

  -- Are consistency checks and other self-checking devices properly built into data-gathering instruments and analytic plan?

  -- Does analytic plan permit easy cross-tabulation by data categories as may later be desired?

- Technical quality of hypotheses to be tested (if any). Reasonable? Testable? Trivial or important? Over-simplified?

- Availability of pilot results from this or earlier similar studies; results of literature search on both methods and substance.

- Mode of interaction of evaluator and evaluated.

  -- Collaboration-mutual cooptation (close continuing relationship at some risk of "corrupting" the evaluation out of friendship, desire to please, etc.);

  -- Participant observation (but with no guarantee that the intended applications of the evaluation will permit authentic participant observation);

  -- Observation, information-eliciting, data-gathering;

  -- Arm's-length data gathering (at some risk of never being close enough to the program to understand it).

- Replanning provisions.

  -- Are forms reviews, instrument pretesting and revision build in?

  -- If data-gathering breaks down, what alternatives are there?

  -- If data are marginal in quality or quantity, dare that issue be met at the time? Can it be dealt with in advance?

  -- If results do not discriminate sufficiently or do not lead to clear conclusions, what will be done and are provisions made for doing it?

  -- If commitment of clinicians or administrations flags, what should be done?

- Research design approval.

  -- What assurance is there that each of the technical issues in design has been competently dealt with? What assurance is needed?

  -- What technical augmentation is needed to carry out the research design, and will competent help be available (interviewers, instrument designers, statisticians, computer programmers, data analysts)?

  -- Is the cost of carrying out the design excessive?

  -- Do the projected results of the work continue to look worthwhile?

  -- Who needs to review the design or some of its implications preparatory to its approval?

  -- Do forms, administrative procedures, instruments, etc., meet the requirements of internal and external bodies with jurisdiction?

  -- Are privacy, confidentiality, human subjects provisions or other legal or ethical requirements subject to approval?

How well specified are the requirements for information (in the design and earlier steps), and is the specification adequate for those who will be closest to the direct generation and gathering of that information?

- Information content.

  -- Are definition, specification and exemplification available?

  -- Are standards of accuracy, completeness and consistency stated so they can be understood and will be applied?

  -- How long must the information be gathered? Why? With what will the (analyzed) information be compared in this initial step in evaluation? Does this comparison create special requirements for the gathering of the information itself? Will those who directly gather the data make initial comparisons in deciding what to enter and what not to enter? If so, what assurance is there that they know how to make the comparison?

- Information sources and availability.

  -- How does required information relate to the already established information-gathering process of the Center? Who has to agree to provide it? Have they agreed? What process is required to gather the information? Who has to do the work? How will the evaluator know that these persons are doing what is required?

  -- Are the data-gatherers, interviewers, recorders or informants: aware and trained; under appropriate guidance and instructions from their supervisors (who are the supervisors and are they properly prepared for the evaluation?); with necessary time and equipment (what does the evaluator say these are?)?

- Physical form of the information.

  -- Are reporting standards clear? (Pen or pencil or typewriter or keypunch or computer input, etc.? Forms, scrap paper, etc.? Permissible time lags in reporting?)

  -- Are there adequate procedures for storing, protecting and transmitting the information to the evaluator?

- Evaluator use of incoming information.

  -- Should information be accumulated for a time? Why? Where? How long?

  -- How will it be decided to "do something" with the information? What can and should be done? (Test it as a body of data, conduct preliminary analysis, test individual bits for accuracy, save it for one complete run at the end?)

- Compatibility with existing information standards, policies and systems.

  -- Are there formal sources of information system design guidance that must, should, or may be satisfied? Inside or outside the CMHC? What are they? Have those who will most likely question the methodology of information-gathering been involved appropriately? (See earlier under research design approval, which may have sufficed.)

  -- If the information to be gathered is to come through an "information system," or if there are plans for eventually gathering data of the same kind in an information system, are forms, procedures and equipment scheduled for suitable modification? Is the nature of these modifications known?

For whom and why should a written summary of the evaluation design and description or projection of the evaluation process be prepared?

- Those who need to understand the evaluation process or parts of it. The evaluator? Somebody in the program being evaluated? Somebody in Center management or administration? Members of the Board? Who else?

- Criteria for appropriate description. Will the audience understand it? Will the audience be sensitized in advance to any issues they will need to contend with? Will costs, possible results, and intended uses of results be sufficiently clear? Can the evaluation receive necessary formal and informal sanctions on the basis of this description?

- Need for written version. Complexity? Number of persons involved?

Who needs to participate and are they all as yet actively involved in design?

- Persons, agencies, groups or sources of expertise that must participate (those who could help or hurt the evaluation process). Are they willing to help? How do you know? What needs to be done to enlist their cooperation? Who will do that? When? How?

- Outside constituencies to be informed. Who are they? Who should inform them? When and how often? Of what?

Are details sufficiently clear concerning eventual utilization of results?

- Anticipated variations. What additional specifications are possible following the design process and write-up: likely or possible ranges of results, appropriate responses, potential users (a further explication and rethinking of basic issues that should constantly be in mind throughout all one-time evaluation studies).

- User relationships. Potential users know about and have (more or less) accepted the proposed evaluation. Do they know what the evaluator believes to be the potential utility of the results? Do they agree? If not, how do they plan to use the results? If disagreement exists, should the evaluation be done? On whose say-so should the evaluation proceed in the absence of interest in and commitment to use the results of a proposed evaluation?

- Consequences of contingencies that could occur because evaluation results diverge from expectations.

  -- What should be done if results are unclear, insignificant or contradictory in fact or implication? (Accept and publish, bury, redo the evaluation, redesign, etc.?)

  -- What should be done if costs of the evaluation or time period required far exceed planned expectations? (Should become obvious long before evaluation results are in, but will relate to results actually obtained, since the options include: reduced scope, reduced sample, reduced period of data-gathering, higher priority and added resources for the project, training or replacing the evaluator or the evaluation project personnel, canceling the project, etc. Obviously, the action taken will relate to the specifics of the situation. The advance decision is whether to build in a capability that will enable timely selection of less drastic options, should the need arise.)

  -- What should be done if necessary cooperation in data-gathering is withheld, if results are disbelieved, or if no agreement is reached on recommendations or their implementation? (One approach is to prepare contingency plans--"what if...?" preparations for the worst, which all too often escalate minor conflicts into major disputes, but certainly demonstrate readiness to act in a protective way. A more constructive approach is to assume that the evaluator, working through the feedback loops described in the first chapter, can minimize the likelihood of rifts occurring. But to warrant this assumption, the evaluator needs to be more or less continuously active in checking up, in mending fences, in meeting objections, and in modifying the evaluation process to minimize the burden on other participants.)

Does the design reflect the possibility that the world will change while the evaluation is underway?

- Consequences of contingencies resulting from changes in the program under evaluation.

  -- What should be done if the scope or scale of the program is sharply changed during the evaluation by forces unrelated to the evaluation? Is this likely to happen? What would make it happen? What program changes would affect the evaluation utility,

validity, or cost adversely? How? What changes might not or would not affect the evaluation?

-- What should be done if program personnel or procedures are significantly changed during the evaluation? How might these changes affect the evaluation project's utility, validity or cost?

-- What should be done if other overlapping programs, clients, referral agencies, external financial sources, etc., change their attitudes or procedures in such a way as to significantly change the size of the population qualified for and in need of service?

A number of these problems can be expected to come up in the course of any substantial evaluation project. Technical means for dealing with many of them will be found in good manuals on research design.[2] Some can be identified as so likely or inevitable in given situations that failing to anticipate and cope with them would be incompetent.

- Consequences of contingencies resulting from changes completely external to the program to be evaluated.

-- What should be done if the issue originally behind the evaluation is resolved, disappears, or is overtaken by more pressing concerns?

-- What should be done if newer problems come to be considered so urgent that evaluation resources committed to this evaluation are under examination for reallocation?

-- What should be done if some of the persons formerly interested in a particular evaluation project are removed from the scene before the evaluation has been completed, thus reducing (or eliminating) the "market" for the results?

Factors like the foregoing frequently seem to pull the rug from beneath a particular evaluation project, and have a great deal to do with reducing the apparent utility of program evaluation so far in its history. But that will not stop their happening, especially in programs that are being questioned in ways that lead to evaluation. It is useful for the evaluator to discuss these possibilities in

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[2] Such as: (1) Festinger, L., and Katz, D. Research Methods in the Behavioral Sciences. New York: Holt, Rinehard and Winston. (2) Moser, C.A., and Kalton, G. Survey Methods in Social Investigation. New York: Basic Books, 1972. (3) Selltiz, C.; Jahoda, M.; Deutsch, M.; and Cook, S.W. Research Methods in Social Relations. New York: Holt, Rinehart and Winston, 1959.

advance with his supervisors (and sponsors of proposed evaluation projects) to develop decision criteria: when to continue, cancel or modify an evaluation because interest in it has disappeared, and how the schedule of review should be set up to permit timely examination of both the progress of the evaluation and other changes that affect the evaluation.

One of the considerations the evaluator himself will keep always in mind is the effect on him, his staff and their collective reputations when evaluations must be aborted. The evaluator has immediate accountability for resources entrusted to him, and a need to achieve results through their utilization. Possibilities may exist for modifying an evaluation, finding a new market, or incorporating learning from it into programs or projects other than the original target, to attain at least some "scrap value" from an evaluation underway when it is threatened by lack of interest or more forceful opposition. Where these possibilities can be foreseen in advance, they should be considered as aspects of evaluation design, though not usually very important to design.

On the other hand, there seems much less advantage in trying defensively in the course of technical design to anticipate political opposition expressed manipulatively--for example, to anticipate that fear of unfavorable findings may eventually cause program advocates to discover "more important uses" for committee evaluation resources before the unfavorable findings about their favorite program can be validated. Obviously, administrative, personal and political relationships are the avenues through which to reduce the likelihood of these kinds of threats and to cope with them if they emerge. As usual, the most desirable situation is one in which everyone in CMHC management and leadership roles is sufficiently in tune with everyone else that this kind of political manipulation is easy to spot and thus not too likely to succeed. The best defense that the program evaluator has is to contribute all he can to achieving and sustaining a state of mutual respect and keeping in touch.

The most basic criterion for judging what to do if an evaluation becomes less urgently required stems from the purpose of the evaluation and the evaluator's role in CMHC management. Whether to continue or cancel any given project is normally a management more than a technical decision. The evaluation should be designed to bring this issue to the surface at sensible and convenient times, both technically and managerially.

Does the design include a feasible schedule and has that schedule been approved by those who will have to live with it?

- Discrete tasks, negotiations, presentations, decisions and other entities or milestones of the evaluation process should be stipulated.

-- Which points should be emphasized as key points at which to assess progress, and decide whether to proceed with the evaluation? (See immediately preceding subsections for some that relate to factors outside the project itself. However, the design logic of the evaluation itself should generate important information and requirements on scheduling, timing, and critical issues to review before deciding what to do and replanning accordingly.)

-- When should these reviews and other events happen? Who needs to agree to this schedule? Do you have their agreement? If not, when and how will you obtain it? What steps in the process should have been completed or initiated by each chosen date?

-- What should be substantively accomplished by each chosen date?

- The proposed schedule for a forthcoming evaluation should quite possibly be publicized among some persons who are not in the normal review and approval chain. Think about whether such persons exist (e.g., researchers interested in the field, evaluators in other nearby CMHCs, managers of similar programs for whom the proposed evaluation may be a surrogate. The schedule, with a summary of the proposed evaluation design, may elicit very useful responses and offers of support from this kind of audience, because some of its members have something to gain (and may also be constructively "pressed") by a proposal that is planned to eventuate in results at a given point in real time.

Are the resources available (skills, time, energy, money, equipment, facilities, relationships) adequate to carry out the design? Are the anticipated costs commensurate with the value of the results anticipated? (This is a final check of feasibility.)

- In-house resources must have capacity available at the appropriate times. Can suitable commitments be made?

- Consultants, contractors, or volunteers may be made available to fill in the gaps.

  -- Can suitable persons be identified and located?

  -- Can commitments be obtained from them at a bearable cost?

Is there need for final approval of the entire design, including technical and administrative elements, anticipated requirements and results, projected costs, benefits, and risks?

5. Conducting the Evaluation

What does the program evaluator need to do to activate the plans and mutual commitments established under 4, above?

- The evaluator is "prime mover" for many if not all the tasks set up or implied by the evaluation design. At the outset of actually conducting the project, it is important that he clarify with others involved just what they will be doing, throughout the project.

  -- Will the evaluator do all the work himself or is there need for an "evaluation team," a group of persons (from Evaluation, from the program to be evaluated and other places) to be in more or less continuous contact during the evaluation? They will collect and monitor information, compile and analyze results, prepare and conduct feedback sessions, and make formal or written reports.

  -- If a team is needed, does it already exist and function adequately? If not, does the evaluator (or someone else) need to initiate a process through which the team can recognize itself, establish its procedures and a basis for functioning, divide up the work, recognize its leadership, and monitor and communicate with itself?

  -- Does the team need to be convened to resolve particular problems, or simply so that it knows itself as a team? If so, at what points and who will convene it? Who will be responsible for making the team (and the evaluation process) do the necessary work effectively and efficiently? Does that person know and accept the responsibility? If the evaluator cannot create and maintain a necessary team by himself, whose support can and should he seek?

  -- Is the team technically and administratively able to do its work, or do individual members need training or replacement? Can the evaluator conduct the training by himself? If not, who should do it? When? How?

  -- Who will be responsible for quality control of information gathered, applications of methodology and analytic techniques, and skill levels of evaluation? How do you know if quality is adequate?

  -- Has something been done to trigger the successive planned steps in the evaluation process in a timely way (e.g., explicit delegation of project management to team leader, entry of key dates into appropriate follow-up or tickler system, advance scheduling of crucial meetings on calendars of key people)?

  -- Who will monitor the relationships between the team during the evaluation process and anyone else who is crucial to the evaluation process (e.g., program personnel, information sources, clients or patients actively participating in the evaluation, ultimate users)?

— Should or will the time spent on this evaluation project be separately recorded and accumulated? Does anyone want to know what the evaluation project itself costs, and will it be possible to find out?

— How will the evaluation project itself be evaluated, or at least judged administratively? Are those criteria taken adequately into account in both the design and administration of the project?

- The evaluator needs to ensure management coordination and collaboration during the project.

  — How well has the evaluator maintained awareness of progress and problems on the part of CMHC and program management? Have they agreed to the schedule and their part in periodic review of the project?

  — How can the evaluator inform management in a timely fashion about important happenings or anticipated problems? How can he get involvement and commitment on the part of management?

What does the evaluator do to maximize and accelerate awareness of and response to results?

- The evaluator must look for opportunities to extract brief summaries of data, analyses and conclusions on particular points, and any other stand-alone materials. Brief (one- to three-page) memos reporting results as they emerge should be sent to interested persons in advance of final report.

  — When should interim reports be regularly sent, when occasional?

  — When should interim reports be written and when delivered orally?

- The evaluator should be looking for opportunities to relate his activities (including the specific evaluation projects) to one another and to other Center activities, in all his meetings and reports.

The conduct of the evaluation should flow naturally from the planning process that preceded it. The details presented in the previous steps were anticipatory (intended to shape the design of the evaluation). But it is during the evaluation project itself that these considerations actually come into play. Review of the planning documents and authorizations that preceded the evaluation at intervals of two to four months will help the evaluator who is conducting several extended projects at once to keep abreast of all of them. Such a review should remind him of what was intended to be accomplished, at what cost, by what means, within what time frame. Thus, reviewing the planning documents becomes an indicator of discrepancies that should be reported and dealt with, emergent possibilities that were not anticipated, and promises made that need to be kept or explained.

6. Analyzing the Evaluation Data

Has there been adequate contact with management and other prospective users of evaluation results during data analysis?

- Discussions on methods to determine the categories into which the data are aggregated and cross-tabulated will help to assure that all important information is being derived from the data collected.

- Discussions of findings will aid in interpretation, will involve staff in the evaluation, will indicate what points will need support in depth in the final report, and will increase likelihood that the analysis is understandable and believable to the staff.

- Review of interim reports and extracts (see 5, preceding) and attempts to stimulate management responses to these extracts will sometimes uncover indications of how the evaluation results can be used, or barriers to their use.

- Review of original evaluation purposes, milestones, etc., should not be necessary at this stage if these reviews are adequately conducted during the earlier stages of the evaluation. But if any changes have occurred without earlier discussion with managers and prospective users, it is better to get these ironed out at this point than to await their discovery (or hope for their burial) with the final report.

7. Presenting the Results of the Evaluation

How do the various persons and groups involved in the development of the evaluation project and carrying it out figure in the preparation and presentation of final results? (Each of them had some power over the evaluation; each may well have influence on accepting and implementing the results or an important perspective on the interpretation offered by the evaluator.)

- Consider the audience carefully: review discussions should have made it clear who is in the audience, what each can use from the evaluation, and a reasonably clear idea of what kind of substantiation is required for each.

  -- Is a formal report of the project appropriate and necessary, or should the interim extracted memos plus a memo on the latest findings suffice until the process and its results are summarized and assessed in the annual evaluation report?

  -- What degree of explicitness and detail is appropriate for the action recommendations that may flow from the evaluation findings? Should these recommendations be prepared by evaluator, Center management, program manager or someone else? Should they be prepared individually or in a group of variously interested

parties? In what detail and how widely should they be published (or at least distributed), and should this occur before, during or after implementation?

If a final report is to be prepared, what step-by-step process will the evaluator use in presenting the results?

- If the evaluator writes the report, many kinds of steps should be considered, though the actual process will have to fit the situation:

  -- Draft empirical conclusions (or show the results to the administrators and ask them for conclusions, which are then written down);

  -- Review draft conclusions with administrator, board or other supervising or sanctioning person, and with chief and staff of program element evaluated;

  -- Rewrite conclusions as seems most accurate, helpful and judicious, based on the composite feedback;

  -- Prepare first draft of report;

  -- Review report with Center director, et al.;

  -- Offer staff seminar on report;

  -- Revise report draft;

  -- Convene (or ask boss or director to convene) meeting to develop action recommendations;

  -- Draft action recommendations;

  -- Submit report in final form;

  -- Make presentation to CMHC board;

  -- Summarize the report and think through the implications of the process for next year's evaluation work and the annual evaluation plan.

- In writing final evaluation project reports, the evaluator needs to consider the consequences of his role and try to overcome vulnerabilities inherent in the role vis-a-vis program managers' roles. Many of these factors were mentioned in Chapter 1; some have to do with simple matters of communication now to be summarized:[3]

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[3] Based in part on: National Institute of Mental Health. Planning for Creative Change in Mental Health Services: A Distillation of Principles on Research Utilization - Volume 1, pp. 7-8. DHEW Publication No. HSM 71-9060. Rockville, Maryland: NIMH, 1971. Suggestions by Robert O. Lunn and James A. Ciarlo are also incorporated.

-- Does the report convey the evaluator's understanding that program evaluation is not the whole of management but is merely one tool? Managers rarely respond positively to what they perceive as put-downs.

-- Does the report emphasize practical matters and leave academic arguments, qualifications, and jargon aside or consign them to footnotes and appendices? Say simple things and say them simply. Don't "over-simplify." Just be clear and direct.

-- Does the report deal with the "negative findings syndrome?" Many evaluations can demonstrate no cause-and-effect relationships between what the evaluated program does and what happens later. Where there is high likelihood of inconclusive findings, this can at least be advertised in advance and the way thus prepared for concentrating on those findings that do have significance.

-- Does the report attempt to take account of the interests, concerns, and internal operating procedures of the program being evaluated? The evaluator who understands the day-to-day problems faced by clinicians should demonstrate that he appreciates those problems, and is not simply recommending changes that, willy-nilly, make them worse.

-- Will clear advantages result from adopting the recommended changes? By all means, specify what they are.

-- Do the recommendations in the report make it easy for the program managers to minimize the risks involved in making the advocated changes? Are the changes reversible, at least for a time? Can the changes be phased in, one step at a time? Can pilot trials be made?

- If the report is to be prepared more collaboratively, as the final stage in a rather informal succession of meetings and discussions, the process might look more like the following:

  -- Compile findings or conclusions from earlier extracts, memos, and discussions to serve as agenda for a meeting to test them for completeness, consistency, coherence, clarity, etc. Questions from participants (who are the interested parties) will help to assure that data have been adequately and sensibly interpreted.

  -- After interval for participants to reflect on findings, reconvene to discuss, compile, integrate and commit to a set of recommendations based on their inputs and the ideas of the evaluator as well.

  -- Prepare an outline of the report necessary to present the agreed-upon findings and recommendations.

— Distribute the outline for comment, convene a discussion meeting, or develop delegated responsibilities for drafting individual sections of the report.

— Assigned person(s) drafts and circulates reports for comment by participants.

— Convene participants to explore how to use the report as a tool for implementing the recommendations (training materials, document of persuasion, source of "action agendas" for persons at that time identified, appointed or charged).

— Help design or convene meeting(s) to design appropriate implementation processes, including process for further development and utilization of report.

— Develop report draft to completion.

— Devise with management a suitable process for approving and promulgating report.

Should the evaluation team be disbanded? If so, with what observance? If not, does this imply that the system set up for collecting the data or conducting the evaluation is to continue? If the team should continue to routinely collect data, has there been an adequate and official decision and recognition of that decision?

Does the evaluation unit itself have responsibilities in implementing the recommendations? Are they being carried out according to the plans and processes worked out earlier in the results presentation phase? If they are not being carried out properly, what is the evaluator's responsibility?

- The evaluator almost never has unilateral responsibilities for implementation, and probably should not accept such responsibilities unless he is about to become manager of the program within which the evaluation was conducted and the changes are to be made.

- The evaluator usually will be misinterpreted if he becomes the monitor of implementation. His concern and dedication may be understandable, but he is better advised to have developed with relevant others a process of commitment-building and implementation measurement simultaneously with discussing the results and settling on the verbal forms for expressing the recommendations—before any separate or later implementation is commenced. Anticipation, preparation, prior arrangement, recognition of the roles of others, and dealing with others in terms of those roles are, as usual, the key elements.

8. Enhancing Utilization of Results

What can be done to assure the fullest possible application of the results of the evaluation process?

- If the evaluator can develop the degree of collaboration stressed earlier in this checklist, his results will probably be well utilized, because the specific attitudes and arrangements that exist in any institution will have been taken into account, the power centers in the CMHC will have been included in the process, and ample opportunities to explore a wide range of alternative explanations and possible improvements will have been afforded.

- A checklist of further possibilities exists for evaluators seeking additional guidance, to enhance utilization of results.[4]

  -- Were the initial action possibilities as broadly inclusive as possible? Could they now be broadened so that those who will be affected by changes can see that the attempt is to find a solution to a problem and not simply to make life more difficult for them? Would it be practicable at this stage to conduct participative brain-storming meetings to lengthen the list of possible solutions, or would current attitudes turn such meetings sour?

  -- Were the action proposals assessed for suitability? Criteria have been worked out in terms of the acronym CORRECT:[5] (1) *Credibility*, stemming from the soundness of evidence for its value or from its espousal by highly respected persons or institutions; (2) *Observability*, or the opportunity for potential users to see a demonstration of the innovation or its results in operational practice; (3) *Relevance* to coping with a persistent and sharply bothersome problem of concern to a large number of people (or to influential people); (4) *Relative advantage* over existing practices (or yield, an incentive offer to change), that is, the conviction that the improvement will more than offset the considerable effort that may be involved in change; (5) *Ease and understanding in installation* as contrasted to difficulty in putting it into operation or in transplanting it to different

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[4] Based on work of Charles D. Windle, adapting material of Howard R. Davis et al., including: Davis, H.R., and Salasin, S.E. The Utilization of Evaluation. In: Struening, E.L., and Guttentag, M. (Eds.). Handbook of Evaluation Research, pp. 621-666. Beverly Hills, California: Sage Publications, Inc., 1975.

[5] Glaser, E., as quoted by Davis and Salasin, ibid., p. 641. Reprinted by permission of the publisher.

settings; (6) *Compatibility* with potential users' previously established values, norms, procedures, and facilities; (7) *Trialibility, divisibility, or reversibility*, which permits a pilot trial of the innovation one step at a time and does not call for an irreversible commitment by the system.

-- Were communications planned for optimum effectiveness? Ideas have a better chance of being accepted if: (1) the communicator identifies himself with his audience; (2) the presentation is pretested for readability, coherence, and understanding by the intended audience; (3) any agreement by people of prominence and influence is reported (when it exists); (4) potential benefits are made clear, and any risks involved are surfaced and discussed; (5) logical and nonexaggerated emotional appeals are combined; (6) pictorial and other illustrative material is used where appropriate; (7) likely objections are taken account of at once; (8) the essential information is repeated.

-- Were management preparations for implementation adequately developed and considered? Davis' "A VICTORY" model (another acronym) offers managers a relevant checklist to use, for example, after evaluation results are in but before deciding to implement changes: (1) Does the Center have the *Ability*--the resources and capabilities? (2) Do proposed changes match *Values*--style and philosophy--of the Center? (3) What and where is the *Information* needed for implementation? (4) What environmental *Circumstances* must be considered? (5) How's the *Timing*? Is now the right time to do it? (6) Is there an *Obligation* to change? Why change at all? (7) What *Resistance* might be encountered? (8) What *Yields* can be expected from the change? More detailed illustration of the model follows:

(1) *Ability:*

Prepare specific budgets for start-up costs and continuing costs of proposed implementation.

Prepare a manual or written references for participants if the information or patterns of action to be followed are sufficiently unfamiliar or complex.

Conduct a formal training program for the use of the information--conference, demonstration, study group, anticipatory rehearsal (dry run through the new practices followed by discussion).

(2) *Values:*

Obtain consultation to help with objective review of the analysis already made of organizational values and characteristics, and also to help with feasible modifications.

Before specific attempts to bring about change, encourage top decision-makers to advocate self-renewal of staff and employees, and otherwise build an adaptable organization.

(3) *Idea:*

Encourage participation in the selection of the action pattern, the solution and the information about it. Encourage participants to challenge the information, to simplify it, to think of improvements.

Seek out expert consultants. If practicable, attend professional meetings and conferences in specific search of the needed information; take part in problem-solving exchange programs as they are developed.

Use available systems of information retrieval, specialized journals, and digests.

(4) *Circumstances:*

Through group discussion or consultation, review the organization's characteristics and situation in relation to the proposed change.

Examine the circumstances out of which the information grew, and compare these with the present program's situation.

(5) *Timing:*

Determine when staff will be most ready to make changes.

Prepare to muster resources and support at move-out time.

(6) *Obligation:*

Involve key participants in re-evaluating the need for change.

Hold group discussions with participants in the change about problems in present working conditions, etc., which might be influenced by a change.

Assign responsibility for specific outcome concerns.

Obtain the personal endorsement of a significant authority. This endorsement should be delivered personally and a follow-up visit should be promised and carried out after efforts have begun.

Encourage a public statement of concern about the problem by a respected pacesetter within the group.

(7) *Resistance:*

It is helpful to be able to anticipate the typical sources of resistance in a user organization. Possible reasons for resisting change include:

Feared economic loss;
Fears about personal security;
Fear of inability to learn readily the new skills required or to perform in the new role;
Fears about decreased personal convenience;
Fears about decreased job satisfaction;
Social fears (loss of status, separation from customary work associates);
Irritation with manner of handling the change;
Cultural beliefs ("This will never work, goes against what I have learned in the past, etc.");
Inertia;
Sense of present over-commitment;
Lack of interest[6]

It is helpful to remember that virtually each of these negative values has an opposite and equal positive value--that is, there can be anticipation of economic gain as well as fear of loss, anticipation of status improvement as well as fear of loss, etc.

Among the suggested ways of minimizing resistance to change (often utilized by a change agent but sometimes by an agency administrator) are the following:

Compulsion -- May be the most effective in the short haul, but has many hazards; it increases a sense of frustration and resentment, develops dependence among subordinates and reduces their resourcefulness.

Persuasion -- Its success depends on the persuader's ability to convince that the rewards of the change counterbalance or outweigh the reasons for resistance.

Dispelling the fear that security is threatened -- This calls for assuring members of the organization that their positions will not be eliminated during the change, nor will they have to perform new tasks beyond their capacity to master.

Developing a full understanding of the change -- This includes need for change, what is to be changed, by whom, how, when, what benefits can be expected, and what other outcomes can be anticipated. Vacuums created by lack of understanding are filled by conjectures.

Adroit timing -- The greater the feeling of dissatisfaction with the status quo, the lower the resistance to some form of change. The longer the process of change takes, the greater the resistance.

Involvement -- The greater the extent of personal involvement in making decisions related to change, the less resistance will there be.

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[6] Davis, H.R., and Salasin, S.E., ibid., p. 646. Reprinted by permission of the publisher.

Avoiding implications of criticism -- If those involved in the change perceive it as criticism of what they have been doing, they will become resentful and defensive. These responses are frequently translated into resistance.

Installing the change with flexibility -- Give those who are affected by the change the opportunity to modify the innovation to meet their specific work situation, or to evaluate it after it has been put into effect and then suggest modifications.

Overall strategy -- Reduce the resistance rather than try to overwhelm it. If opposition is met with pressure, resistance is increased.

(8) *Yields:*

Provide information on adequacy of the proposed pattern of action as a solution to the problem.

Reward participants with timely feedback, attention, and interest.[7]

- Organizations structured around several internal centers of power are frequently unable to mobilize themselves to pursue any single organizational goal.[8] But they may nevertheless respond to outside pressures in a way to cause minimal inconvenience to each center of power within the organization. Since one major incentive for an organization such as a CMHC to change is funding by outsiders, if funds were contingent upon the implementation of evaluation study results there would be greater likelihood of implementation.

  -- What can be done responsibly via specific external agencies? PL 94-63 encourages the use of external pressures on the Center by requiring that program evaluaton results be disclosed to and reviewed by residents of the Center's catchment area. Such a process makes study results less likely to be simply ignored by a program, without running a risk of seeming nonresponsive to catchment area residents.

  Similarly, groups external to the Center have responsibility for the Center's quality assurance procedures. Insofar as accreditation is a requirement for funding, accreditation inspections done by Joint Commission on Accreditation of Hospitals review teams will be a vehicle for assuring that program evaluation results have been used by management. These and the Professional Standards Review Organizations can encourage use of results of quality assurance programs.

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[7] The above eight paragraphs are slightly abridged from a draft presentation on "A VICTORY" model by Howard R. Davis.

[8] Roos, N.P. Influencing the Health Care System: Policy Alternatives. Public Policy, 22:139-167, 1974.

-- What is the ethical obligation of the evaluator in the institution with multiple power centers in the manner in which he reports his results? It is important that evaluation activities and results be so clearly described that external agencies are able to determine what responses management should have taken. Further, we believe in the ethical obligation of a program evaluator to assure that program evaluation studies are conducted objectively and reported accurately, even when there may be short-run program embarrassment from such adherence to frankness and disclosure.

It is not sensible and generally not desirable for a program evaluator to be in basic opposition to Center management, and it may seem a serious risk to oppose by open criticism the interests or practices of the director of a particular CMHC program, even very specific qualities of the program. However, these risks are inherent in the evaluator's role. An evaluator is not really up to his job unless he can with discretion and some aplomb handle the risk of criticizing his bosses, defend the criticism, and perhaps fight to gain a public hearing for some of the critical findings and data they are based on. But it must be emphasized repeatedly that day-by-day effectiveness of the evaluator depends on his having good relationships with most of the principal staff of the CMHC, relationships based on mutual respect for competence and performance. Relationships of trust and respect can sustain the risks of mutual criticism. Mere approval-seeking relationships, mutual isolation, or relationships consisting of constant and common mutual put-downs cannot.

- Assessment of the evaluation project can be stimulated by the evaluator himself. The self-assessment process can enhance utilization of results as well as increase the chances that future evaluation projects will be better prepared, better executed and better received. If the evaluator has been carrying out the project in the spirit of this checklist, many partial assessments will already have occurred. Post-evaluation audit of program evaluation projects would minimally consist of keeping a log of (1) events conducted during the program evaluation activity, (2) the people involved, (3) the measures and instruments used, (4) costs, (5) results, and (6) apparent impact. A review of this log at the conclusion of the evaluation would allow the evaluator to hold discussions with program managers and clinicians who had participated in the evaluation. A final brief chat with the intended users to review the log or a simple questionnaire can be used as a challenge to the user (as well as making it possible for the users to challenge the evaluator):

  -- How have the results of the evaluation been used? Why?

  -- What would make the results more usable or useful? Should anything be done at this time to meet deficiencies in the evaluation report?

-- If the evaluation results have not been directly applied, have they pinpointed some of the crucial issues, thus permitting the CMHC to move forward toward resolving those issues--or to keep them open despite attacks that the evaluation demonstrates to be excessive? If these further steps could be undertaken, what are they, and will they be initiated? By whom?

-- Was the evaluation worth doing?

-- Did the evaluation accomplish what was originally expected, or something else?

## B. THE ANNUAL CYCLE: A CHECKLIST OF ISSUES TO BE CONSIDERED WHILE PLANNING THE YEAR'S ACTIVITIES IN PROGRAM EVALUATION

The CMHC program evaluator is likely to find himself responsible for satisfying the administrative requirements connected with evaluation under PL 94-63. Compliance with PL 94-63 and good management practice seem to go together. The evaluator needs to exercise planning and management skills not only on the level of the one-time projects checklisted in part A of the present chapter, but also in the operation of an annual cycle. Managing annually recurring tasks is progressively easier with repetition, and may be done through devices other than a calendar or schedule, which is the tool suggested here.

Since a calendar, if prepared by the evaluator, requires a certain amount of initiative, however, it is a good method to illustrate a basic point: the easiest way for the evaluator to succeed (or the cleanest way to fail) is to assume (or request) that it is his own responsibility to get things in on time, to figure out what is required, and to take the first steps toward gathering and assembling the materials needed on his own initiative.

Evaluators must develop operational checklists from the logical outline provided below, because individual elements will fall where they must within the chronological requirements of a particular Center's annual cycle of operation and review. Accordingly, the evaluator's role in scheduling is both proactive and collaborative, both a process of assertion (deciding) and of discovery (discerning). The major phases covered are:

(1) Preparing the annual evaluation calendar;

(2) Preparing to develop next year's evaluation plan;

(3) Writing next year's evaluation plan and achieving internal approvals;

(4) Conducting citizen review;

(5) Preparing the annual evaluation report.

1. Preparing the Annual Evaluation Calendar

What critical dates must be considered?

- Due dates for renewal grant applications (must include evaluation plan report under PL 94-63 guidelines).
- Due dates for Biometry Inventory submission (currently planned for NIMH regulations).
- Due dates for state and other funding agency reports.
- Date of CMHC annual meeting and/or other board-level meetings emphasizing evaluation.
- Key dates in budget cycle for inserting and justifying requests for funds, personnel or other resources required for evaluation.
- Regular annual dates for program review (if any) out of which revisions and clarifications in program goals, strategies and needs for evaluation could arise.
- Regular and/or key dates for exposing materials publicly and receiving citizen responses or other inputs toward evaluation (required under PL 94-63).
- Next year's special dates (e.g., reporting date for new staff member in evaluation, date predicted for new or augmented information system, scheduled date for beginning or completing previously approved major evaluation projects, dates of accreditation visits in which evaluation unit will be involved, dates of conferences and other professional training whose scheduling is not within control of the CMHC evaluation unit).
- Derivative dates can probably not be set until the annual plan has been rather well developed (sections 2 and 3 in part A of this chapter). Derivative dates include: start and end dates for routine evaluation projects, dates of in-house training programs for evaluation and other staff, vacation dates for staff, etc. Where these dates are or should be fixed early in the scheduling process, they should, of course, be included in the calendar.
- Other dates needed by which certain decisions must be made.

What process should be used to schedule the annual calendar once the fixed dates have been listed?

- Develop a general feeling for where the flexibilities and the pile-ups are, in terms of sheer work load.

- Develop a clear sense of flow--in particular, which reports feed into the preparation of next year's plan and which will feed into the perparation of the following year's plan; which evaluation outputs will be available for this year's annual evaluation report and which will be held for next year's annual report.

- Confirm the most critical dates, and attempt to negotiate changes in dates (or in material to be included) where scheduling impossibilities arise.

- Keep it simple and spend no more time on organizing the dates than is practical. Although the preparation of a tentative calendar is a reasonable first step, it should not take more than one or two hours to carry it about as far as worthwhile for a first cut. Coming back to refine and add to it later--maybe even to revise the evaluator's concept of how the cycle should work--is likely, and much easier to confront if not too much is invested in the process initially.

How do crucial dates become a calendar?

- Since many of the crucial dates are due dates, making allowances for preparation time is a part of the process of establishing an adequate calendar.

- The actual chronological order of the calendared activities tells the evaluator what to do among the scheduled activities and when to begin doing it.

  -- Are there "contingency dates" by or in terms of which other important dates will be established? They should be noted.

  -- Are there major gaps in the calendar between now and the time it makes most sense to begin preparing the annual evaluation plan? It may be necessary or desirable to improvise a partial plan to cover the intervening time until the new annual plan can go into effect and the annual planning cycle take over.

- Check the calendar with CMHC management and others who may be affected by it--especially the administrators, secretaries, chief clerks, and assistants who actually operate much of the administrative routine of the CMHC.

- Record the dates, whether real or tentative, on the personal calendars of the persons who will need to plan their schedules to take account of the dates on the evaluation calendar.

2. Preparing to Develop Next Year's Plan

Are adequate statements of Center (and individual program) goals, objectives, and strategies available?

- Programs likely to be evaluated and currently under evaluation despite inadequate goal and strategy statements should be checked out for willingness to accept clarification.

  -- Has the evaluator developed a formulation of the implicit but real goals and strategies from his evaluation or design work with the program?

  -- Will program managers accept or entertain statements offered by the evaluator?

  -- What process of goal clarification makes sense and is acceptable?

- Goals and objectives are not interchangeable terms. Goals are broad statements of intention (e.g., "To provide necessary services to former patients of state mental hospitals"). Objectives translate these goals into quantified, time-limited propositions, susceptible to later measurements that will reveal not only whether some attempt was made to meet the goal but whether the attempt matched the specific intention (e.g., "(1) To interview all patients from X and Y Hospitals discharged into this catchment area after January 1, 1976; (2) to enroll all such former patients judged to require follow-up on the basis of discharge diagnosis or CMHC interview in the CMHC 'chronicare' program, and to show cause why enrollment has not taken place if some of these former patients are not enrolled; (3) to begin full operation of day care, evening care, and weekend phases of the chronicare program by February 1, 1976, and to clear all waiting lists of former mental hospital patients by March 15, and to operate without waiting lists thereafter"). Performance to meet administrative objectives (such as the previous examples) is usually easier to evaluate than progress toward outcome and impact objectives ("To reduce during 1977 the average required days of full hospitalization per former mental hospital patient by 50% during the first year following discharge"). But dealing with the difficulties is, of course, part of the reason for employing trained program evaluators ("Are the patients discharged this year comparable to the patients discharged last year?"). Another factor that evaluators need to discuss with program and Center directors before evaluations begin is possible interference among apparently separate objectives. (One Center set an objective of increasing the amount of fees collected for inpatient services at the same time it set a service objective to reduce average inpatient length of stay from ten days to eight days. Achieving the reduction in length of stay conflicted with attempts to meet prescribed revenue levels.[9])

[9]Example and concept of objective interference included at the suggestion of Neil Benson.

- Programs likely to be evaluated soon may have highest priority for goal and strategy clarification (implicit in part A, above).

- Goal and strategy statements of new programs or major new program elements getting underway should be made adequately clear and specific for evaluation purposes.

  -- Has the evaluator requested goal and strategy clarification as one aspect of new program planning?

  -- Is the evaluator able to help in a process of goal and strategy clarification for new program elements, at least to the extent of suggesting possible statements that would be satisfactory from his point of view?

  -- Has the evaluator arranged to be asked to help improve goals and strategy statements for new program elements?

Are written reviews and summaries of current and recent evaluation work available in usable form and (more or less) standard format?

- A standard outline or format may be simple or elaborate, but should certainly elicit all or most of the following information, though final reports of projects are a better place to present most details (Items required under PL 94-63 draft guidelines are underlined): Purpose of project and its relation to Center program strategy and Center evaluation strategy, methods used, empirical data gathered, evaluative results (findings and actions taken, cost of evaluation project and resources used by it, self-assessment of evaluation project and method used for assessment, present status of evaluation project and plans for changing its status.

- Written reviews and summaries should be consistent with and drawn from evaluation project design documents, reviews and interim reports, final reports.

What are the evaluation goals, objectives and strategies for the year ahead? How do they relate to overall Center goals and strategies?

- Goals should be drawn from earlier planning documents, from ongoing evaluation projects, from opinions of CMHC or program managers, from outside funding sources, from board members or community, and from the evaluator's general awareness of needs, priorities and possibilities.

- A developmental and approval process is required for evaluation goals and objectives taken from various sources. The process for each is not necessarily identical.

- Results of administrative monitoring processes, social area analysis, studies of patterns of utilization, comparisons with NIMH norms

(the CMHC profile package), and time series that show trends in utilization or in demographic changes in the catchment area furnish substantial inputs to the evaluation planning process which it is the special responsibility of the program evaluator to gather, analyze and interpret. (See Chapter 5.)

What evaluation resources are required and available to meet next year's goals?

- Technical capabilities on staff and available by consultation.
- Money, facilities, equipment, and software.
- Flexibility of resources, precommitment of resources by prior assignment, total capacity available and required.
- Continuities, efficiencies of scale (or the "learning curve" of repetition); in general possibilities for making more efficient use of existing evaluation resources, and demonstrated ability fo profit from learning and self-improvement.

What is the projected evaluation budget for next year? Are the resources available or budgeted sufficient to meet the planned goals?

- The evaluator should prepare alternative means for meeting any gap between resources available and required.
- The evaluator should obtain approval for a projected budget, and agreement as to what is planned to happen if resources are insufficient fully to meet the evaluation objectives.

What is the evaluation training and resource development plan (and budget) for next year?

- New or additional staff.
- Training and retraining within the evaluation unit.
- Training and orientation for others (staff, board, clients, community leaders?).
- Evaluation unit support for development of improvements in the CMHC information system.
- Evaluation unit support for goal-setting and other management development activities relevant to evaluation.
- Relationship of evaluation training plans and other CMHC training plans (scope, scale, overlap, consistency of thrust).
- Specific deficiencies to be overcome in order to meet next year's evaluation objectives.

Is the evaluation activity of the CMHC itself subject to adequate evaluation, and are its results being incorporated in the annual plan?

- If individual self-evaluations of each evaluation project were made as suggested under part A above, these should be reviewed for their implications for the annual evaluation plan.

- The program evaluation activity is obviously subject to management review as well. If management assessment is not routinely conducted and the results shared with the program evaluator, he may certainly request such a review. Possible reviewers include the Center director, the CMHC board, or a professional advisory committee.

Is the evaluation plan under preparation to be very similar in format, level of detail, basic intention, tone, etc., to an earlier plan? What is the rationale for similarity or difference?

Have sufficiently firm decisions been reached on what new evaluation projects to undertake next year?

3. Writing and Preparing the Plan

Will the program evaluator or someone else compile and integrate the materials that arise out of the answers to the preceding questions into a draft plan?

What topics should be covered in the written plan?

- Evaluation projects to be taken up next year should be explained in terms of Center program priorities and problems (PL 94-63 draft guidelines).

- Results of past evaluations should be expressed in terms of data gathered, findings reached, and actions taken (PL 94-63 draft guidelines).

- Suggestions by catchment area residents for future evaluations based on past evaluations (PL 94-63 draft guidelines).

- Resources to be allocated to next year's evaluation effort.

- The plan should be summarized in a way that will be comprehensible to laymen (for citizen review purposes) and brief enough to be incorporated in a five-page summary of the annual evaluation report. (See section 5 below for other mention.)

- The annual evaluation plan should be reviewed to determine its relationships with program planning. The evaluator should identify who these program planners are and request their review of the evaluation plan before putting it into final form for approval.

-- Are there evaluation studies underway or projected whose results may help decide particular issues in new or changed programs? Have these connections been expressed in the evaluation plan?

-- Are there demands for information or procedural changes on service programs implicit in the evaluation plan but which have not been taken into account (e.g., who is to bear the burden of additional costs or delays connected with gearing up)?

-- Are the program planners (usually the directors of existing and prospective service delivery programs) asking all the questions they should of the evaluator? A chance to scan the evaluator's draft plan is a chance to insert their questions.

4. Conducting Citizen Review of Evaluation Activities

Citizen review of CMHC evaluation activities may be conducted passively or actively, through group interaction or individual submissions, as a major symbol of CMHC openness and responsiveness or a relatively narrow window on the catchment area. But citizen review of evaluation activities is mandated by PL 94-63, so every CMHC will be expected to carry out an organized process and to demonstrate having done so in the annual report of evaluation.

New as they still are, most CMHCs have been strongly molded by the forces in American society that make for contemporary citizen participation. Even so, CMHCs are controlled by service providers who deal primarily with a population that is not particularly self-sufficient and often not in a good position to put pressures on the Center to satisfy client needs at all adequately. Because of grant money, capitations and other third-party funding, many Centers do not usually need to be sensitive to market pressures, though this may be changing as federal grant structure changes under PL 94-63. Accordingly, honest, sustained, informed and detailed citizen review can provide a great deal of guidance information for the Cener that goes beyond the knowledge of the more satisfied "customers," may expose the Center to the implications of conflicting ideologies, and may record the existence and impact of other service systems.

Does the CMHC have an effective policy position with respect to citizen review? Alternatives include considering citizen review to be an:

- Important process to be used openly and fully in developing better feedback from the catchment area population.

- Useful but marginally valuable process to be minimized because it distracts management and evaluation staff from activities of higher priority.

- Superfluous demonstration of the obvious (e.g., that few residents know or care what's going on, that certain small numbers of people will always feel left out, that the CMHC is usually responsive to the residents who are assertive and whose claims are legitimate).

- Risky or counterproductive process to be carried out only to the extent actually required.

- Required procedure that makes a good deal of sense if kept in perspective, and that therefore should be managed carefully to produce a reasonably accurate indication of the extent and quality of CMHC responsiveness. (Something along these lines seems to the authors of the manual to be most appropriate, since it recognizes the reality in each of the preceding positions, picks up the spirit of the law in a constructive way, and uses the need to comply with federal requirements as a basis for both good faith and creating an independent information-gathering tool of potential utility for program planning and change as well, while discharging a basic accountability.)

What should the citizens evaluate in their review? [PL 94-63, Sections 206(c)(1)(A) and 206(c)(1)(B)]

- The evaluation plan of the Center, including its responsiveness to guidelines.

- The evaluation activities and reports of the Center, including quality assurance.

- The program of services of the Center.

- The costs of the Center.

- The patterns of use of the Center's services.

- The availability, acceptability, awareness and accessibility of its services.

- The impact of its services on the mental health of the residents of the catchment area.

- The responsiveness of the Center to the needs of the residents of the catchment area, including reaction to residents in review of evaluation.

- Center responsiveness to results of evaluation studies.

Should the Center make it specifically clear in organizing citizen review what information the residents may have access to, what issues they may concern themselves with, and the scope of citizen review?

- Full disclosure would be compatible with both the spirit of PL 94-63 and the posture appropriate for receiving maximum benefit from the review.

- Full disclosure permits a wider range of options to the evaluator as to the form in which he collects citizen suggestions. Anything from a very detailed closed-end questionnaire to a general invitation to speak up can be expected to elicit some relevant responses, if the framework has been made fully visible to the residents.

Should the evaluator attempt to assure responses from residents in a scientifically representative sample?

- There is no legal requirement to collect representative views. The law, regulations and guidelines appear to be intended to lead the Centers to be aware of the complaints of dissatisfied residents, and to explain what actions have been taken to respond to their dissatisfaction.

- It may be a good defense for Centers which are under attack from what is believed to be a very small group to obtain citizen review from a sufficient, representative sample that the lack of representativeness of certain complaints can be demonstrated.

What preparations for citizen review of evaluation activities must the evaluator undertake? (PL 94-63 guidelines)

- Summaries of Center evaluation results from current year evaluation activities and summary of evaluation plan for next year must be ready for distribution and available on request. (See section 5, below.)

- Availability of the evaluation report summary is to be publicized in the catchment area through publicity in mass media, brochures for widespread distribution (e.g., among Center clients), notices to Center staff and to be posted in the Center and in actual and potential referring agencies.

- The full annual evaluation report is to be made available for public inspection and purchase at a reasonable price at local public offices. Back-up evaluation data are also to be made available.

- Suggestions and evaluations offered by catchment area residents who examine the evaluation reporting material are to be recorded.

What is the evaluator's accountability with respect to citizen review?

- The CMHC is accountable for enabling citizen evaluation and review of Center evaluation activities. This accountability could be delegated to the evaluator. The evaluator is likely to be the CMHC official closest to evaluation and the evaluation report, so it is plausible that the evaluator at least be the person expected to see that the accountability is discharged.

- An ultimate purpose that the law seeks to serve by citizen review is to assure that CMHC services are responsive to the needs of the catchment area. Thus, the evaluations offered by catchment area residents are of great potential importance. They at once offer testimony on whether the CMHC is responsive to local needs and possible guidance both on program changes to facilitate responsiveness and on suggestions of issues of crucial importance for evaluation.

5. Preparing the Annual Evaluation Report

What does the Center director or his designate need from the evaluator to make the evaluation report conform most usefully to the needs of annual grant applications and renewals?

- Evaluations about Center services and conditions related to good or bad services, based on evaluation data, should be stated.

- Current evaluation themes should be described and problems discussed or listed as candidate items for inclusion.

- Board involvement in preparing the annual evaluation report (as mandated by PL 94-63 draft guidelines requirement).

- A five-page summary of the review (PL 94-63 draft guidelines requirement). NIMH has suggested the following outline for the annual evaluation report:

  -- Evaluation data for the past grant year. Under each of the following headings, report briefly the assessment methods used, the types of data collected, the results, and the Center's interpretation of the results and action implications, referring to appropriate information already provided in the pre-site visit questionnaire or Biometry Inventory.

  (1) Cost per unit of service for each program activity;

  (2) Patterns of use of Center services by age, race, sex, and income level;

  (3) Availability of services relative to mental health needs;

  (4) Awareness of services (citizen and caretaker knowledge);

  (5) Acceptability of services (predilection to use the Center);

  (6) Accessibility of services (ease of getting services);

  (7) Effectiveness of consultation and education services;

(8) Impact of services on catchment area residents (including clients and their families);

(9) Impact on inappropriate institutionalization.

-- Citizen review of past year's evaluation report. Under each heading provide a brief description:

(1) Procedures used to provide copies and summaries of the evaluation report;

(2) Procedures used to publicize availability of evaluation report;

(3) Procedures used for citizen review;

(4) Types, amount and suggestions from citizen review.

-- Next year's plan for center evaluation. Briefly describe major issues to be studied (including the response of the evaluation plan to citizen review suggestions), expected program implications of these evaluations, methods to be used (if different from methods used this year), and proposed changes in citizen review procedures.

How can the board be involved in preparing the evaluation report?

- The Center director, or the evaluator on his behalf, would be well advised to go before the board with a description of the processes of citizen review, planning the evaluation effort, and preparing the evaluation report. This description should be graphic, clear, concise, and substantive (e.g., including a list of some of the principal hypotheses that are to be proved or disproved by current or forthcoming evaluations, or were tested in recent evaluations). Such a description makes it possible for board members to know what they are responding to when the presentation ends with the invitation to participate.

- The board itself, and/or CMHC management, should make a judgment whether the board is participating in evaluation "to the extent the board is able," as the law says.

- Board members could review and comment on evaluation project reports, the draft annual evaluation report, the draft evaluation plan, or the results of citizen review.

- Board members could help design the process of citizen review, publicize it, and (if the mode of citizen review requires it) help with carrying it out.

- A board committee on evaluation could provide a continuing resource to the evaluator.

## C. THE MULTI-YEAR DEVELOPMENTAL CYCLE

### 1. Checklist

Part C also contains a checklist. Its basic purpose is to provide the CMHC evaluator with choices on what to think about in the long-term development of evaluation in the CMHC. The obvious modulators and drivers of long-term development are information system development, Center strategy and objectives, evaluation capabilities development, the role of evaluation in a particular Center, the reputation or credibility of evaluation in a particular Center, changes going on in the world external to the CMHC, and the state of the art of evaluation. Each of these factors may be differently viewed in different circumstances; all should be taken into account in the development plan.

In what circumstances should an evaluator develop a multi-year (long-range) plan for the evaluation function?

- When it will take more than one budget cycle to bring about needed improvements in evaluation capability.
- When the learning required by the evaluator to put him abreast of the state of the art of program evaluation is probably greater than will be attainable within one year.
- When the evaluation unit has such limited credibility that achieving reasonable acceptance (let alone being trusted with "real problems") cannot reasonably be expected within one year.
- When the developmental cycle to which the Center is committed is longer than one year.
- When the objectives for the evaluation unit include some clearly important items that probably require more than one year and more kind of effort than will be possible in one year.

What planning process should the evaluator use to develop a longer-range plan?

- Long-range planning is too often not of interest to anyone, sometimes including the person doing the planning. Asking for participation from people with urgent, immediate problems to solve will probably not work. Keep the process simple, low-key and as undemanding as possible, especially when planning for the future of a small subsidiary administrative unit of a larger organization.

- One excellent starting point for long-range planning is an agreed-upon "estimate of the situation," a listing of assets, liabilities, problems and possibilities that the evaluator can prepare himself and submit to others believed to be valuable to the planning process, either for their ideas, their support, or their honest criticism of the evaluator's self-assessment. The strategic estimate of the situation can draw on results of citizen review, comments solicited especially for the purpose, any regularly developed self-assessment or management assessment of the evaluation function (see part B, section 5, above), and the evaluator's own self-appraisal. This technique, if honestly and modestly carried out, can do a lot to open up communications between the evaluator and others in the Center, since it carries the message: "We are here to serve you and we want to improve the service." More important to the long-range planning process, a candid self-estimate can interest others sufficiently to elicit reaction and stimulate suggestions--and thus to create the basis for a genuinely interactive, if limited, planning process.

- The major value in a long-range plan is the strategy expressed in it: the theory that explains how the objectives of the plan are to be achieved. If this theory depends on the willing acquiescence, support or collaboration of persons outside the evaluation unit, they should be asked to help shape the plan and to agree at least to those provisions which depend on them.

  -- If the strategy is based on a cumulative 10%-per-year increase in evaluation budget for the next five years, will the Center director and the administrator agree to support such an increase? If not, are there specific changes in the procedures, efficiency or output of the evaluation unit that (if achieved) would lead them to provide requested support? Can an explicit "contract" to that effect be sketched out?

  -- If the strategy depends upon a series of contingent events such as (1) successful completion of a major evaluation project which (2) justifies a significant improvement in information-handling capability in order to (3) enable tackling a still larger and more complicated evaluation, will Center managers agree to the scenario?

- Early drafts of strategy statements should be used to elicit responses that clarify key underlying issues whose resolution and integration is what the evaluation development progress will be all about.

  -- Is the perhaps primitive state of the CMHC management information system a greater barrier to effective and efficient program evaluation or is the general apathy or resistance to program evaluation a more important barrier, and in a sense prior to the improvement of the management information system?

  -- Is the current state of the art in program evaluation a factor inhibiting local utilization of program evaluation? If so, how does it relate to other factors?

-- How may the basic service delivery strategies of the Center be supported and facilitated by adequate program evaluation activities? What are the barriers?

-- What are the basic underlying factors and how do they relate to one another?

- The process of plan development has to reveal what gaps exist between the Center's evaluation capabilities and CMHC leadership ideas about what the evaluation unit needs to be able to accomplish. This includes asking Center managers, program managers and others what they believe these gaps to be, and in terms of the work to be done. But others may have no idea what it might mean if (1) the Center had a computerized patient record system fully integrated with the accounting and payroll systems or (2) each program element in the Center were attempting to reach a series of quantifiable (as well as other) objectives each year, or (3) the evaluator were given a six-month period to direct a service delivery program in order to get a better feeling for what kinds of evaluation are useful to line managers. Other examples are possible, which would also illustrate the sorts of action possibilities that exist and some of the specific possibilities for gaining something by a development process. Appropriate examples need to be supplied to Center managers and other participants as the long-range planning exercise gets underway.

- The evaluator may not have a very complete idea of the implications of development steps he might project: for example, the implications for the Center of evaluating programs in one temporal order instead of another (but an order dictated in the evaluator's mind by a growing evaluation capability). Or the organizational implications and legal considerations that might be involved in an integrated business and patient records system. The evaluator may well need help from colleagues and management to tell him what some of these implications are and what their significance may be.

- Getting started in a long-range planning process may be benefited greatly by discussions with outsiders--consultants on program evaluation, NIMH, DHEW regional office or state-level mental health specialists knowledgeable in program evaluation, or experienced evaluators from other CMHCs. Such observers can often ask questions and notice relevant details that put an entirely fresh perspective on the present performance and future requirements of the evaluation unit. An outsider should not be asked to write a plan; plans written by persons other than those who intend to carry them out are not often effective, though they may satisfy a paper-work requirement. But outside advisors can stimulate the evaluator to prepare a plan that takes into account significant factors he might otherwise have missed completely.

# CONTINUED

1 OF 5

How long should the multi-year cycle be?

- For most planning purposes, it will prove impossible to develop a credible long-range evaluation development plan that tries to look more than three or four years ahead. Too many of the basic forces and trends are completely outside the control of the evaluator (and are themselves contingent upon too many other forces to permit believable planning for a more remote future). Two partial exceptions are planning based on a committed information system development process and planning to strengthen an existing evaluation capability by training and recruiting.

- The cycle will in fact last only as long as it is useful to maintain the agreed-upon evaluation development strategy, which will be as long as priorities and pressures remain in a stable pattern and the development objectives have not been fully achieved. For example, an evaluation development strategy might be a plan to gear up to evaluate all the CMHC program elements that emphasize or include a number of former mental hospital patients as clients, in order to support a major service strategy of the CMHC to encourage effective deinstitutionalization. This would be a credible evaluation development strategy if it required and would lead to a considerable improvement in evaluation capability to complete the needed evaluations within a practical time period, if the potential benefits from service program improvement brought about by effective evaluation would far exceed the costs (thus making it a little easier to justify spending money on evaluation), and if the augmented evaluation capabilities would be generally appropriate to a wide range of probable evaluation activities. If the Center then abandons or sharply subordinates the deinstitutionalization service strategy, the rationale (and perhaps the resources) for the evaluation strategy will be eroded. This would be a typical reason for concluding one developmental cycle and initiating another, whether it had been in being for five months or five years.

Of what phases or parts should the cycle consist conceptually? How can the projected development cycle be tested for completeness?

- A concept for an evaluation development cycle reflects clear priorities that are intelligible and acceptable to CMHC management and direction.

- A concept for an evaluation development cycle requires objectives, a strategy, and a reasonably clear set of relationships to the basic operations and self-improvement efforts of the CMHC.

- A concept for an evaluation development cycle requires a step-by-step plan: either "First, second, third..." or "Try this, and depending on how that goes, do either this, that or the other; when that decision is made, go on to..."

## 2. Note on Approach and on Other Possible Approaches

The preceding general list of planning questions assumes that effective evaluation depends upon many factors. Typical factors include cost and quality of information, credibility of program evaluation, availability of techniques able to answer the evaluation questions being asked, sufficient program stability to permit sustained observation and data-gathering, etc. The checklist further assumes that failure to overcome deficiencies in any one of such factors as these may be fatal. The proper use of the checklist will help bring all the existing real factors to the surface. Once surfaced, of course, the problem becomes how to decide which (if any) of the basic factors would be fatal (and under what sorts of conditions). Such reflection leads quite naturally to sequencing projected actions in what should be a reasonably safe order and in terms of a useful and testable framework.

This is intended to be a generalized approach, and it should be capable of revealing any of a number of different patterns which would in turn generate a variety of developmental strategies.

In those cases in which examination leads to the conclusion that deficiencies in the information system constitute a major barrier to adequate development of evaluation capability, the materials of the next chapter may be suggestive. See also Chapter 6 on cost accounting. Dr. James Sorensen[10] has made the judgment that as many as half of the existing CMHCs lack adequate basic information systems, and that most CMHCs need major improvements in the reporting systems associated with the information systems. Entire systems of program evaluation are being constructed around information system development. Good, current manuals that take this approach, by Chapman and by Hargreaves and Attkisson, are referenced in Chapter 3. See also Carter's and Newman's work, referenced in Chapter 8.

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[10] Memorandum addressed to Charles D. Windle, May 3, 1976

# CHAPTER 3: THE ROLE OF MANAGEMENT INFORMATION SYSTEMS IN PROGRAM EVALUATION

## A. WHAT IS A MANAGEMENT INFORMATION SYSTEM AND HOW DOES IT RELATE TO PROGRAM EVALUATION?

Every community mental health center has a management information system (MIS), though some Centers are unaware of that fact, and many Centers have done little to systematize the MIS fully enough to make it easy to use as a source of evaluation data. In some Centers the vital management information is kept in the heads of those who are members of the weekly management meeting. In most Centers, some of the MIS is contained in filing cabinets. In a smaller but growing number of Centers, computerization of the MIS (i.e., of some aspects of MIS) has begun.

Management information systems accept, process, store and present information in response to management decision. The contents of the MIS depend on what information management wants and is willing to pay for. Since MIS is created to serve many needs, its contents do not necessarily or exactly correspond with the requirements of program evaluation. Generally, the program evaluator is the primary user of whatever information the Center routinely collects. Therefore, he is likely to be able to exert strong influence on the Center's MIS. It is in his interest to know enough of the concepts and vocabulary of MIS to be able to express his desires effectively to information clerks, administrators and, where they exist, to MIS managers.

A few program evaluators have become responsible for the overall design and operation of a Center's entire MIS. This chapter is not intended for them. MIS managers in CMHCs will need much more detailed treatment than is offered in this manual, and probably already know much more than is recorded here.

This chapter provides help for the program evaluator at two levels: (1) If the general concepts of management information are unfamiliar, scanning the chapter will help organize one's thinking. At the very beginning of the development of a program evaluation activity, explicit emphasis on information system development may or may not be appropriate. Even where emphasis is not initially warranted, however, the evaluator should be clearly aware that the day will doubtless come to his Center (as it already has to many others) when systematic gathering, storage, retrieval and presentation of information will become a matter of enough potential savings to assure high priority. Whatever the evaluator can do early to ease system-building problems later is worth considering, in order to save time and money. (2) When the evaluator--and hopefully his management--have decided what kinds of information must be gathered regularly and routinely for program evaluation purposes, a more reflective and detailed reading of this chapter can assist the evaluator in thinking through his part of planning the overall information system. As assistance to decisions on the substance of information required, this chapter is not adequate by itself. Later chapters in this manual on Costs, Needs Assessment, Patterns

of Use, Client Outcome, Quality Assessment, and Consultation and Education are in part intended to fill that need. They should be studied from that point of view. This chapter offers concepts and overall guidance. It is not an MIS design manual, and it is not a management system manual, both of which go beyond the normal scope of the usual program evaluator.

*A usable MIS vitally expands and facilitates the work of program evaluation. MIS is a fundamental precondition to* efficient *program evaluation. However, program evaluation is not bounded by MIS. MIS is not program evaluation; program evaluation is not MIS.*

The term "management information systems" too frequently conjures up images of sophisticated computers processing complicated information in ways that only a computer expert could comprehend. For purposes of emphasis, repetition: an MIS can be quite simple, involving no computers, with all information collected and processed manually. Whether manual or automated, a management information system is any system of people, equipment, documents, procedures, and communications which gathers, stores, processes and presents information for the purpose of assisting managers with a variety of managerial functions. For example, an MIS can be designed to perform any of the following functions in a CMHC:[1]

- Calculate the quantity of services being provided.
- Monitor the current deployment of resources throughout the CMHC.
- Identify the current recipients or beneficiaries of services.
- Provide facts needed to prove CMHC accountability outside the Center (e.g., funding sources, citizen advisory boards, etc.):
  - -- fiscal accountability;
  - -- client accountability;
  - -- program accountability;
  - -- service provider and managerial accountability.
- Assist short- to intermediate-term planning.
- Assist cost-accounting, rate-setting, budgeting and billing.
- Assist in the coordination and integration of separate organizational units.
- Provide a foundation for evaluation of the quality of services and overall program.
- Enhance both internal and external communication across system boundaries.

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[1]Broskowski, A. Management Information Systems for Planning and Evaluation. In: Schulberg, H.C., and Baker, F. (Eds.). Program Evaluation in the Health Fields (Second Edition). New York: Behavioral Publications (in press).

The role which a management information system plays in program evaluation is to collect, process, and present much of the information and data which is used in performing that evaluation. For example, if, as part of its program evaluation process, a Center is evaluating the cost per unit of service (e.g., an hour of individual outpatient therapy), the MIS can collect and process the information necessary for making that calculation, and then calculate it. What the MIS cannot do is to decide to "evaluate" the cost from the perspective of particular criteria, such as (1) whether a unit of service fulfills a stated goal or objective, (2) how it compares to the same unit cost calculation in previous time periods, (3) its comparison to similar cost calculations in other programs, (4) its comparison to fees charged for that particular unit of service, and (5) its cost relative to its effectiveness. In other words, MIS information can be used to help answer evaluative questions, once they are formulated by the Center evaluator or other persons in or out of Center management. Program evaluation includes creating such measures and comparisons, defending their validity, formulating their evaluative significance, and interpreting the meaning of data arranged to permit these measurements and comparisons to be made. The MIS can be asked to do "automatic evaluation." Values can be decided in advance and applied routinely to the information in the MIS. The data can then be routinely presented with comparisons to standards, index numbers or norms. Automatic comparison is often done by MIS in business firms, by confining the "evaluation" to simple comparisons between attained performance and standard quotas, rates, or budgets. This practice tends to close the door on alternative views and special analyses. Its acceptability, furthermore, depends on general agreement on the importance and validity of the evaluative comparisons being routinely made. Such a high degree of consensus rarely is found in a CMHC in the throes of developing a new program evaluation function, though some comparisons will seem straightforward and generally useful. They should certainly be considered for routine computation, as part of the data processing done in the MIS, if it is itself automated.

Program evaluation makes use of only three types of information, defined in terms of their sources: (1) internal information which is generated within the Center, such as patient data, cost data, staff activities data, etc.; (2) purely external information which is not generated within the Center, such as characteristics of the catchment area population, the mental health needs of the catchment area, etc.; and (3) transactional information describing interactions between the Center and others--this includes services provided to clients, consultation with other agencies, etc. The MIS can itself provide from the routine operations of the Center both internal and transactional information, but it can only store and present such external information as is presented to it and incorporated in it.[2]

External information has to be collected from its sources outside the Center; it is absolutely essential for some of the work of program evaluation. Whether that information is first fed into the MIS and then reproduced in

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[2]Ibid.

reports for purposes of program evaluation is, however, a matter of choice. For example, data describing the demographic characteristics of the catchment area population can be used by the program evaluator if retained in their original census or biometry format, or fed into the Center's MIS. The program evaluator will use these data to compare demographic characteristics of the Center's client population and the catchment area population as a whole, for example, in order to answer evaluative questions about the accessibility and the responsiveness of Center services to catchment area residents and needs. Typically, this external information is not stored in computer files because it is difficult to do and because most Centers' computer systems are not sufficiently sophisticated. This example reinforces a distinction between MIS and program evaluation. The MIS consists of integrated information, subject to regular revision and routine manipulation according to explicit procedures. If the demographic data are updated and used in routine and regular ways in the management of the Center, they have become a part of the MIS. If they are not, then at best they constitute a reference source, to which someone may turn by choice or accident. But they are not then a part of the regular information flow by which the Center is or readily can be managed. On the other hand, even as a reference source, demographic data or other information could very usefully be applied to particular program evaluation studies of a nonrecurring type. These reference sources are rendered no less valuable to program evaluation merely by exclusion from the MIS.

Because program evaluation utilizes information provided by the Center's MIS, the efficiency of its program evaluation activities can be enhanced by proper development of the MIS. The greater the number of evaluative questions that the Center wishes to answer routinely, the greater its need for comprehensive, regular collection of data on clients, services, staff activities, costs, client movement, outcome of treatment, and indirect services. A well-designed, well-operated, highly automated MIS may offer opportunities for doing sophisticated analyses; certainly it can help in answering a host of picayune questions. The specific types of information that need to be collected by a Center's MIS in order to facilitate implementation of some of the evaluation techniques described in this manual are presented in Section E at the end of this chapter.

But developmental scenarios and efficiency advantages in well-conceived information systems may be both abstract and futuristic to some Centers. There is also a here-and-now consideration. Under PL 94-63, CMHCs are expected to be able to demonstrate that they have management information capabilities of three specific kinds: a statistical component that can compute information on clients, staff activities and services provided; an accounting component that compiles information on revenues and expenditures; and a way to integrate data from these two components for fiscal management (including cost-accounting, rate-setting and budgeting). Each Center will submit to the Secretary an annual statistical report, Form ADM 25-3, Inventory of Community Mental Health Centers. The assumption is that the report will be based on facts stored in and drawn from the information system. We also make the assumption that any system able to produce

the Inventory should be invaluable to the program evaluator--whether or not the Inventory is his responsibility.

## B. OPERATIONAL ALTERNATIVES FOR A CENTER'S MIS

The program evaluator testing the adequacy of his Center's MIS in meeting evaluation needs has many rational questions and criteria to consider. Some of the principal issues relating to system complexity and sophistication are briefly outlined in this section. These considerations should not blind him to other issues, no less important, often bearing still higher priority. Three are especially important: (1) Is he questioning the MIS when he should be questioning his own ingenuity and ability to get things done? Some evaluation studies are better done with already available data than ever they will be with files elaborately constructed and then incorporated into a system. The data may not be numerous, durable or important enough to warrant systemization. If so, waiting for the system may just be an excuse. (2) Is he seeking a degree of certainty and completeness that is greater than an MIS in fact can provide? Many a cumbersome computerized information system exists as a costly monument to a management that hoped through computerization to escape the need to make decisions, to take risks, to state their evaluative judgments, and to act. The systems they have built may house mountains of data. However, where escape from responsibility has been a major motive, information systems tend to produce too many reports to digest, too late to act on, in formats too inflexible to permit easy rearrangement. (3) Is he specific with himself and his management on how he (and the Center) will actually use all the information that may become lodged in the MIS? This is a question of purpose, and whether the purpose is clear, compelling and actually realizable through MIS. It is also a question of retrieval method--the means available to get the information out of the MIS and into the hands of the potential user in appropriate form. Finally, it is a question of volume. No user will devote himself to endless detailed reports nor be able to absorb and retain the information in them.

Once the evaluator can honestly say he has reached satisfactory answers to these questions about his own and management motivation, he can turn to issues related to the MIS itself, assuming he continues to see MIS as a necessary concept to apply--as will be the case in many if not most instances, once the above issues are genuinely resolved. Alternative options available to Centers range from simple manual systems to highly automated, computer-based systems. The level of sophistication, or automation, that a Center chooses will depend on various criteria, including:

- Fiscal constraints -- The size of the Center's budget and the portion of that budget that can be allocated to MIS development will determine the level of sophistication possible.

- Size of Center -- Small Centers (up to a few dozen employees) can probably get by with manual systems while very large Centers (above a hundred employees) will need more automated systems to gather

and process information on their clients, the activities of their staff, their cost-accounting, billing and payroll activities, etc.

- What the Center wants the MIS to do -- Basically, the more a Center wants the system to do, the more it will need to automate the system. The more comprehensive the Center wants its routine evaluation reports to be, and the larger the scope and scale of special studies, or the more it wants the system to do in other areas of Center operations (e.g., automatic billing and payroll, etc.), the more it will need a computer.

There are several options and levels of sophistication available to Centers that want to escalate the MIS from a simple manual system to a complex, computerized system. We will briefly describe these options in ascending order of automated information capability and system cost.

(1) Purely manual systems: Purely manual systems are those in which all information is gathered and processed by hand. Small Centers with low budgets and relatively simple needs for information processing may be better off with a purely manual system and can certainly manage nicely on that basis. The primary variable involved in increasing the amount of information processing in a manual system is obviously staff time, particularly clerical staff time. Manual sorting of data-gathering forms can also be made somewhat more efficient through the use of forms of different size, shape and color. Methods and systems are available to improve manual data operations. The relevant expertise is in office management, filing/indexing systems and medical records.

(2) Machine-assisted manual systems: The efficiency with which information is processed in a manual system can be further enhanced by the addition of inexpensive machinery, such as key punch equipment, card-sorters, desk calculators, etc., which cost hundreds of dollars per unit to purchase, but not thousands. Most of these devices do very little to improve the efficiency or accuracy of the data-gathering steps, and not much to expedite or reduce the costs of information storage. Those steps that make the data useful for evaluation, however, can be greatly eased by the kinds of equipment just listed. Larger evaluation studies will become feasible. More evaluation output, more accurately documented, is attainable. If there is a Center that lacks access to these simple mechanical aids, its program evaluator should certainly investigate their costs and benefits.

(3) Systems using simple computers: The limitations of basically manual systems can be overcome somewhat further by the addition of relatively inexpensive ($1,000-$5,000). desk-top mini-computers and/or simple accounting machines which produce fixed-format accounting ledgers. This level of automation is still fairly limited, but it does speed up the processing of basically hand-gathered information. Sometimes simple computers can be leased at small risk and relatively trivial cost. Unless the program evaluator has had previous experience with these kinds of equipment, he

should not allow himself to be placed in the position of recommending or deciding how much of what kind to purchase. Seek the advice of evaluators in other Centers, and collaborate with business managers, accountants or others who will share in using the equipment.

(4) Systems using computer service bureaus: Computer service bureaus are organizations with sophisticated computer equipment which process information for other organizations for a fee. To use a service bureau the Center first gathers its own information in agreed-upon form and then turns that information over to the computer service bureau for processing. The more clients the service bureau has and the greater the volume of information that it processes for those clients, the more sophisticated equipment it can use and the lower its fees for information processing can be. In this way, a Center can have access to highly sophisticated computer processing of its information without the high cost of leasing or purchasing the computer equipment itself. Computer service bureaus provide two basic types of computer processing services: "batch" and "on-line" processing.

(a) Batch processing: In this type of service the Center periodically (e.g., once a month) submits all the information it wants to have processed to the computer service bureau in a "batch." The service bureau processes the entire batch of information and returns it to the Center along with the output reports. This type of service is less expensive than "on-line" processing, but it is also more limited, since the Center can get its information processed only when the entire "batch" is processed. Any needs for information to be processed which arise between batches must wait until the next batch is processed.

(b) On-line processing: On-line processing means that the Center has one or more computer terminals at its facility which are "on-line," or connected, to the computers at the computer service bureau. Whenever a need for processing information arises at the Center, a Center staff member simply "enters" the request into the computer via the terminal. The response comes back in the form of a print-out or projection on a visual screen. The advantage of "on-line" over "batch" processing is the immediate access to data processing and the flexibility of output reports available upon request from the on-line system. On-line processing is much more expensive than batch processing, and its sophisticated capabilities probably exceed the data-processing needs of most Centers. Be sure it will be useful and is in a real sense necessary before contracting for a system containing on-line capabilities.

There are two types of computer service bureaus potentially available to CMHCs: "public" service bureaus and "private" service bureaus.

(a) Public service bureaus: Public service bureaus are available in some areas and are run by a state or county agency such as the Department of Mental Health or the Department of Administration, usually on a subsidized basis. Because of subsidization and the fact that they have captive customers and are not run for profit, public service bureaus tend to be less

expensive than private service bureaus; however, they do not exist in all parts of the country and are not always available to a CMHC even when located nearby. In some instances, their services are very rigidly structured, but may still be advantageous. Sometimes their services are compulsory. The CMHC contemplating automation should certainly investigate access to a public service bureau.

(b) Private service bureaus: Private service bureaus tend to be somewhat more expensive than public bureaus, but the services offered are essentially the same. Furthermore, there may be greater risks associated with their use in the area of *confidentiality* of client information, so Centers must provide safeguards to protect confidentiality when using private service bureaus. Private bureaus can be capable of providing excellent service; a CMHC should not eliminate arbitrarily the possibility of working with a private bureau, without direct investigation.

All service bureaus are not equal for CMHC purposes. A qualified bureau should be able to demonstrate considerable, inexpensive, efficient and otherwise successful experience (proved by current references provided directly to the CMHC by current customers with work similar in type, volume and complexity to what the Center will require). A bureau should be expected to be explicit about costs, and what risks of extra charges may be incurred by the Center unwilling to tolerate delays either from time to time while the computer churns out tax bills, or during development periods while troublesome "bugs" are tracked down and eliminated from the computer programs designed to process the Center's data.

The CMHC contemplating a service bureau contract should be aware of the benefits it may gain and also of the risks it may run by entrusting its work to one of these organizations. One measure of the quality of the bureau and the trustworthiness of its salesmen is their initiative in raising and exploring risks including the following:

- Availability of CMHC personnel and bureau programmer personnel able to communicate adequately with one another. Unless the programmer already understands mental health services, program evaluation and the management needs of the CMHC, there is considerable risk of delays, naive oversimplification, and mutual frustration.

- Bureau work capacity, peak periods and bottlenecks vis-a-vis CMHC scheduling and turn-around requirements.

- Bureau priorities or obligations to favored customers that could in particular contingencies result in failure to meet commitments to the Center.

- Obsolescence of bureau equipment, or plans to replace or modify parts of the bureau system which could entail problems: temporary suspension of service, need for significant modification of CMHC data-gathering procedures, extra costs for rewriting computer

programs (perhaps experienced as service suspension, delay, or inaccurate reports). The list is long.

- The bureau's ability to deliver usable, accurate and timely reports from input information of the quality that the CMHC is able or willing to produce. In some kinds of work, costs of correcting errors in input data and resulting reprocessing may entail real problems for the Center. In many cases, CMHC requests for "slight" changes in output format may be surprisingly costly to satisfy.

- The kind and extent of dependency that the CMHC creates for itself by entrusting work to a service bureau. How difficult would it be to change from a chosen bureau to a competitor? How much notice would be required? What other penalties are involved? What kind of leverage does the Center have to stimulate good performance by the bureau and how effectively can this leverage be used?

Anticipating all the problems that can arise with a service bureau contract is more than this manual can do, and beyond its function. Because computer service bureaus offer a viable and potentially inexpensive introduction to automated MIS, and because program evaluators may in some Centers be the first to discern genuine prospective benefits from automation, this discussion is included as an aid to negotiating--or refusing--an initial contract with such a bureau. The crucial issue is whether anyone in the CMHC staff is competent to make a valid decision on a service bureau proposal. This passage in the manual should aid Center management at least in deciding on its adequacy to grapple with the issues, and should stimulate its seeking disinterested advice when needed. Other CMHCs, the state department of mental health, or the NIMH regional office may be able to provide adequate technical assistance at modest or no cost. Consultants specializing in computer systems may also be found in private firms, in academic employment, and in human services support organizations such as local United Fund technical staffs. At this late date, there is little need for the blind to lead the blind. Competence <u>is</u> available.

(5) <u>Systems which lease their own computer</u>: An alternative to computer service bureau computer processing is for the Center to obtain its own computer. This option may be desirable if the Center's information processing needs are substantial enough to keep the computer busy. The less expensive option for obtaining one's own computer is often to lease it. This makes the initial outlay of money smaller, and is consistent with flexible replacement of equipment if a more suitable computer becomes available, or the needs of the Center swiftly outgrow the capabilities of its computer system.

(6) <u>Systems which buy their own computer</u>: Purchase is often the most expensive option available to Centers when they automate. Certainly, buying a computer requires the greatest initial outlay of money. There may well be circumstances under which a Center's first computer should be bought outright; for example, if several key management and administrative personnel are highly experienced in computer work as well as in mental health center

administration, and the appropriate computer becomes available on good terms. Buying and operating a computer system is generally a costly and risky method for learning about computer capabilities, and is not recommended for inexperienced staff.

As mentioned earlier, the particular type of MIS and the level of automation selected by a Center will depend on its own needs for extensive and frequent data collection and processing, the size of the Center, the fiscal constraints inherent in its operating budget, and the particular activities that it wishes the MIS to perform. For more detailed information about the options available, from simple manual systems to complex, computer-based systems, the references listed at the end of this chapter should prove useful.

A Center considering computerization in any of its forms should very carefully study its management information system before even beginning to think seriously about how to change the system. Obviously, much of the energy needed to conduct such a study must come from a hunch that the MIS can be improved. But what is improvement from one perspective is often only aggravation from another. Only a detailed and carefully discussed investigation can reveal whether the benefits are worth going after. It will likely be found that the MIS is intricately interwoven with the patterns and relationships by which administrative control of the Center is exercised, and the methods by which power is concentrated and distributed. Because everyone instinctively believes that power and control may be at stake, the most compelling and rational arguments about MIS may fall very flat, even when purporting to demonstrate great potential savings, or gains in accuracy, or increases in capability to handle larger volumes of work. Since some of these fears about changes in the patterns of control may be justified, the decision to make major changes in MIS is a serious matter, which Center management should not (and probably will not) make lightly. Because of the difficulties of eliminating a computer system once installed --and of making a computer system really workable if it is unacceptable to key personnel--this cautionary point applies particularly to computerization projects.

The evaluator has to be concerned with still other points when computerization is under consideration: (1) Sophisticated computer technology does not guarantee comparable sophistication in evaluation capabilities. The evaluator may have to exercise great patience, persistence, and ingenuity to assure reasonable responsiveness to his needs in a new computer system, even in cases in which the evaluator himself originally stimulated the project. Knowledgeable observers in NIMH regional offices point deploringly to "sophisticated" computer systems that are "unbelievably primitive and naive from an evaluation perspective." (2) The magical advantages of a comprehensive MIS, able to do everything that anyone requires, are apparent. Achieving those advantages may turn out to be costly and complicated. The evaluator should probe the ability of any proposed computer system to meet crucial evaluation needs. If a comprehensive system proves to be too expensive, a minimal system may still be able to provide what the evaluator most needs in order to deliver badly needed evaluation output. Whether these crucial outputs

will be based on unit cost figures, on an unduplicated count of clients, on detailed analyses of inputs to particular service programs, or on some other kind of information will depend on the service and evaluation strategies of the Center, its stage of development, the kind of MIS in existence, and what is proposed as an improved MIS. (3) If the Center works with affiliated agencies or is an active part of an areawide network of mental health, human services, or health care services, the MIS may be much more useful if it is made compatible with the data systems in use in some or all of these affiliated agencies: comparable input and output formats are especially beneficial in that they allow easy data aggregation and comparisons, and sometimes may enable common processing as well.

Centers considering the more highly automated, computer-based alternatives for MIS need to pay careful attention to the increasingly controversial issue of the *confidentiality* of client information. When information systems become highly automated, and interconnected with the information systems of other agencies or projects, they run the risk of violating the rights of privacy of individuals, often inadvertently or through oversight. Furthermore, the more automated the system, the greater the risk that it will be inaccessible to, or unchangeable by, the individuals about whom it is gathering, processing, and reporting information. Because of these risks, Centers need to protect the privacy and confidentiality rights of their clients by providing ways in which individuals can have access to, and impact on, the information that is gathered on them. For example, a Center's MIS should provide for individuals to inspect information collected about themselves; it should provide for corrections of errors in that information; it should make clear what information is gathered by the system, what is done with that information, and who has access to it; it should not automatically merge information from other files or other systems without first examining the implications for individuals' rights of privacy; finally, management of the Center should be held responsible and accountable for mismanagement of the information system and for violations of confidentiality and privacy rights.[3]

## C. THE BASIC INFORMATION REQUIREMENTS OF PROGRAM EVALUATION

Any Center's MIS, whether it is a simple, manual system or a sophisticated, computerized one, must gather certain basic information about its clients, services, staff activities, costs and funding, all of which can be monitored directly to answer a variety of evaluative questions about its program.

### 1. Categories of Information

There are seven basic categories of information needed to conduct comprehensive program evaluation. The first two categories involve information that is not generated by the Center's MIS. The MIS does generate the information covered in the last five categories. Under each category we will

[3] Sterling, Theodore D. Humanizing Computerized Information Systems. Science, 190:1168-1172, December 1975.

identify the specific information that needs to be collected, and we will indicate examples of applications of that information to program evaluation.

(1) Catchment area characteristics:

- Population characteristics
- Mental health needs of population, including special populations at risk
- Institutional characteristics
- Existing service agency resources in mental health and other human services

Applications of information -- This information contributes to the formulation of the Center's program goals and objectives, particularly in identifying target population priorities. Of course, the prior, broad statement of goals consistent with CMHC legislation at federal and state levels is actually part of the initial determination of what demographic information to gather in the first place. This category interacts, accordingly, with the next category.

By enabling the Center to identify special populations at risk, demographic information also contributes to the identification of funding sources set up to help meet the needs of particular subpopulations (e.g., alcoholics, low-income populations, racial or ethnic subgroups, children, etc.). The same demographic information is also necessary for later comparison with calculated utilization rates of Center services by residents of the catchment area. Imbalances in the utilization rates for various subpopulations in the catchment area may indicate problems in awareness, accessibility, and acceptability of Center services which will need to be further explored.

(2) Center program goals and objectives (values): Every Center is responsible for the formulation of program goals and objectives expressing the intention to provide services to the catchment area in general and to special populations at risk in particular. The new program evaluator may discover that his Center's goals and objectives have not been well formulated, at least for evaluation purposes. Gaps and inadequacies in goals can be lethal to program evaluation. Don't quit, however, if the Center goals are vague. It is a hard job to clarify and specify goals and will probably take several years. Chapter 2 has provided some guidance on this issue. Here, the subject is MIS. The practical effect of overdeveloping the MIS without prior agreement on adequate goals and objectives for the Center is either to load the MIS with a lot of expensive information that may never be used, or to transfer (implicitly) a rather large share of responsibility for goal-setting to the MIS designers. Careful, candid, low-key discussion with the Center administrator and possibly the Center director will help keep the development of the MIS in proper perspective, and will also be helpful in stimulating progressive clarification of the Center's goals and objectives.

Some of its goals and objectives can be formulated by the Center for the purpose of self-evaluation and will be based on the need for various types of program improvements, such as greater cost-efficiency in the delivery of one or another of the Center's service elements, improving continuity of care, increasing the provision of indirect C&E services to particular types of community service agencies, etc. All of these examples of goals and objectives require baseline data in order to be formulated in ways that are measurable or meaningful. The MIS can provide baseline data against which goals and objectives can be quantitatively expressed and against which actual Center performance can be monitored and measured using data also provided by the MIS.

Applications of information -- Program goals and objectives are the backbone of program planning and self-evaluation. They enable the Center to be specific about its intended accomplishments during the year, and they enable the Center to know when it has achieved those planned accomplishments. Without program goals and objectives, program evaluation would be random and open-ended, and accomplishments or improvements would be more difficult to evaluate--e.g., "Did we accomplish what we planned to accomplish in this area this year, and how can we demonstrate our accomplishment?" depends on having both an explicit objective and a method to measure progress. As noted in the discussion of demographic information, goals and objectives are formulated in an iterative process. As data are collected and monitored they suggest new or sharpened goals and objectives, which then often permits still more precise definition of the data required to measure progress.

(3) Client information:

- Demographic characteristics
- Residence
- Family constellation
- Initial diagnosis or problems
- History of previous care
- Treatments
- Treatment plan
- Informed consent to treatment
- Condition at discontinuation
- Reasons for discontinuation
- Periodic assessment of client psychological and social functioning (if routinely done)
- Client satisfaction measures (if routinely done)

Applications of information -- This information enables the Center to describe its client population to its funding sources, and to compare client population characteristics across service elements and treatment modalities. The Center can compare its client population with the catchment area population by calculating utilization rates for demographic subgroups. Utilization rates suggest the extent to which the Center is serving the needs of its catchment area in general and of special target populations and populations at risk. These data are a base from which to examine accessibility, acceptability, or catchment area awareness of Center services. The information on sources of referral suggests something about the degree of integration with other social service agencies and the level of awareness and acceptability of Center service by various caregivers. Source of referral

information also contributes to continuity of care assessment, and helps to measure the extent to which the Center is channeling patients from state hospitals back into the community. History of previous care indicates the extent to which the Center is absorbing former state hospital patients, and it too is useful in analyzing continuity of care within the local social service system. Initial diagnosis helps the Center assess the types of problems it is serving. This information can be examined in relation to the diagnoses of catchment area residents seen by other social service agencies in order to identify the Center's role in the social service system. Many settings are moving away from "diagnosis" to a more "problem-focused" approach, and Centers should consider this approach to characterizing clients. Information on condition at discontinuation provides a rough indication of the results of treatment for clients served. Information on the reasons for discontinuation of service also provides some feedback on the outcome of treatment as well as on the accessibility and acceptability of Center services. Referrals at discontinuation provides information relevant to continuity of care and is useful in evaluating the adequacy of referral procedures. The last two items, if collected, contribute to the assessment of the impact of services on clients and their families. Finally, for indirect service program elements like consultation and education, the "client" may be an agency, organization, or institution--such as a school. Similar data about these "clients" are frequently the key to evaluating indirect services.[4]

The examples given by no means exhaust the potential of these basic data, but should at least provide an impression of some of the connections between these classes of management information and program evaluation. The measurement categories and concepts presented are not sacred or complete. Some readers of draft versions of this manual suggested that the evaluation and service milieu behind these concepts derives primarily from medical hospital traditions and language. Other or additional categories and concepts of institutional relationships may, of course, be more appropriate to the Center that is heavily oriented toward educationally derived social skills training, and negotiated goal achievement in a voluntary and non-referred client tradition. The client information required may be very similar; the measures, the priorities, and the significance of these measures may be very different in different milieus. These differences will be inherent in the MIS that grows by accretion. They have to be built explicitly into the MIS, if it is being replanned and designed more or less from the ground up.

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[4] Broskowski, A.; Driscoll, J.; and Schulberg, H.C. Managing and Evaluating Indirect Services. In: Attkisson, C.; Hargreaves, W.; and Horowitz, M. (Eds.). Evaluation of Human Service Programs. New York: Academic Press, 1976.

(4) Service utilization information:

- Number of clients served by each service element, by treatment modality
- Patient turnover for each service element
- Client movement among service elements
- Medications
- Length of stay per episode of care
- Volume of direct or indirect services provided by each service element

Applications of information -- This information provides a data base for utilization review (a connection between MIS and quality assessment--see Chapter 10), and it helps Center management to evaluate the allocation of resources among the various service elements. Changes in any of these figures over time can be monitored and the reasons for significant changes can be explored. Rates and trends, of course, are treacherous to interpret. The evaluator needs every bit of his ingenuity to select and properly aggregate the data he needs to eliminate spurious interpretations. Service utilization data are of considerable direct interest to the directors of particular services and programs. The program evaluator should be their advocate in assuring their prompt access to both raw data and abstractions from it. Agreement on what the numbers are is often a first step toward agreement on what the numbers mean. The program evaluator should obviously be sensitive to what the clinical leadership regards as important services, significant measures, etc.

The kinds of information listed are woven through almost all of the chapters that follow. Uses are varied and frequent.

(5) Staff activities information:

- Staff hours devoted to direct services, by type of activity and/or treatment modality employed
- Staff hours devoted to indirect services, by type of activity
- Staff hours devoted to activities other than direct and indirect services, by program or general administration
- Volume of services provided by individual staff members
- Clients assigned to each staff member

Applications of information -- This information contributes to calculations of cost per unit of service for both direct services and indirect services and to cost per episode of care. It also enables Center management to evaluate the appropriateness of staff allocations and to shift them if necessary. Finally, it enables Center management to evaluate the productivity of service delivery output of individual staff members. Obviously, these categories are also basic to management self-evaluation.

(6) Fiscal information:

- Total Center costs by type of cost
- Total direct service costs for each service element
- Total indirect service costs for each service element
- Costs per unit of service for each service element
- Cost per episode of care
- Costs of specific treatment modalities, by unit of service
- Comparison of charges with costs per unit of service
- Comparison of budgets and expenditures for each organizational component
- Amounts of income by source of funds
- Cash flow
- Accounts receivable, aged accounts, bad debts

Applications of information -- Cost information contributes to rate-setting, or pricing of Center services. It also contributes to cost-outcome and cost-effectiveness analyses of particular services provided by the Center. Costs per units of service are the basic measures or standards of efficiency in Center operations. The comparison of budgets and actual expenditures for each organizational component is useful for monitoring expenditures and for determining the need for budget revisions. This information should be prepared monthly for adequate control of the Center's financial status. Funding information contributes to the budgeting and rate-setting process of the Center. Analysis of funding sources and amounts provided may indicate untapped sources, dangerous dependencies on one or two sources, the need for fee modifications, inadequate collection activities, contract modification, etc. Furthermore, stipulations of funding may affect program planning and Center activities in very specific ways. Finally, funding sources may also stipulate the reporting of specific kinds of evaluative information and, therefore, influence the specific output of the Center's MIS and its program evaluation activity.

(7) Integration of Center with other community agencies:

- Identification of other local human service agencies, the services they provide, the clients they serve, and what these agencies and their clients have in common with the Center's program and clients
- Volume of indirect services provided to other local social service agencies
- Referrals from Center to other agencies
- Referrals from other agencies to the Center
- Other linkages between the Center and other agencies

Applications of information -- This information helps to identify resources, gaps in the referral network between the Center and other local agencies, the extent to which there is continuity of care among various service agencies, the extent to which the Center duplicates services provided by other agencies, portions of the catchment area population whose mental health needs are being met--either totally or partially--by other service agencies, and particular human service agencies for which C&E activities need to be enhanced in order to improve cooperative connections with them.

2. MIS Reports for Center Management

Regardless of what type of MIS the Center has, there are two major types of output which should be generated by the system. The first is a regular, periodic series of reports which are produced on at least a quarterly, but preferably a monthly, basis. Such reports should contain client information and service utilization information [as described in (2) and (3) above] at a minimum. Cost information is also highly desirable, and staff activities data might be useful where occasional sampling will not suffice. These regular reports should go to the Center director and the leader of each service unit or team within the Center, so that each unit's service activities can be continuously monitored by those responsible for it. The value of such information to managers has been repeatedly emphasized by those who do have access to such data (especially when they are for some reason temporarily deprived of it). Many decisions by key program staff must be and are made on extremely short notice; there simply is no opportunity to call in the evaluator and ask for special data on a particular problem that a unit is facing. A stream of periodic, routine reports, however, will over time have impressed many features of a unit's performance upon the supervisor's awareness--size of caseload, service volume, expectable peaks and dips, types of clients served, typical service patterns, typical distribution of staff time, etc. This set of impressions will immensely facilitate the supervisor's task of making routine, even daily, decisions about a unit. For example, he can handle immediately such issues as:

- Should half of an entire unit's staff be allowed to take vacation at the same time?
- Where should the new volunteer be placed to ease the service pressure the most?
- Should he take this opportunity to ask for more (or fewer) referrals to his unit from a given Center or outside source?

While the stream of routine data feedback to Center staff may not seem to carry the glamor of special studies that highlight dramatic or surprising aspects of a Center's program, it provides an extremely valuable service to managers which can improve their day-to-day functioning as much as anything else an evaluator can do. Furthermore, such routine feedback has other beneficial side effects:

- It makes the supervisor more familiar and comfortable with quantitative aspects of his program instead of only the qualitative or clinical aspects.

- It establishes the credibility of the evaluation data base as a source of useful data about the program.

- It prepares program supervisors for a positive reception, and therefore increased likelihood of use, of later special reports about the program in question.

- It develops "informational curiosity" in managers and supervisors, so that they increasingly take the initiative in asking for more information (or special studies) about their unit--and this is an almost certain prognostic sign for utilization of that requested information when it becomes available.

The second type of MIS output is the special extract or report which may be used for such things as the Biometry Office's annual inventory report, or data for analyses of cost per unit of service, or data on a client utilization pattern for some specified period of time. This type of output is by nature nonroutine, and should therefore be part of an evaluation planning process as described in this manual in Chapter 2.

## D. SOURCES FOR MEETING BASIC INFORMATION REQUIREMENTS

As mentioned in the beginning of Section C, the first two categories of information are not provided directly by a Center's MIS. The first category, catchment area population characteristics, can be gathered in three basic ways: (1) the use of census data such as NIMH's Mental Health Demographic Profile System (MHDPS) or annual census updates where available from state sources such as health and welfare departments, to suggest the mental health needs of the catchment area; (2) key informant studies; and (3) epidemiologic surveys of needs. (These are discussed in more detail in Chapter 4.)

The second category of information, program goals and objectives, is generated by Center management. The participation of the program evaluator can help to (1) incorporate the results of previous evaluation efforts into the formulation of those goals and objectives, and (2) relate the new goals and objectives to specific methods and plans for evaluating their accomplishment. Through the process of formulating program goals and objectives, a Center's evaluation efforts can begin to become an integral and useful part of the process of Center management. But such goals require a reliable data base provided by adequate internal and external monitoring systems.

There is also one part of the last category of information, integration of Center with other community services, which cannot be totally generated by the Center's MIS--namely, "identification of other human service agencies, the services they provide, and the clients they serve." This information

requires a special data-gathering effort and may range from reviewing existing directories of human service agencies to surveying all available human service agencies in the area. Usually a combination of the two is necessary; existing directories must be brought up to date.

The remainder of the information discussed in Section C can be generated by a Center's MIS, whether the system is manual or automated. There are two basic components to an MIS, both of which gather information relevant to program evaluation. The first is the statistical component which gathers information on clients, services and staff activities. The second is the fiscal component which gathers accounting information (income and expenditures) and performs the functions of cost-finding, rate-setting, budgeting and billing. The two are not necessarily subject to common control. Fiscal records are often the province of a business manager or accountant who preceded the program evaluator in appointment. Collaboration is the only possible policy for the evaluator, in coping with any such division of authority. (See also Chapter 6 on Cost Analysis.)

Some Centers have already developed rather sophisticated management information systems which perform all of these functions, and they already know how to gather the information described in Section C even though the forms that they use may be cumbersome and inefficient for clinical and/or MIS purposes. Many Centers, however, are too new or too small to have developed such an MIS. The following discussion of basic data-gathering instruments is, therefore, addressed primarily to those Centers which do not have a well-developed MIS, and its purpose is to give them an overview of the kinds of basic alternatives available. For Centers that want to learn more about how to develop a basic MIS which will gather and process the information described in Section C, we recommend the following publications as the most useful beginning resources:

- Cooper, E. Myles. Guidelines for a Minimum Statistical and Accounting System for Community Mental Health Centers. DHEW Publication No. (ADM) 74-14. NIMH, 1973.

- Chapman, Robert L. The Design of Management Information Systems for Mental Health Organizations: A Primer. NIMH (in press).

The Myles Cooper publication discusses the essential elements of information to be covered by a minimal MIS and gives examples of 44 data output tables which cover that information. It describes and offers examples of a variety of documents for gathering information about clients, services, and staff activities; it describes a set of procedures for tabulating and summarizing the information gathered in those documents; it describes a basic accounting system for use in CMHCs; and it discusses methods of cost-finding. The systems it describes are manual (hand-operated) systems, but it does include a short section which discusses some basic automated system alternatives. Its availability is the reason that the present chapter offers no more detail than it does, regarding the minimal system.

The Robert Chapman publication discusses a range of issues related to the design of MIS for mental health organizations, including (1) the aspects of a mental health agency's climate which affect the design and implementation of an MIS; (2) the structural requirements for an MIS design; (3) the output report requirements of the MIS; (4) the data collection requirements of the MIS; (5) the more specific details involved in completing the system's design; (6) the procedures for actually installing the MIS, including preparation of a procedures manual, computer programming, initial testing of the whole MIS, and debugging the MIS; and (7) procedures for monitoring and periodically updating the MIS design. This publication is also highly recommended.

For the purpose of gathering statistical information on clients, services, and staff activities, there are several data-gathering instruments which can be used. What data to gather in each, and how many in total to use, depends on the interaction among several rules of thumb: (1) Most people do not enjoy filling out forms; the fewer they need to remember to complete, the more likely it is that the record itself will be complete. (2) Forms with too many blank spaces too close together are unpleasant to use, especially if the print on them is small and hard to read. (3) Some forms apparently designed for data-gathering can (or must) also be used as output reports, to third parties. These forms should contain little and preferably no information unless the recipient needs it. (4) Forms often can be made to serve administrative or clinical purposes, such as reminding a clinician of what needs to be done next. If properly introduced with this objective well accepted, the form itself can serve as an incentive for its own completion--but only if it is obvious how to use it and easy to use in this way. (5) Forms should require information that will be used, and used in ways that those who fill out the forms understand. It helps if they actually see and use the information after it has been processed. Information that "someone may need later" should in most cases not be gathered now.

### 1. Basic Alternative Documents

Nine basic alternative documents, described by Cooper, can be used to gather statistical information on clients, services, and staff activities. The program evaluator should not normally be the person who is responsible for design of administration of these forms--all of which, except the client statistical record, are inherent to the Center's administrative functioning and necessary to demonstrate the accountability of the Center. They are listed here to assure the new evaluator as to what minimum of information his Center should be collecting that should therefore be available to him as evaluation data. The forms can be further broken down or combined in various ways. In a particular Center, information may turn out to be collected not at all, collected once, or collected more than once.

The forms are listed on the following page with an indication of the kind(s) of information they gather:

| | Client Information | Services Information | Staff Activities Information |
|---|---|---|---|
| Contact-Intake-Admission Form | x | | |
| Transfer Form | x | x | |
| Discontinuation Form | x | | |
| Direct Service Ticket | x | x | x |
| Census Attendance Record | x | x | x |
| Client Statistical Record (statistical unit responsibility) | x | x | |
| Indirect Services Ticket | x | x | x |
| Indirect Services Log | x | x | x |
| Staff Time Sheet | | x | x |

(1) Contact-Intake-Admission Form: This form is filled out for each client who comes through the Center door and can gather all of the following information on those contacts which actually become clients of the Center: client identifiers (name, address, etc.), demographic, principal problem and/or initial diagnosis, history of previous care, source of referral, and case number. Some Centers may have separate forms for people who contact the Center and receive some form of services without actually becoming ongoing clients. These are called "Contact Forms" and are generally less extensive than "Intake-Admission Forms" or "Entry Documents" which are filled out for those people who actually become official Center clients with a case number.

(2) Transfer Form: This form is completed every time a client is transferred from one treatment modality to another treatment modality (e.g., from inpatient to outpatient), and is very important to the evaluation of "continuity of care" and "cost per episode of care." The form generally gathers the following information: client name, case number, treatment unit client is being transferred from, treatment unit client is being transferred to, date of transfer, and name of staff member ordering the transfer. Most Centers have occasional patients in several treatment elements simultaneously, for which the Transfer Form should also make provision, or the Center will be unable to produce an accurate unduplicated count of its clientele.

(3) Discontinuation Form: This form is filled out when the client discontinues treatment from the Center. It can be a separate document or be included as part of the Contact-Intake-Admission Form. It can include all of the following information: client name, case number, reason for discontinuation, final diagnosis and/or condition of client, referral to other agency (if any), person assigned to follow up referral, and verification of referral contact.

(4) Direct Service Ticket: This is the form that records all non-residential (outpatient) services provided to Center clients. It can record all of the following: client name and case number, date, organizational unit and modality of treatment, type of service provided, elapsed time of service, staff member providing service, medication provided, and fiscal information. It is a key form in gathering information about services provided, the clients who receive them, and staff activities.

(5) Census Attendance Record: This form can be used to record attendance at residential facilities (inpatient) and/or at group therapy sessions in either residential or nonresidential facilities. It can include all of the following information: staff member name, organizational unit and treatment modality, type of service, date and elapsed time of session, and list of clients in attendance including name and case number.

(6) Client Statistical Record: This form is designed primarily for use by manual MIS systems to provide unduplicated counts of clients for each treatment modality and for the Center as a whole. It is maintained by the central statistical unit of the Center and essentially keeps track of the number of admissions and terminations by each client during the month. It is drawn from other records, in an effort to track down all clients who are admitted to more than one service, and may thus have passed through intake processing and been counted more than once. However, it is quite a complicated data-gathering procedure for a manual MIS and very few Centers actually use it.

(7) Indirect Services Ticket: This is one alternative document for Centers to use in recording indirect services activities. A separate ticket is filled out by a staff member each time he or she provides ar indirect service. It is easier to process the "ticket" in manual MIS systems, but it is more time-consuming to fill out than the Indirect Services Log. It gathers the following information: staff member, organizational unit, date, elapsed time of service, type of indirect service, name and address of recipient, type of recipient, number of people present. It may also be used to double as a travel voucher.

(8) Indirect Services Log: This form is an alternative to the Indirect Services Ticket. It is less time-consuming to fill out but harder to process in a manual MIS; it is acceptable for most automated systems. The log records all of a staff member's indirect service activities for a one-month period on the same sheet of paper, and it includes the same information gathered on the Indirect Services Ticket.

(9) Staff Time Sheet: This form is used for payroll purposes but is also useful for analyzing and evaluating the allocation of individual and aggregate staff time among various direct and indirect service units and among various overhead and support activities. The form generally gathers the following information: name of staff member, organizational unit, staff discipline, pay status, time period covered (usually one week), and the number of hours spent in various organizational units or activities during each day. It must now be designed so that costs can be allocated to the several different grant mechanisms operative under PL 94-63.

Many of these forms, particularly the lengthy Intake Forms and Discontinuation Forms, can be filled out by a receptionist or clerk rather than by a professional staff member. This will help the Center make the best use of professional staff time by minimizing the amount of paperwork that needs to be handled by them. For example, at the point of initial contact, or intake, the receptionist or a clerical staff member can fill out the Contact Form or Intake-Admission Form while the individual is waiting to be seen by a professional staff member.

The procedures and documents for gathering and processing accounting information are too complicated to present in an overview such as this. For help with setting up a basic effective accounting system, the Cooper and Chapman publications are useful. The primary use of this information in program evaluation is for calculation of the costs of service provided, primarily in terms of "cost per unit of service." The basic methods or techniques for calculating such costs are described in Chapter 6, along with additional references on cost accounting.

## E. INFORMATION FROM MIS NEEDED TO CONDUCT EVALUATION TECHNIQUES DESCRIBED IN THIS MANUAL

As mentioned in Section C of this chapter, much of the information provided by a Center's MIS can be monitored directly and summaries can be used to answer evaluative questions about the Center's program. Chapters 5-11 describe more elaborate evaluation techniques which require more than simple monitoring of MIS output. However, most of these techniques depend, to one degree or another, on information that can be readily provided by the Center's MIS. In order to help Centers determine their readiness or capability to utilize these more elaborate and discrete evaluation techniques, Table 1 illustrates the types of information needed to carry out these techniques. By reviewing this table, the Center administrator or program evaluator can get a basic idea of techniques easy to use based on the types of information gathered and stored within the MIS. The techniques are listed along the left margin of the table, classified by chapter. The classes of information needed to carry out the techniques are identified along the top of the table. This summary is presented here, however, because it can be of use in planning future improvements in MIS, to serve the needs of program evaluation.

TABLE 1:
MATRIX OF INFORMATION NEEDED TO CONDUCT
PROGRAM EVALUATION TECHNIQUES

| Evaluation Techniques | Catchment Area Population Characteristics | Program Goals & Objectives | Client Information | Service Utilization Information | Staff Activities Information | Fiscal Information | Integration with Other Community Agencies |
|---|---|---|---|---|---|---|---|
| CHAPTER 4: NEEDS ASSESSMENT | | | | | | | |
| Key Informant Technique | x | x | | | | | x |
| Community Forum Technique | x | x | | x | | | x |
| Nominal Group Technique | x | x | | x | | | |
| Rates Under Treatment Approach | x | x | x | x | | | x |
| Social Indicators Approach | x | | | | | | x |
| Survey Approach | x | | x | | | | x |
| CHAPTER 5: PATTERNS OF USE | | | | | | | |
| Calculating Utilization Rates for Population Subgroups | x | | | x | | | |
| Estimating Mental Health Needs from Assumed Need Rates | x | | | x | | | |
| Applying Social Area Analysis | x | x | | | | | |
| Estimates of Availability, Awareness, Acceptability, and Accessibility | x | x | x | x | x | x | |
| Utilization Profile | | | x | x | x | | |
| Measuring Client Movement within the Service System | | | x | x | | | |
| Continuity of Care | | | x | x | x | | |
| CMHC Profile Package | | | x | x | x | | |
| CHAPTER 6: COST ANALYSIS | | | | | | | |
| Exact Time Approach | | | | | x | | |
| Estimated Time Approach | | | | | x | | |
| Periodic Study Approach | | | | | x | | |
| Direct Allocation Method | | | | | | x | |
| Step-Down Method | | | | | | x | |
| Double Distribution Method | | | | | | x | |
| Simultaneous Equations | | | | | | x | |
| Calculation of Unit Costs | | | | x | x | x | |
| Calculation of Episode of Care Costs | | | | x | x | x | |

TABLE 1 (Continued)

| Evaluation Techniques | Catchment Area Population Characteristics | Program Goals & Objectives | Client Information | Service Utilization Information | Staff Activities Information | Fiscal Information | Integration with Other Community Agencies |
|---|---|---|---|---|---|---|---|
| **CHAPTER 7: CLIENT-ORIENTED OUTCOME & COMMUNITY INDICES** | | | | | | | |
| Global Assessment Scale | | | x | | | | |
| SCL-90 Symptom Checklist | | | x | | | | |
| Personal, Social, Community Adjustment Techniques | | | x | | | | |
| Goal Attainment Scaling | | | x | | | | |
| Client Satisfaction Questionnaires | | x | x | | | | |
| Change in Community Agencies | | x | | | x | | x |
| Change in State Hospital Admissions Discharges | | | x | x | | | x |
| Effects of Training & Consultation | | x | | | x | | x |
| Effects on Collaterals | | | x | x | x | | |
| Attitudinal Changes in Community | x | x | | | | | x |
| Effects of Program Efforts | x | x | x | x | | | x |
| **CHAPTER 8: COST-OUTCOME & COST-EFFECTIVENESS ANALYSIS** | | | x | x | x | x | |
| **CHAPTER 9: CONSULTATION & EDUCATION** | | | | | | | |
| Consultation & Education Worksheet | | x | x | | x | | x |
| Consultee-Consultant Expectations & Outcomes Form | | x | x | | x | | |
| Student Rating Scale for Teachers | | x | x | | | | |
| Goal Attainment Evaluation of C&E | | x | | | x | | |
| Developing Data Base for Review & Evaluation of C&E | | x | x | x | x | | x |
| **CHAPTER 10: QUALITY ASSESSMENT** | | | | | | | |
| Admission Certification | | | x | | | | |
| Continued Stay Review | | | x | x | x | | |
| Clinical Care Evaluation Studies | x | | x | x | x | | |
| Profile Monitoring | | | x | x | x | | |
| Retrospective Chart Audit | | | x | x | x | | |
| Outpatient Review | | | x | x | x | | |
| **CHAPTER 11: CITIZEN REVIEW** | | | | | | | |
| Role of the Board | x | x | x | x | x | x | |
| Role of the Evaluator | x | x | x | x | | | |
| Effectiveness of the Board | | x | | | x | | |

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Contains descriptions of management information systems in six CMHCs. Good for comparative study.

# CHAPTER 4: NEEDS ASSESSMENT

## A. INTRODUCTION

> "Planning should be both a rational activity of determining optimal program actions in order to achieve desired results and a political and interpersonal process of defining roles and relationships."[1]

Some form of community needs assessment activity commonly precedes program development, though in the flush of grant proposal writing the depth and accuracy of these needs assessment activities are highly variable. Needs assessments can also provide benchmarks by which to evaluate programs' outcomes and impacts in the community. (1) One source of community "values" to use in evaluation is the problems which require solution and the demand for or recognition of these needs by segments of the community. (2) One of the most convenient ways for an evaluator to demonstrate his utility is to gather information on needs, which is so useful in seeking funds. (3) Needs assessments that include information on incidence and prevalence constitute one kind of baseline data against which to compare later, similar data collected to evaluate program impact on a "before and after" basis. (4) The evaluator may be asked to conduct needs assessment because nobody else in the Center is well qualified to do so.

The actual relationship of needs assessment and program evaluation is shown in the following table, stimulated and in part suggested by Dr. Paul McCollough of WICHE, Boulder, Colorado. Needs assessment is depicted in the upper left box. It is the process of determining the population of concern. Program evaluation will have responsibilities (though not exclusive responsibilities) in answering the three questions in the right-hand column.

Major Questions for Program Management of a CMHC

| | Planning | Operations | Evaluation |
|---|---|---|---|
| Population | What population am I concerned about? Tell me about that population. | What persons am I seeing? | Is the appropriate population being served? |
| Objectives | What shall I do about this population? | What am I doing? | How well do my actions work? |
| Resources | What things, funds, facilities and people will I need? | What am I using? | How well are resources being used? |

[1] Schwab, John J.; Warheit, George J.; Fennell, Eileen B.; Stewart, Richard; Poaster, Larry; Weiss, Audrey Teren; Windle, Charles; Rosen, Beatrice M.; Goldsmith, Harold F.; and Shambaugh, J. Philip. Needs Assessment Methods for the Community Mental Health Center, p. 73. Evaluation, 2(2):64-76, 1975.

In the management context above, the interplay and required mutual communication between needs assessment and program evaluation is important. In the sensitive reporting of program evaluation results, interplay is equally important. For example, if a report fails by inadequate use of needs assessment techniques to relate specific cultural qualities of a population, that affects the acceptability of particular programs to the effectiveness of the program.

Prior to conducting needs assessment activities, the community mental health center should provide itself with two baseline overviews: (1) An overview of its own organizational domain as reflected in its charter, legal mandates and community expectations, and the sociodemographic characteristics of its potential and actual clients and the types of problems they present. (2) A community overview, to provide itself with sociodemographic information on the community or catchment area, and to amass data on the organizational structures and resources of the community, particularly those related to human services. Knowledge of existing utilization patterns (see Chapter 5) should be incorporated into needs assessment to determine unmet need as the difference between the total requirement and the portion of the requirement already being met. These baseline overviews of its situation as an agency of the community in which it is located should suggest what function a needs assessment can fulfill for the Center and what needs assessment techniques are appropriate.

Needs assessment is part of mental health planning. While especially necessary at the beginning of a program, needs assessment can improve an ongoing program by increasing the relevance of the program to community needs. Such assessments for ongoing programs should not be made simply in the community; they should be assessed in relationship to existing patterns of utilization and service at the Center itself. In this regard, Centers are enjoined to monitor the match of their existing services to community needs. Such matching is a form of program evaluation.

Needs assessment and program evaluation involve the same kinds of concerns: namely, patterns of use of Center services, studies related to the accessibility and continuity of services, and consumer and citizen evaluation of Center services.

The process of assessing the fit of Center services to needs will focus on a number of different dimensions: shifts in community needs requiring redefinition of programs or target groups; the realignment of Center services to correspond to the emergence of new care-givers in the community; the restructuring of existing programs to respond to demonstrated inadequacies in those programs.

In all of these activities, the role of the program evaluator is paramount. In all likelihood he will be asked to conduct both needs assessment and program evaluation activiites, since he will usually have more relevant technical information and skills than any other single person in the Center. It should be noted, however, that he may often <u>not</u> have as many community organizing or management skills as others, and these skills too are highly important.

Because needs assessment activities are often complex and expensive to undertake, we have limited our discussion to the more easily conducted, though less rigorous and more impressionistic, approaches that involve citizen report. These approaches are the most practical ways to assess the match of needs and services. Specifically, the three approaches are: the Key Informant Approach, the Community Forum, and the Nominal Group Approach. We will also briefly sketch out three other approaches for assessing community needs: the Rates of Treatment Approach, the Social Indicators Approach, and the Survey Approach.

In fact, a genuine needs assessment strategy should parlay the differing kinds of information and perspectives that can be derived from various approaches. If an evaluator is asked to conduct such a strategy, his reading should go far beyond what is incorporated into this chapter.

## B. THE KEY INFORMANT APPROACH

### What is the technique?

The Key Informant Approach is a relatively simple and inexpensive survey technique that involves input from and Center interaction with selected community leaders and agency representatives in the estimate of mental health needs and required services. This technique provides a broad picture of needs and services perceived as being important in the community. Further, the process of discussion and interaction can establish and strengthen lines of communication with human service agencies. The technique is described in considerable detail in the passages that follow, partly in order to make it easier for persons trained in or oriented toward rigorous epidemiology studies as the best way to assess need, to learn about some of the ways by which the results of key informant interviews may be made credible and useful. In fact, major parts of "key informant surveys" might be made simply through the C&E staff being stimulated to ask everyone they see, especially agency people, about the mental health needs of the community they work in.

### When should the technique be used and what are its limitations?

When: This technique should always be used, alone or in conjunction with other approaches, when a Center wants to determine or develop community support for program modification, or even program continuation. The technique is important primarily for its public relations impact with influentials. The approach also gives the Center a fairly quick and relatively uncomplicated sense of how specific persons in the community feel.

Limitations: The major limitation to this approach is that it has a built-in bias toward the individual or organizational perspectives of those surveyed. These perspectives, even collectively, may not be representative of the community or constitute an accurate appraisal of the amount or types of needs which exist. Key informants may not be aware of people who are not visible

to them. For instance, the very young or the very old, the socially or geographically isolated, or the powerless and poor may go unnoticed and their needs consequently unplanned for. Board members, union leaders, business leaders, or agricultural association leadership should be considered, too. Key informant lists tend to rely heavily on "providers," that is, those who deal with clients and/or those who perform some "gate-keeping" or related function in the community. In this case, the results of the survey will reflect an organizational perspective of the community's needs, which may perpetuate inequities existing in the community. It may be enlightening to analyze the data gathered from informants according to informant categories (e.g., health service provider, government official, business leader, consumer, social service provider, etc.) to assess the degree of divergence in perspectives. Utilization and peer review studies may have significance for their implications for needs assessment, and should be checked.

How do you implement the technique?

(1) Form a three- to five-person team to plan and carry out this technique. Ideally, the team should be made up of Center board members, community leaders, Center staff and volunteers. A plan must be devised for conducting all interviews and integrating existing information. A timetable should be drawn up to focus the effort and impose limits on the depth of effort. Since this approach is inherently impressionistic, it aims for breadth, shrewdness of observations and explanation, and involvement of important persons, rather than confirmed information.

The team must initially select the goals, focusing on particular population subgroups, social areas, community problems or service elements/modalities/ programs of the CMHC. Selection of relevant and targeted objectives is critical to the next two steps.

(2) From personal knowledge of the community and suggestions by other staff, the team develops an initial list of ten or so potential interviewees. More names should be suggested through the process itself. It is likely you will have too many rather than too few potential interviewees. Try to balance information to reflect a diversity of views. Include as potential interviewees some known "enemies" or competitors of the Center. Restrict the number of interviews, or you will have too much data to integrate. If 20 interviews appear to provide adequate coverage, do not strive for more than that.

The two main criteria for selection as a key informant should be the individual's knowledge of the community, its people, their needs and the patterns of service being received, and the informant's importance for the viability of the Center. Other criteria pertain to where a potential informant lives, whether he or she represents a particular population subgroup or high-risk population, or whether the person is a consumer of mental health services. Categories of key informants frequently sought are "providers" or "professionals" such as officials (both elected and appointed), administrative, and program personnel in the health and welfare organizations

of the community; clergymen; health service providers from both the public and private sectors, including physicians and public health nurses; the program staff of agencies such as multiservice health centers, youth service bureaus, vocational rehabilitation organizations, child guidance clinics and others engaged in either the delivery of primary care or the administration of human service programs. The team may select more consumer-representative informants from social problem areas, an ethnic subgroup, or citizens connected in some way with an existing social institution such as a school, a court program, a voluntary social service group, or participants in special programs for the elderly, youth or other more delineated groups. In any case, the committee should be encouraged to go beyond the key informants already known to it, and to actively solicit the views of heretofore unknown informants. As a step in this direction, each known informant might be asked to nominate another less well known or less likely to be consulted. This will help to achieve a more balanced and complete view of community need.

(3) Constructing and administering a questionnaire or interview schedule. Once objectives have been set and a key informants' roster developed, design a questionnaire or interview schedule which will obtain comparable data from each informant. One approach is to prepare a checklist of possible needs and services for inclusion in the interview schedule or questionnaire. The informant is asked to rate the priorities of these needs and services from the listing.

In the course of constructing the interview schedule, the team should identify information it has currently available to it from the Center or elsewhere. Possible data sources include: 1970 census data contained in the Mental Health Demographic Profile System (MHDPS) developed by NIMH for each catchment area; numbers of people on public assistance, crime statistics, and any other available studies done by local institutions such as universities, public health agencies, specialized school studies, city planning studies, etc. Work of the Center itself should, of course, be included: utilization rates of services, evaluations of particular programs, results of earlier community surveys should all be reviewed. The entire body of information should be tested: (1) Is it enough? (2) If not, what other kinds of information would be desirable? and (3) Where can such information be most easily found?

Delegate team members to acquire additional information as necessary. Types of information to look for include: census data (MHDPS) available from states or NIMH; local surveys; social agency data. All team members should lightly review available and acquired information both in preparing the interview schedule and as interviews progress, to sharpen their impressions and keep the paths on which the interviewers are working somewhat parallel.

Several options are open to the committee in terms of survey method. The personal interview is the most frequently used key informant survey approach, since it permits face-to-face contact, a free exchange of ideas and a high response rate. How detailed or open-ended the questionnaire

or interview schedule should be depends on the purpose of the interviews: whether to count the frequency with which known possibilities occur, or to stimulate fresh insights or suggestions. In general items should be as closed-ended as is appropriate. More open-ended interview guides, because they do not force specific choices, do encourage the emergence of new undiscovered needs and hidden populations. They are, however, less comparable from interview to interview than more closed interview schedules.

A sample key informant interview form is attached at the end of this section, which combines some of the aspects of an open-ended interview guide and a relatively closed force-choice interview schedule. A generalized interview guide format is also presented to illustrate the kind of outline an interviewer needs even in a relatively open-ended interview. Neither these samples nor others of a general kind should be expected to be satisfactory in a particular application. Local attitudes toward the CMHC, toward mental health and toward surveys must be taken into account in deciding what to ask and how. Actual data to be gathered obviously shape the questions. Planned uses of the results also should be allowed to shape the design of the questionnaire or guide.

The team may consider mailing questionnaires to respondents. The liability with mail questionnaires is response rate is lower than in a personal interview. In addition, kinds and amount of data are more limited by the format and the disappearance of the opportunity to clarify when needed. Because an interviewer is not present when the mail questionnaire is filled out, it is also not possible to collect and then probe those intuitions or vague references which may contain the seeds of new information.

Telephone interviews are another possibility. These sometimes can be used quite successfully in key informant surveys, where randomness and representativeness of those being interviewed is not an issue. Telephone interviews must usually be brief. However, it is possible to inform the potential interviewee in advance that he will be interviewed for, let us say, a half hour, and a specific time arranged for the telephone call to be made. If the interview schedule is brief and well structured, telephone interviews can suffice.

Finally, the team may consider a combination of several of the above options. The techniques are not mutually exclusive. For example, a brief telephone contact with selected informants could be used to outline the purposes of the study and solicit assistance. This could be followed by a mailed questionnaire. This would have the advantage of the personal contact, which generally increases response rates, and at the same time would minimize the costs of undertaking the study. The amount of time and resource available, as well as the dimensions of the problem to be investigated, should dictate the team's choosing among the above alternatives for gathering information. It may also be useful to have face-to-face interviews with certain of the most critical informants, and then to use questionnaires to gather data from a larger number of informants on specific issues suggested by the interviews.

It is often useful to develop a simple one-page explanation of the approach and of what you are trying to do through it. This should be available to each interviewee and be used throughout the process for general publicity and to explain the process to participants.

If interviewers are needed in addition to team members, they must be selected and "trained." Discuss the guide with the prospective interviewers. Caution them about leading questions. What you want is what the informants have to say, not the opinions of the interviewers. Point out the effectiveness of a friendly, enthusiastic and respectful attitude. Furnish the interviewers with appropriate forms on which to record the information gathered. If the questionnaire is pre-coded (as the sample is), explain how the interviewer can best ease the process of making use of his results by meeting the conditions of the code. If these are open-ended items, state any constraints that exist on length, legibility or other factors. Set up an orderly procedure for returning the completed forms, and make it clear to the interviewers how to obtain help if they need it while interviewing, what they are to do if they cannot locate the named interviewees, and as <u>much</u> as reasonable about the purpose of the survey.

(4) Analyzing results. Once all of the informants have been contacted and interviewed, or have returned their questionnaires, the information should be summarized and put into tabular form. The method for tabulating the responses to the questionnaires will be dictated by the objectives of the study and the structure of the questionnaire's design. The intent should be to present findings, rather than to make interpretations. Some of the points to be emphasized will be obvious from the original purpose of the survey. A brief checklist will provide a set of possibilities that are often useful in presentations of the results: from interviews, can a summary map be drawn showing where groups in need of mental health services are located in the community? If doubt or contradiction exists about a particular group, express these differences. Can groups be characterized and identified by place of residence, perceived mental health problems, barriers to getting service? To correlate existing back-up information for each of these groups, is more information needed? Draw up list of groups to be assembled in Community Forum. What are the issues and with what frequency and intensity are they expressed by whom? Who is getting service and who needs service?

(5) Feedback meetings. Once the results have been tabulated, it is useful to have a meeting of the key informants to present to them the findings, provoke discussion, achieve further input and arrive at interpretations and programmatic implications of the study. This provides a dynamic setting within which community needs and services can be reviewed and discussed by a relatively wide variety of people outside the community mental health center. It provides for increased participation by the informants, and it is therefore more likely to lead to an integrated approach to the problem, as well as further develop linkages among participating community agencies. Such a meeting may further lay the basis for more particularized study activities or it may pinpoint the needs for involvement

of groups of people heretofore not involved. If it is not possible to convene such a meeting because of budgeting or scheduling problems, a draft version of the needs assessment report can be used to elicit further feedback and consensus with regard to the study's findings.

(6) Preparation of a final report. A final report should be prepared in easily read format, including: purposes of the study; methods used; and findings, including a listing of priorities and recommendations. Appendices could be used to describe the analysis.

What is the level of effort required?

Estimated resource requirements:

- Mandays:
  - (1) Selecting goals and potential informants: 1 day per member of the team; 3 days for the program evaluator.
  - (2) Constructing an instrument (questionnaire or interview guide): 1 manday for interview guide and 3 mandays for questionnaire.
  - (3) Administering a questionnaire or interview schedule: 1/2 manday per face-to-face interview; 1 hour per telephone interview.
  - (4) Editing and coding data: 2 mandays.
  - (5) Analyzing results: 3 mandays.
  - (6) Feedback meeting: 1/2 manday per participant.
  - (7) Preparation of final report: 5 mandays for the program evaluator; 1 manday each per member of the steering committee.

- Professional levels required: Program evaluator; team composed of Center personnel and concerned citizens.

- Elapsed time: 4-12 weeks.

- Other resources required: Cost of reproducing report (100 copies).

Limitations of these estimates:

- Uncertainty: The number and specific persons used as key informants and on the steering committee can vary widely. Particularly problematic will be the scheduling of interviews and the feedback meeting. Many key informants will be busy people whose time will be difficult to commandeer. This may delay completing the survey. One of the prime assets of the survey is its relative speed and lack of complexity. Therefore, if a particular interview is especially difficult to schedule, we suggest dropping that name from the list of key informants and picking another.

EXHIBIT 1

SUGGESTED INTERVIEW GUIDE FORMAT FOR KEY INFORMANT INTERVIEWS*
(Warheit, Bell and Schwab)

Possible subjects to discuss with each person interviewed:

I. Community Problems (general)
   -- in order of priority of importance
   -- existing sources of help for each problem
   -- unmet needs and problems, by groups
   -- who gets most consistently left out of services? which problems are not visible?

II. Mental Health Problems
   -- a priority listing of seriousness (including prevalence)
   -- existing sources of help for each problem
   -- community attitudes toward use of public mental health services
   -- groups which get most mental health services
   -- groups which are most underserved

III. Attitudes toward the CMHC
   -- who gets to the CMHC for help?
   -- what other mental health resources do people in the community use? who uses them?
   -- who does not/will not go to the CMHC and why?
   -- which groups in need of mental health services get the least help? (Locate these as possible on a map of community.)

*Demographic information and answers to closed-end questions on needs or on available or necessary services may also be appropriately collected.

What are the primary sources of information about this technique?

- Siegel, L.M.; Attkisson, C.C.; and Cohn, A.H. Mental Health Needs Assessment: Strategies and Techniques. In: Hargreaves, W.A.; Attkisson, C.C.; Siegel, L.M.; McIntyre, M.H.; and Sorensen, J.E. (Eds.). Resource Materials for Community Mental Health Program Evaluation: Volume II -- Needs Assessment and Planning. NTIS Evaluation Study Reports Accession No. PB-249-044. Springfield, Virginia: National Technical Information Service, 1975.

- Warheit, G.J.; Bell, R.A.; and Schwab, J.J. Planning for Change: Needs Assessment Approaches. Gainesville, Florida: J. Hillis Miller Health Center, University of Florida, 1974.

## C. THE COMMUNITY FORUM OR COMMUNITY IMPRESSIONS APPROACH TO COMMUNITY PARTICIPATION IN NEEDS ASSESSMENT AND PROGRAM EVALUATION

What is the technique?

The Community Forum Approach is like an open town meeting, a gathering of members of the designated community. It is a technique for gaining citizen involvement in the community mental health center evaluation activities, ascertaining their reactions, and using their responses as a source of further problem identification in the community. The approach can be adapted to a wide variety of needs and problems. It could be used for disclosing evaluation data about the Center's operations, consulting with the community concerning the extent to which the Center is responding to needs, and even helping the Center to solve specific problems through the application of such specific techniques as nominal group processes (see page 113 below.) The Community Forum is one means of needs assessment; it is also useful for investigating the awareness, acceptability and accessibility of Center services (see Chapter 5, Question #2, pages 147-159).

When should the technique be used and what are its limitations?

When: The approach is most useful for profiting from citizen participation in needs assessment and program evaluation activities and for gathering a variety of views and attitudes on a particular topic. It can also be used as a large-scale information-sharing and orientation technique to involve citizens generally in a particular problem or CMHC activity, or to catalyze community groups which can later be utilized by the Center for program support.

Limitations: Because the forum is necessarily a large meeting, it precludes a certain amount of depth in investigation of the questions and expressed needs at hand. Not everyone will necessarily be able to speak. Furthermore, to the extent that a detailed background is needed in order to discuss the issues, the forum is often inadequate as a means of problem solution. In addition, the results of community forums are always impressionistic and incomplete. Controlled sampling in a community forum is virtually impossible and generally would be antithetical to voluntary community participation; the validity and particularly the reliability of extrapolating the conclusions drawn from the meeting to any larger population group is accordingly suspect. The output depends very sensitively on the persons who happen to show up: if a particular perspective or group of importance is missing, the results may be misleading. The discussion leader, by selection and suppression of speakers, by his own ways of summarizing, and by exhibiting or opposing a particular point of view, may significantly affect the outcome without anyone's recognizing what is happening. Unless carefully planned and delimited, the forum may raise community expectations about future services to unrealistic levels. Forums can be vulnerable to misuse by the efforts of participants who are seeking more services for their favored groups--although a particular forum may be convened specifically for such a group to explore and develop and interact concerning its self-defined needs. Another risk associated with a community forum is that it will be an ambiguous, nonspecific meeting with no identified follow-up. To the extent that the particular forum falls prey to that risk, it not only will fail to act as a momentum generator, it may also lead in a destructive direction. If specific follow-ups are to be sought, it is highly appropriate to state this as an intention of the meeting, and to identify someone with imagination, empathy, sensitivity and communicative skills whose job in the meeting will be to recognize and record action possibilities, gain the sanction of the meeting for the proposed follow-ups, and turn the suggestions over to the person who is responsible (to the meeting or to the Center) for follow-up.

Most of these limitations can be dealt with if three precautions are observed: (1) be sure that the meeting invitees represent an approximate cross-section of those who should take part. This requires intelligent use of what is known about the catchment area, its problems, its people and the issues which prompt the meeting or the issues in which Center or people are involved; (2) design the meeting and the process in which it is embedded with care, as described below; and (3) entrust the meeting to a skilled, experienced leader. His being in control of himself in ways that facilitate the meeting without needing to dominate it is very important: certainly equal in importance to his "knowing how to run a big public meeting."

How do you implement the technique?

The community forum can be conducted with or without key informant interviews. In the discussion that follows, the point at which key informant interviews are usually most appropriate is identified.

(1) Setting a purpose. Center personnel and responsible community groups designated to plan and generate the forum must agree with Center administration as to the purposes of the forum, as well as to things it will not do. Purposes should be stated as process goals--e.g., generating new expressions of community need, testing Center hypotheses about existing community needs, gaining more community participation in designing program evaluations, identifying and contacting missed populations--rather than as particular substantive goals. The forum should act as a way of getting more information about the various process goals, services and potential clients of the Center: what they are or should be; what the process is (or isn't) toward achieving them; and suggested indicators for measuring progress toward reaching them. For use in program evaluation, the major goal of the forum will often be to carry through a process of participation and to convey its shared concerns and interest rather than to achieve the collection of truly systematic and substantive program evaluation.

(2) Getting and organizing data for public presentation. Center personnel should develop a list of (a) areas requiring presentation by Center personnel; (b) areas of probable concern for forum attendees by specific target groups, community problems and any other probable topics such as Center administration, budget, etc. For each area identified, relevant data should be assembled as background information. For areas to be presented by the Center, these data should be organized in charts, tables and handouts as appropriate. Important in this is a clear division of labor among staff to designate who will be responsible for what information.

(3) Gaining community involvement. To the extent possible, a small cadre of community people should be identified who will help publicize and plan the forum. This action will increase relevant group participation in the forum itself, provide the Center with input about the most feasible and practical ways of publicizing and conducting the forum, as well as provide assistance in that process. Planning issues will necessarily include where the forum should be held, need for transportation and child care arrangements, appropriate publicity, politics of whom to invite individually, etc. The forum should be publicized through as many media avenues as are likely to reach some of the prospective participants. These media could include newspapers; posters in local stores; broadsides to be handed out at shopping centers, subway lines, etc.; short announcements on radio and television stations; leafleting or even mass mailings. In general, it is best to use several modes of communication. Publicity should be focused to peak around a week before the forum, and if possible be reinforced in the last two days. The general statement of the forum

should be made as clearly as possible. It should include the place, date, time, purpose, organizers and leaders. It may be relevant and necessary that some media activities be translated in other languages.

(4) Deciding on whether to use key informant interviews as input to the design of the forum. Key informant interviews may be valuable (1) if there is considerable disagreement among those planning the forum as to what the issues are; (2) a question whether the planners are in adequate touch with the population or community whose participation the forum will be based on; or (3) if the proper design for the forum seems to call for a well-informed initial presentation, demonstrating that the Center has been willing to make the effort necessary to learn and prepare for the forum.

(5) Convening the forum. The forum should be convened and chaired by a community person who is fairly credible to most community groups attending. It will be his or her job to explain the purposes of the forum, provide access to the floor, and establish groundrules. In a large meeting, groundrules are particularly important. At the very outset of the forum, the convenor should propose the groundrules to the group and win their approval of them. Some suggested groundrules include: a maximum of three minutes per person, and preference in speaking given to people who have not spoken before. Work out the desirable rules with the chairperson/convenor in advance.

The convenor will find that many people will speak off the mark. In this regard, it may be useful to periodically remind the forum of the general purposes of the meeting. Nevertheless, if someone insists on speaking off the subject, it is often best to simply let them have their say. If the convenor or other leadership person is able to convert the discussion to the subject of the meeting, so much the better. If the convenor or other leadership person is knowledgeable or empathetic enough to hear such speakers with the "third ear," and respond appropriately, he may actually be able to bring the meeting to considerable depths of discussion and intimations of concensus, an objective to desire, but not easy to achieve consistently.

Center personnel should also be involved as resources in the forum, though not directly in its conduct. A proper approach would be to introduce Center representatives, let them describe relevant questions and issues for the forum, and listen and answer questions as these are asked by community members. Center staff, however, should not feel the need to control the meeting, as such control may inhibit the participation of certain community members. In addition to developing relevant information and organizing it for public presentation, the Center should take the responsibility for providing a recording secretary who will produce a transcript of the forum, which can function as a basis for follow-up.

(6) Reporting and follow-up. It is very important that the Center take action of some sort on the basis of the forum, if this was among the purposes. If this is not done, the forum's momentum-generating capacity is entirely lost and the opportunities for later successful meetings reduced. Minimally, a letter should go out to all forum attendees following the forum, thanking them for their participation and indicating what, if any, action steps are to be taken as a result of the forum, and/or summarizing what was learned and what significance it seems to have. Depending on the results of the forum and the purposes for which it was originally designed, a report may also go out, which attempts to summarize the various issues of the forum, indicate action or research steps with respect to each issue, and also indicate what further community participation is to occur through task forces or otherwise. If the results of the forum have program evaluation content and value in themselves, distribution of the report has an additional purpose. The visibility of the report becomes a basis for assuring its validity. The persons who participated in the forum should under these circumstances be urged to submit written comments, qualifying or endorsing the report.

The extent to which the Center wishes to capitalize upon the forum activity will involve a variety of factors including the age of the Center and the resources it has for managing community action task forces, the issues that were uncovered at the forum itself, their timeliness and importance for both the Center and the community, and finally, the degree of community interest that was shown at the forum. Depending upon the configuration of those three elements, the Center may choose to follow the forum up with a rather low-key approach or with a rather intensive approach.

What is the level of effort required?

Estimated resource requirements:

- Mandays:

  (1) Setting a purpose: 1/2 manday per staff participant.

  (2) Getting and organizing data: 2 mandays per data category.

  (3) Gaining community involvement: 5 mandays.

  (4) Convening the forum: 1/2 manday per staff participant.

  (5) Reporting and follow-up: 3 mandays.

- Professional levels required: Program evaluator; Center staff; community residents and representatives.

- Elapsed time: 4-8 weeks.

- Other resources required: Local media, pre-meeting publication of relevant background material; costs to rent a meeting hall; provision of refreshments if any; necessary transportation to bring in community members; child care services, etc.

Limitations of these estimates:

- Indeterminacy: Depending upon the extent to which the Center wishes to capitalize upon the momentum-generating capacity of the community forum, costs could be expected to increase. As the effects of the forum brought it into program development or support, the costs of conducting it might also be borne by categories other than program evaluation.

What is the primary source of information about this technique?

- Siegel, L.M.; Attkisson, C.C.; and Cohn, A.H. Mental Health Needs Assessment: Strategies and Techniques. In: Hargreaves, W.A.; Attkisson, C.C.; Siegel, L.M.; McIntyre, M.H.; and Sorensen, J.E. (Eds.). Resource Materials for Community Mental Health Program Evaluation: Volume II -- Needs Assessment and Planning. NTIS Evaluation Study Reports Accession No. PB-249-044. Springfield, Virginia: National Technical Information Service, 1975.

## D. THE NOMINAL GROUP APPROACH

What is the technique?

The Nominal Group Approach is a structured workshop minimizing face-to-face interaction among the participants in order to obtain the views of a wider range of participants. The structured approach of this workshop is designed to identify the widest possible range of strategic problems and to aid in the development of alternative program plans. The workshop is made up of a small group of community people who share their views with respect to community needs, barriers to services, or needed programs in a highly structured group setting. The result is a broad listing of needs, barriers or desired programs, and a group rank-ordering of priority.

When should the technique be used and what are its limitations?

When: The Nominal Group Approach is most appropriate for obtaining the inputs of selected citizens or consumers into need assessment and program planning processes. Its advantages are that it can be used to obtain relatively intense and focused involvement of citizen groups on problems

and issues defined by the CMHC. It has also been shown as useful when you lack highly experienced group leaders; when you want it clear to all participants that their inputs will be registered and considered at least through a series of early stages: and when you have to respond to numbers of people and especially to different groups and unorganized individuals.

The technique demonstrably produces a greater number of problem dimensions, higher-quality suggestions, and a larger number of more highly differentiated solutions than group techniques in which members are encouraged or allowed to interact more fully during the generation of problem variables. This is so because the nominal group process allows for group decision-making and idea-sharing without the typical dominance by a few vocal persons and inhibitions on divergent views which occur in a verbally interacting group. Thus it encourages the generation of minority ideas, imposes an equal burden of work on all present, facilitates creativity, allows for the airing of personal concerns, and is especially useful in a heterogeneous group in that it does not allow any one person or point of view to dominate.

Limitations: The technique lacks a certain degree of precision in that votes or rankings are made without thorough or careful sorting of all the ideas generated into appropriate categories. There is some risk of redundancy in the problem statements. Secondly, while participants in the process have been shown to enjoy it, some of them may feel manipulated by the highly structured format. The third potential limitation of the approach is that associated with lack of follow-up. Because the nominal group approach occurs at the beginning of a process, it may leave group participants feeling disillusioned if there is no effective program development or other positive indication of impact as a consequence of the group activity. Finally, by involving citizens in the specific planning of programs, it can raise their expectations about the commitment of the Center to deliver suggested programs, as is true of most such techniques.

How do you implement the technique?

The technique consists of four general steps:

(1) Formulation of objectives for undertaking the process: Center personnel should formulate as clearly as possible the rationale for undertaking a nominal group process. Specifically, a short list of questions should be developed for participants to respond to. These questions might involve their perceptions of the needs for mental health services in the community, which of those needs are unmet, barriers to service, missed populations, and problems needing reformulation and programmatic response in the community. Questions should be as cogent and terse as possible to facilitate the group's response. For instance:

- What is the most serious barrier to getting help at the CMHC?
- What groups have the most difficulty getting access to CMHC services when needed?
- What could the CMHC do to improve its services to the elderly? To children? To youth?
- At what cost?
- What are the most serious unmet needs for services in the community?

(2) Selection of group roster: Depending on the nature of the questions posed and the objectives for holding the process, a group roster should be developed, based on general criteria of who in the community would be appropriate to the objectives. Once the invitation process has begun, potential participants may suggest others as appropriate or even more appropriate than themselves. Biases favoring the inclusion of service providers should be avoided in favor of citizen and consumer input. The roster should consist of both providers of related services, general citizens, or more specific sample of citizens divided according to age, sex, race, need for service, and geographic residence.

(3) The nominal group meeting: The meeting, described in more detail below, will take anywhere from two to four hours. Depending upon the number of participants at the meeting, it will require one group discussion leader for each small group of six to nine persons. The meeting will further require a supply of 5x7 cards adequate to supply each participant with five, and one newsprint flipchart mounted on an easel and supplied with marking pens for each group.

(4) Feedback output: Following the nominal group meeting, some form of feedback or output is desirable. This may be as simple as a letter thanking the citizens for their participation, or it may be a report which indicates steps being taken to implement some of the results of the nominal group process.

How do you carry out the meeting?

The meeting consists of six phases:

(1) Introduction: Citizens attending the meeting should be welcomed and informed of the precise purposes and processes of the meeting. Specifically, they should be told that there will be periods where they are to work individually and silently and periods where they will be asked to interact as a group. This is a structured group approach. Its major goal is to produce the largest variety of responses, insights, perceptions and problem identification possible. It is for that reason that group interaction is limited and individual efforts are fostered.

(2) Individual problem-issue descriptions: The moderator for the meeting hands out to each member of the group the questions formulated by Center personnel for group exploration. He asks them to spend 15 minutes in individually and silently answering the questions in 5x7 cards in terms of their own experience and their perceptions of the CMHC. A separate card is to be used for the responses to each question. The moderator encourages each person to put down anything he or she thinks worthwhile.

(3) Group round-robin: Following the individual specification of problems and issues, the group leader goes around the group and asks each group member to present one idea from their cards in round-robin fashion. Ideas are recorded in the words of the participants, on a large flipchart. As these are recorded, the group leader asks if other members of the group listed this item in this particular way. If so, a check is placed beside the item as recorded. The leader does not, however, try to coalesce or combine problem statements in any other way. No comments are permitted during this part of the meeting from the other participants.

(4) Group discussion: Following the completed round-robin (which will require going around the group several times to record all suggestions), the group is invited to clarify and elaborate the issues presented. The group is not encouraged to criticize, collapse, condense or defend items, though other items may be added at this point, as well as modifications. Part of the successful application of the technique rests in creating a wide variety of different formulations. This discussion in total should be given a time limit of less than a quarter of the total meeting time.

(5) Selection and ranking: Following discussion, group members are individually asked to vote on the five or so nominated items which they feel are most important. This voting is anonymous by "ballot". If the items on the flipchart are numbered, voting can occur by number. Group members should be given a significant portion of time in which to think about their choices (up to 15-20 minutes).

(6) Group tally: The group leader tallies the votes of the group members. The final period is a general discussion of the ranking of those issues that achieved the highest priority by vote. If several groups have been meeting simultaneously, a large group meeting is held where individual group findings are presented. At that point, a second vote of the larger group may be taken if desired.

The process of Steps 2 through 6 is repeated for each major question prepared ahead of time.

What is the level of effort required?

Estimated resource requirements:

- Mandays:

  (1) Formulation of objectives: 1/2 manday per staff participant.

  (2) Selection of group roster: 3-5 mandays.

  (3) The nominal group meeting: 1/2 manday per staff participant.

  (4) Feedback output: 1-5 mandays.

- Professional levels required: Program evaluator; nominal group leader; citizens and care-givers.

- Elapsed time: 1-4 weeks.

- Other resources required: Meeting room or rooms for conducting the nominal group sessions; 5x7 cards for voting; flipcharts; refreshments; transportation as required; report reproduction.

Limitations of these estimates:

- Indeterminancy: It may take a longer time than 3-5 mandays to gather a representative group. Most important, however, the major cost is in the obligation to implement some of the suggestions made. This is a process initiation technique, as well as needs assessment.

What are the primary sources of information about this technique?


- Delbecq, Andre L., and Van De Ven, Andrew H. A Group Process Model for Problem Identification and Program Planning. Journal of Applied Behavioral Science, 7:466-492, 1971.

- Siegel, L.M.; Attkisson, C.C.; and Carson, L.G. Need Identification and Program Planning in the Community Context. In: Attkisson, C.C.; Hargreaves, W.A.; Horowitz, M.J.; and Sorensen, J.E. (Eds.). Evaluation of Human Service Programs. New York: Academic Press, 1976.


## E. BRIEF DESCRIPTIONS OF OTHER NEEDS ASSESSMENT APPROACHES

(1) Rates-Under-Treatment Approach: This commonly used approach is based on enumeration of types of persons who have utilized services in a given community. The assumption underlying this approach to assessing needs

is that gross estimates of needs by the community is shown in those who have already received care or treatment. The approach requires gathering aggregated data from existing agencies on the sociodemographic and geographic residences of clients and on the types and duration of services provided. Since this approach assumes that those in need seek out and obtain services, it is necessary to determine what, if any, kinds of persons are excluded from state hospitals, nursing homes, etc., on bases other than need.

The approach does not focus on individual persons. The major advantage of this approach is that it capitalizes upon the availability of existing data. Its major disadvantage is that as a great deal of research has shown, there is a wide gulf between the mental health needs of a community as determined by the number of persons receiving services and estimates of need gained through other approaches. Further, this measure does not identify those not being served, but rather those served--it seems, therefore, not a measure of unmet needs. Thus, the reliance on a rates-under-treatment indicator, while essential as an input may be misleading as a basis for estimating needs. It is most useful when the type of service provided can be characterized as inadequate, as is often the case in state mental hospitals, for then these patients can be said to be in need of better (e.g., community located) service.

(2) The Social Indicators Approach: This approach is based on descriptive statistics in public records and reports such as the census and health and welfare reports. The underlying assumption is that useful estimates of need are indicated by statistics found or thought to be correlated with persons in need of services. In Chapter 5, pages 125-146, we discuss and apply some of the concepts of social area analysis, as well as several of the techniques useful in carrying out this kind of approach based on the social indicators assumption of certain socioeconomic characteristics correlating with need for mental health services.

Problems with this approach arise due to the inadequacy and incompleteness of the assumptions used to relate various social indicators to the incidence of mental health problems: no causal relation has in fact been shown. That is, high rank on a particular social indicator or group of social indicators may point not to mental health problems but to a high level of "functional incompetence" and the need for training and habilitative programs on the cognitive rather than psychological level. The best use of such indicators is a rough "pointers" to geographic areas that should then be examined more closely for the kinds and severity of mental health problems existing there. Sudden and sharp changes in social indicators are particularly useful as signals of the emergence of social phenomena related to mental health needs. For example, unemployment rate can be taken as an indicator of mental health problems. Evaluators should be careful to avoid two equally troublesome errors in reporting their interpretations of social indicators:

(a) Persons in authority can become convinced that two correlated variables are causally related. The evaluator needs to be

very quick, specific, direct and explicit about what must be established before reasonable proof of causal relationship can be assumed.

(b) Persons in authority may be quite skeptical about the program evaluator's work if they feel that the evaluator is over-interpreting the causal significance of the correlations uncovered, and what the social indicators have and have not been used to support. These measures do involve many elusive factors, in consequence of which they can be neither sensitive nor free of ambiguity, but the careful evaluator should be able to keep them in perspective.

(3) Epidemiologic Surveys: Ideally, and rationally, these are the most valid and comprehensive needs assessment approaches in existence. They can be used to survey citizens at large, specific social areas, or family groups such as single-parent families or families sending their children to particular schools, etc. They can be, however, complex and expensive to administer and can lead to bizarre results unless the entities under investigation are clearly defined, the terms or clinical measures are unambiguous, and the survey is so well designed that it is actually possible to use it in a way that results in capturing data from a representative sample. Three things are required for an adequate mental health survey of the residents of a catchment area: (a) a good sampling procedure, (b) a well-prepared and pre-tested interview schedule, and (c) well-trained interviewers who are familiar with the neighborhood being surveyed and who will not be perceived as intruders. A sample of no smaller than 1,000 seems to be needed for an epidemiological estimate of psychiatric disorder. Generally speaking, this is well beyond the financial capabilities of most community mental health centers. And it is doubtful that the level of precision of information provided by a survey is needed by the Center. However, such a survey has uses within the Center in establishing the relationship of the Center to other community agencies. (See reference to work by Warheit, Bell and Schwab on page 120.)

Some of the possible uses of mental health surveys are:

- Provision of citizen perceptions as to the effectiveness of CMHC services, including the identification of new problem areas.
- Provision of high-quality factual data relative to the assessment of needs, as a firm base for the design and planning of future services.
- Help in identifying reasons for dislike or nonuse of CMHC services, so that the Center's assessibility and acceptability to catchment area residents can be increased.
- The provision of data on citizen awareness of CHMC programs, their nature and the means for obtaining services.

- The provision of the means for increased citizen participation in CMHC planning and policy formulation, and the consequent increase of community involvement in CMHC activity.

- Establishment of relationship with other community agencies by sharing data with them.

There are also some dangerous pitfalls with respect to mental health surveys that should be pointed out:

- Since citizens often lack specific information on complex issues about which they have low interest, their responses may put the Center in a bad light, but in fact be of little meaningfulness.

- Because citizens' responses may reflect short-run considerations to the neglect of long-term problems, their responses at any given time may be an inappropriate basis for actions.

- Surveys may interfere with elections, referendums, or other ongoing community processes.

- Surveys are sometimes used as a way of hiding from controversy and responsibility.

- The way in which questions are worded can cause what is said or not said to be misleading; particularly in regard to sensitive issues, questions may be worded in such a way as to elicit silence or misleading answers.

- If inadequate procedures are used, results will in all likelihood be nonrepresentative.

- Care must be taken to avoid antagonizing citizens who consider interviews an invasion of privacy.

- Dissemination of survey findings may be a doubled-edged sword raising unrealizable hopes among citizens and providing political fodder for candidates.

The primary sources of information about the three techniques cited above are:

- Warheit, G.J.; Bell, R.A.; and Schwab, J.J. Planning for Change: Needs Assessment Approaches. Gainesville, Florida: J. Hillis Miller Health Center, University of Florida, 1974.

- Hargreaves, W.A.; Attkisson, C.C.; Siegel, L.M.; McIntyre, M.H.; and Sorensen, J.E. (Eds.). Resource Materials for Community Mental Health Program Evaluation: Volume II -- Needs Assessment and Planning. NTIS Evaluation Study Reports Accession No. PB-249-044. Springfield, Virginia: National Technical Information Service, 1975.

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Attkisson, C. Clifford; Hargreaves, William A.; Horowitz, Mardi J.; and Sorensen, James E. (Eds.). Evaluation of Human Service Programs. New York: Academic Press, 1976.

Berger, David G., and Gardner, Elmer A. Use of Community Surveys in Mental Health Planning. American Journal of Public Health, 61(1), 1971.

Focuses on needs to calculate utilization rates by geographic subareas in order to plan satellites appropriately.

Delbecq, Andrew L., and Van De Ven, Andrew H. A Group Process Model for Problem Identification and Program Planning. Journal of Applied Behavioral Science, 7:466-492, 1971.

Complicated method to involve citizens or others in problem identification (evaluation planning and consensus).

Hargreaves, W.A.; Attkisson, C.C.; Siegel, L.M.; McIntyre, M.H.; and Sorensen, J.E. (Eds.). Resource Materials for Community Mental Health Program Evaluation: Volume II -- Needs Assessment and Planning. NTIS Evaluation Study Reports Accession No. PB-249-044. Springfield, Virginia: National Technical Information Service, 1975.

Henisz, Jerzy E.; Tischler, Gary L.; and Myers, Jerome K. Epidemiologic and Ecologic Analyses. In: Riedel, Donald C.; Tischler, Gary L.; and Myers, Jerome K. (Eds.). Patient Care Evaluation in Mental Health Programs. Cambridge, Mass.: Ballinger Publishing Company, 1974.

Jacobs, T.O. A Guide for Developing Questionnaire Items. Alexandria, Virginia: Human Resources Research Organization, January 1970.

Presents basic issues related to question item development, question type, pretesting questionnaires, and a checklist for writing questions.

McWilliams, Spencer A. Using Census Data to Assess Community Mental Health Services. Hospital and Community Psychiatry, 26(11):720-725, 1975.

Rosen, B.M.; Lawrence, L.; Goldsmith, H.F.; Windle, C.D.; and Shambaugh, J.P. Mental Health Demographic Profile System Description: Purpose, Contents and a Sampler of Uses. DHEW Publication No. (ADM) 76-263. NIMH, 1975.

Schulberg, Herbert C., and Wechsler, Henry. The Uses and Misuses of Data in Assessing Mental Health Needs. Community Mental Health Journal, 3(4), 1967.

Reviews indices of need--poverty, social pathology, and population subgroups with special needs. Proposes four overall measures categories--

socioeconomic indicators, mental and physical illness, social pathology, welfare indices.

Schwab, John J.; Warheit, George J.; Fennell, Eileen B.; Stewart, Richard; Poaster, Larry; Weiss, Audrey Turen; Windle, Charles; Rosen, Beatrice M.; Goldsmith, Harold F.; and Shambaugh, J. Philip. Needs Assessment Methods for the Community Mental Health Center. Evaluation, 2(2):64-76, 1975.

Warheit, G.J.; Bell, R.A.; and Schwab, J.J. Planning for Change: Needs Assessment Approaches. Gainesville, Florida: J. Hillis Miller Health Center, University of Florida, 1974.

Webb, K., and Hatry, H. Obtaining Citizen Feedback: The Application of Citizen Surveys to Local Governments. Washington, D.C.: The Urban Institute, 1973.

Good review and simplification of a needs assessment approach.

# CHAPTER 5: PATTERNS OF USE

"Patterns of use" is a general term to describe many different aggregations of CHMC structure, and process and administrative outcome data. Such data can be "patterned" from a number of viewpoints. All involve some analysis and interpolation of client characteristics, services provided, catchment area subpopulations and social areas, staff allocation, and the movement of clients and staff within the Center or among its activities. Identifying such patterns depends upon the kinds of data in the Center's information system, and the ease with which these data are retrievable and analyzable.

Each CMHC is unique in terms of its potential service population, the relative availability and acceptability of other mental health services in its catchment area, and Center program organization and design. Thus, patterns of service utilization should reveal this uniqueness and must be interpreted and evaluated accordingly. Rigorous formulas for interpreting or evaluating patterns do not exist. The Center itself must supply the meaning and interpretation of the patterns, and decide what program implications a particular pattern of use has. The techniques suggested in this chapter are simply devices for raising questions that may help to provoke deeper analysis, identify possible gaps in service, and aid a Center in structuring its programs to achieve the closest fit of services to need.

Several considerations must be taken into account in assessing patterns of use of Center services. First, *even a so-called target population in a catchment area is not "captured."* That is, *people are free to go elsewhere--in fact, anywhere or nowhere--for services.* Second, any discussion of patterns of use of Center services must take cognizance of the fact of geographic spillage: *not only do people in the catchment area go outside it for services, others from elsewhere come in.* Third, *some forms of mental health service are provided by a wide variety of other community agencies and institutions.* The fact that a target group does not appear at a particular community mental health center does not necessarily mean it is not receiving adequate mental health services elsewhere. A community mental health center is not required to be the sole provider of mental health services in its catchment area. It can work to upgrade already existing service networks and to make them more equitable and available.

This chapter is organized around four evaluative questions about use of Center services:

(1) What discrepancies exist between types of persons who use CMHC services and the groups in the catchment area with mental health needs?

(2) What barriers to the use of CMHC services exist for potentially needy groups in the catchment area?

(3) How do people use CHMC services?

(4) How do the patterns of use of this CMHC compare with other CHMC's?

Question #1: WHAT DISCREPANCIES EXIST BETWEEN TYPES OF PERSONS WHO USE CMHC SERVICES AND THE GROUPS IN THE CATCHMENT AREA WITH MENTAL HEALTH NEEDS?

## A. INTRODUCTION

This section explores how to assess utilization of Center services as a function of need in the catchment area. Work under this heading should identify people who both need and use Center services, as well as people who need Center services but do not use them.

The techniques presented have the following objectives: First, they help a Center be explicit and detailed about who is receiving its services, and what services they are receiving. Second, the techniques allow the Center to compare that utilization of its services to various norms or other proximate measures, including: (1) what are the sex, age and ethnic characteristics of catchment area residents; (2) what is the estimated incidence of mental illness in the catchment area; (3) what subpopulations in the catchment area are not receiving Center services; (4) what needs for mental health services in the catchment area can be ascertained; and (5) what subpopulations can be shown to be at high risk in the catchment area.

Basically, these techniques are intended to help a Center target its services more accurately and to measure the effectiveness of those activities to reach and service the catchment area population. Discrepancies between needs and services can help a Center determine the general directions in which it should move to increase responsiveness to needs.

The evaluator should consider how any studies made under utilization review requirements will help in establishing patterns of service and client utilization. (See Chapter 10, Quality Assessment.)

In many CMHCs throughout the country there are at least four important target populations that program directors must increasingly face: (1) adequacy of services to children and adolescents, who usually do not request service themselves but are forced into treatment by social agencies or rejecting parents; (2) adequacy of services to the elderly (or "geriatric") population, who are also not well able to obtain needed services; (3) adequacy of services to ethnic minority groups; and (4) adequacy of services to the chronically disabled. If a CMHC has substantial numbers of any or all of these groups in its catchment area, it is essential to compare their representation in the Center's clientele to that of the more traditionally well-served adult population to try to determine the relative accessibility of these groups to Center services. Such comparisons can be made using either utilization rates or percentages of each group in the caseload versus the percentage in the catchment area.

Another major issue is the adequacy of services to certain clinical groups often felt to be "undesirable" from a treatment point of view (or at least "clinically difficult")--notably alcoholics, narcotics abusers, and juvenile or adult criminal offenders (rapists, thieves, etc.). If a Center's catchment area can be shown to be similar to the many urban areas in which alcoholism, drug abuse, and crime have been well surveyed and rates documented, an indication of the need to expand services to these groups may be obtainable by comparing utilization rates per 100,000 persons in the catchment area with similar rates of prevalence per 100,000 persons for these disorders in other cities or states.

## B. CALCULATING UTILIZATION RATES FOR POPULATION SUBGROUPS

### What is the technique?

The technique of "calculating a utilization rate" expresses the number served at a CMHC, either as additions during a period of time or clients at a given time per 1,000 catchment area population. This rate can be calculated for the entire population or for subgroups of specific age, sex or race. This rate per thousand allows an assessment of the extensiveness of services and the extent to which the program is providing services equally to population subgroups.

Utilization rates are basic figures for describing who uses a CMHC and for permitting easy comparison (1) among programs, (2) from an earlier to a later time, (3) with other CMHCs, or (4) with other kinds of service delivery programs. Comparisons with state hospitals, for example, could be legitimate if the service-eligible population is reasonably well defined and described by its demographic characteristics and located within known geographic boundaries for the hospitals as well as the CMHC.

Utilization rates may be calculated for any definable subgroup and program element. Possibilities are limited only by the population and service characteristics recorded systematically in the data, by the ingenuity of the evaluator, by the time available, and finally by what is worth doing. Utilization rates are simple to develop, once the materials are at hand, and they are valuable when they can be interpreted. Not every rate calculated will be equally significant. The evaluator can decide what he has accomplished as he examines the results of his work, and can work out a presentation that describes what he has done and why he chose the rates he did. But he should not present indiscriminately all the rates he calculates. The emphasis in his report should be on rates that can be interpreted and that lead to a better understanding of who the Center is serving.

### When should the technique be used and what are its limitations?

When: Utilization rates should be calculated annually in conjunction with submission of the Annual Biometry Inventory. Semiannual and even quarterly

calculations of utilization rates will help a Center track fluctuations in the use of Center services by catchment area subpopulations. Such information provides useful feedback to Center personnel, especially when changes are highlighted by the evaluator, and speculations cautiously provided to explain the possible significance of the changes.

Limitations: The most serious questions about utilization rates involve the interpretation of differences in rates as reflections of need, so as to determine relative underutilization and overutilization of services by particular population subgroups. Problems also exist when the population data become old, populations are mobile, and there are small numbers of a subgroup in the population.

How do you implement the technique?

(1) Assemble Center service data.

(a) Each Center is requested to report annual data on the age, sex, education, family income, and ethnicity of new additions in the Annual Biometry Inventory. These data can be used as the numerators for calculating the utilization rate to the population as a whole, to the specific population subgroup being studied.

(b) Data on annual new additions to the CMHC can further be refined by collecting intake data for each service element of the CMHC in terms of age, sex and ethnicity. This provides a more detailed understanding of types of services provided to population subgroups.

(c) Data on the location of the residence of additions by county MCD or census tract will permit calculation of rates for different parts of the catchment area.

(2) Assemble population data tables of 1970 census data from NIMH's Mental Health Demographic Profile System (MHDPS). These can be requested for the catchment area and all census subunits from the State Mental Health Authority. If the state lacks the capability to transmit the data, these data can be requested from NIMH (Biometry and Epidemiology Division). The MHDPS provides age, sex, race population pyramids and 130 demographic statistics aggregated for the entire catchment area and for each census tract, county and minor civil division (MCD) in the catchment area. The 130 data items include socio-economic status (economic, social and educational status), ethnic composition, household composition and family structure, type and condition of housing and community instability.

In addition to providing a basis for comparing utilization by demographic characteristics in subdistricts of the catchment area, these profile tables permit the evaluator to map the boundaries of relatively homogeneous "social areas," defined by common social rank, life style, ethnicity and other characteristics. Particular social areas may contain high percentages of

a population at risk, or some other target population for a CMHC program. A simplified application of "social area analysis" is given in Section E, beginning on page 135.

It should be noted here that the utilization data taken from the Biometry Inventory includes six categories of ethnicity—white, black, Spanish-American, Asian-American, American Indian and other—while the population pyramids of the MHDPS list only black and white. A separate set of population pyramids for 36 of the 130 items has been produced by NIMH that assembles data on Spanish heritage population (Puerto Ricans, Chicanos, Mexican-Americans et al.) by catchment area, census tract and count. These population pyramids for Spanish heritage population are available from NIMH (Biometry and Epidemiology Division) for catchment areas by census tracts but not by county.

(3) Calculate the utilization rate for the Center. Using Center service data and the population pyramids of the MHDPS, a utilization rate should be calculated for the Center for each age, sex and race. Non-catchment area residents who receive service at the Center should be deleted from the calculation of this utilization rate, either through outright elimination or by statistical correction. Rates should be calculated per thousand catchment area residents, for sex, age and race.

If intake data by service element exist in terms of sex, age and race characteristics of clients, a calculation of utilization rate per thousand by service element can also be carried out. This allows the comparison of utilization rates among service elements in the CMHC. The results can reflect the differential accessibility of service elements for various population subgroups.

With regard to estimating the contemporary currency of the MHDPS data of 1970, it is useful to note that many city, county and state planning departments frequently update census data, and these can be used as a comparative basis for estimating current accuracy. In some instances, such updated data may even be directly usable by the Center if the catchment area corresponds to a data aggregation unit used also by the planning department.

Utilization rate calculation is illustrated by figures taken from an individual Center in Florida in 1973. Table 1 shows three sets of figures, each with nine columns and six rows to subdivide the population by age, race and sex. The top set gives the catchment area population. This comes from the MHDPS. The middle set is the number of persons added to the CMHC rolls during 1973 as reported by the Center. The bottom set gives the addition rates; it is obtained by dividing the number of additions by the population and multiplying by 100,000. From these print-outs, calculated and sent to all reporting federally-funded Centers, differences in utilization rates are to be found at the bottom of the table in the form of a decimal fraction. On the right is the addition rate for all nonwhites, as a fraction of the rate for all whites. In this case the rate for nonwhites is less than half, 0.47, the rate for whites. The other two fractions are comparisons of use by the young (less than 15) or by the old (more than 65),

relative to the intermediate ages (15-64). Now these are simply empirical data, subject still to evaluation, and to considering possible action implications.

Windle suggests three bases for evaluation: one is an equalitarian assumption that all subgroups should get equivalent service. In the absence of reliable information about differences in the incidence and prevalence of need for services in different population subgroups, this assumption may be the most reasonable standard to use, though it is almost bound to be disputed if used too mechanically, for example, in reference to services (like children's services) that clearly are used only by particular population subgroups. In any case, utilization among different subgroups has been far from uniform in the Florida Center described in Table 1.

A second basis is to expect service in proportion to needs. Utilization rates evaluated with reference to need requires other information not directly appropriate to this chapter, but to Needs Assessment (Chapter 4). A household survey in the Florida county being studied is summarized in Table 2. Its assessment of need revealed discrepancies between needs and utilization. Needs were measured by respondents' ratings of their mental health as fair, poor or bad. "Utilizing" was any professional care visit during the last year. Relatively "high needers" were black, females, older and poor. Altogether there was little utilizing. Utilizing was higher for whites, females, the young and the less poor. The deficits between need and utilization were greatest for blacks, females, older and poorer respondents.

The data just shown suggest a considerable discrepancy in rate of services provided by "the Florida Center" in the illustration to nonwhites and the elderly. Once again, however, the data do not necessarily indicate the cause or the significance of the discrepancy. Nothing in the numbers tells whether the Center was discriminating against blacks and elderly, or whether blacks and elderly were discriminating against the Center. But the numbers do shift the burden of proof to program personnel to show why the most plausible explanation is <u>not</u> true, or to show what program leadership will do to correct the situation if it seems to be out of line.

The third basis for evaluation is a comparison to general practice (Table 3). The percentile distribution of the addition rates for nonwhites as a function of that for whites for all reporting Centers for 1973 is shown, in the left-hand column, subdivided for metropolitan and nonmetropolitan Centers in the next two columns. Note that the median Center has a somewhat higher utilization rate for nonwhites than whites. A ratio of 0.47 falls at about the 5% percentile level for all Centers. In other words, the illustrative Center is quite unusual in the extent of underservice to nonwhites. When it is noted that this Center is a metropolitan Center, the discrepancy widens. Similar percentile ranks are given for the other two ratios. Addition rates for those under 15 in age compared to those 15-64 are much lower than for most Centers, while rates for those under 65 are much higher. (Note how many unique features of Center performance are revealed by these

TABLE 1

A FLORIDA COMMUNITY MENTAL HEALTH CENTER, 1973*

| | TOTAL - ALL COLOR GROUPS | | | WHITE | | | NONWHITE | | |
|---|---|---|---|---|---|---|---|---|---|
| | BOTH SEXES | MALES | FEMALES | BOTH SEXES | MALES | FEMALES | BOTH SEXES | MALES | FEMALES |
| CA POPULATION - NUMBER | | | | | | | | | |
| All Ages | 132046 | 66290 | 65756 | 117060 | 58881 | 58179 | 14986 | 7409 | 7577 |
| < 15 | 44032 | 22602 | 21430 | 37965 | 19546 | 18419 | 6067 | 3056 | 3011 |
| 15-24 | 20408 | 9900 | 10508 | 17884 | 8753 | 9131 | 2524 | 1147 | 1377 |
| 25-44 | 39787 | 19812 | 19975 | 35968 | 17931 | 18037 | 3819 | 1881 | 1938 |
| 45-64 | 22033 | 11456 | 10577 | 20135 | 10458 | 9677 | 1898 | 998 | 900 |
| 65 + | 5786 | 2520 | 3266 | 5108 | 2193 | 2915 | 678 | 327 | 351 |
| CMHC ADDITIONS - NUMBER | | | | | | | | | |
| All Ages | 3487 | 1673 | 1814 | 3291 | 1580 | 1711 | 196 | 93 | 103 |
| < 15 | 317 | 206 | 111 | 298 | 194 | 104 | 19 | 12 | 7 |
| 15-24 | 941 | 496 | 445 | 878 | 455 | 423 | 63 | 41 | 22 |
| 25-44 | 1497 | 643 | 854 | 1422 | 618 | 804 | 75 | 25 | 50 |
| 45-64 | 605 | 264 | 341 | 574 | 256 | 318 | 31 | 8 | 23 |
| 65 + | 127 | 64 | 63 | 119 | 57 | 62 | 8 | 7 | 1 |
| RATE PER 100,000 CA POP | | | | | | | | | |
| All Ages | 2640.7 | 2523.8 | 2758.7 | 2811.4 | 2683.4 | 2940.9 | 1307.9 | 1255.2 | 1359.4 |
| < 15 | 719.9 | 911.4 | 518.0 | 784.9 | 992.5 | 564.6 | 313.2 | 392.7 | 232.5 |
| 15-24 | 4610.9 | 5010.1 | 4234.9 | 4909.4 | 5198.2 | 4632.6 | 2496.0 | 3574.5 | 1597.7 |
| 25-44 | 3762.5 | 3245.5 | 4275.3 | 3953.5 | 3446.5 | 4457.5 | 1963.9 | 1329.1 | 2580.0 |
| 45-64 | 2745.9 | 2304.5 | 3224.0 | 2850.8 | 2447.9 | 3286.1 | 1633.3 | 801.6 | 2555.6 |
| 65 + | 2195.0 | 2539.7 | 1929.0 | 2329.7 | 2599.2 | 2126.9 | 1179.9 | 2140.7 | 284.9 |

*Typical table in MHDPS, as published by NIMH.

TABLE 2

MENTAL HEALTH NEEDS AND USE
OF SERVICES IN A FLORIDA COUNTY

| SOCIODEMOGRAPHIC VARIABLE | | MENTAL HEALTH NEEDERS | MENTAL HEALTH UTILIZERS | IDENTIFIED AND ASSESSED NEED (DEFICIT IN UTILIZATION) |
|---|---|---|---|---|
| TOTAL | | 18.4% | 4.6% | 13.8% |
| RACE | | | | |
| Black | | 29.5 | 2.0 | 27.5 |
| White | | 15.3 | 5.3 | 10.0 |
| SEX | | | | |
| Male | | 14.6 | 3.9 | 10.7 |
| Female | | 21.3 | 5.2 | 16.1 |
| AGE | | | | |
| 16-29 | | 12.6 | 7.6 | 5.0 |
| 30-44 | | 18.9 | 4.2 | 14.7 |
| 45-59 | | 23.0 | 2.7 | 20.3 |
| 60+ | | 23.5 | 1.0 | 22.5 |
| SOCIOECONOMIC STATUS | | | | |
| (Lowest) | 1 | 37.9 | 1.5 | 36.4 |
| | 2 | 26.1 | 4.7 | 21.4 |
| | 3 | 14.2 | 4.8 | 9.4 |
| | 4 | 10.9 | 5.6 | 5.3 |
| (Highest) | 5 | 7.2 | 4.9 | 2.3 |

TABLE 3

PERCENTILE DISTRIBUTION OF CENTERS' ADMISSION RATES FOR NON-WHITES RELATIVE TO WHITES, BY TYPE OF AREA

| PERCENTILE | ALL CENTERS | METROPOLITAN | NON-METROPOLITAN |
|---|---|---|---|
| 5 | .49 | .51 | .46 |
| 10 | .65 | .78 | .55 |
| 20 | .81 | .88 | .68 |
| 30 | .93 | 1.04 | .80 |
| 40 | 1.09 | 1.23 | .91 |
| 50 | 1.26 | 1.52 | .99 |
| 60 | 1.49 | 1.78 | 1.11 |
| 70 | 1.77 | 2.13 | 1.25 |
| 80 | 2.22 | 2.54 | 1.39 |
| 90 | 3.38 | 4.02 | 1.70 |
| 95 | 4.44 | 5.39 | 2.38 |
| N | 181 | 123 | 58 |

simple data and rather basic comparisons.) There is nothing in these figures, either, that proves that the noncomformity of this Center is a fault. Still, the discrepancies are surely large enough to warrant a further effort to understand their cause, and to initiate corrective action where warranted.

(4) Interpretation. This step will require involvement of other staff, especially those influential in the processes of admission, and outreach services. The task is to understand the data, hypothesize relevant analyses and suggest actions to improve services. Comparative data can be obtained from Biometry.

What is the level of effort required?

Estimated resource requirements:

- Mandays: 2-4 after obtaining data.
- Professional levels required: Program evaluator.
- Elapsed time: 2-3 days after obtaining data for steps (1)-(3). For interpretation at least 2 weeks should be allowed.
- Other resources required: MHDPS data, Center service data for own and other Centers; needs assessment results.

Limitations of these estimates:

- Indeterminacy: Depends upon availability and accuracy of data from Center and from census, and the specificity with which program data are categorized by service element.

What are the primary sources of information about this technique?

- The Annual CMHC Profile by State, DHEW Region and the U.S.
- The Division of Biometry, NIMH.

## C. ESTIMATING MENTAL HEALTH NEEDS BY COMPARING UTILIZATION RATES AND ASSUMED AVERAGE NEED

NIMH has developed a model for estimating mental health needs using 1970 census socioeconomic data. Readers are referred to the manual cited below[1] for detailed description of the model. The model indicates how to use the NIMH Mental Health Demographic Profile System (MHDPS) in conjunction with mental health utilization data in order to pinpoint the location of

[1] Resource: Rosen, M. A Model for Estimating Mental Health Needs Using 1970 Census Socioeconomic Data. DHEW Publication No. (ADM) 74-63. NIMH, 1974

high-risk groups in a community, to determine the extent of available services, and to estimate the level of unmet needs. The model does this by employing two assumptions to provide proximate criteria for estimating needs. The first assumption (Assumption A) is that roughly 2% of the population will be in need of mental health services at any given time. The second assumption (Assumption B) is that the level is the same as the U.S. admission rates to psychiatric hospital facilities in 1971. Other assumptions could be substituted if a Center wished.

Table 4 offers an example in which these two assumptions were compared with actual admissions in two Montgomery County, Maryland, catchment areas. Takoma Park-Silver Spring figures are in the top half of the table. Comparable figures for Rockville and Upper Montgomery County are in the lower half. Columns (5) and (6) summarize the percent of unmet needs by population age group in both catchment areas, in terms of both assumptions. The table shows that in both catchment areas in the year studied the numbers of actual admissions were significantly below the national experience and the 2% assumption, except for the 65+ age group in Rockville and the upper-county area. Like the other comparisons with utilization rates that were illustrated in the preceding section, these comparisons are only descriptive. They do not prove that these two Montgomery County catchment areas were needful, but they suggest that it would be well worthwhile to do more detailed studies to investigate and assess need. Until better epidemiologic data are available on which to base more refined norms, the two assumptions used in this comparison can both be defended as probably being conservative.

## D. FORMULATING QUESTIONS ABOUT UTILIZATION RATES

Once utilization rates for age-sex-race and geographic subareas have been calculated for the Center and for one or more elements of service and related to norms via the mechanism cited above, the program evaluator, citizen board and Center administrator are in a position to begin analysis and formulation of questions of the kinds brought up in discussing the example of the Florida Center, under the section on calculating utilization rates, page 125. In preparing to form such questions, the evaluator should first attempt to array his analysis into a series of factual statements regarding the data available. Many of these findings can be recorded and presented in simple tables. Others will be more useful if presented in maps which locate population subgroups. The second step is to compare the observed rates with the "desired" or "expected." This relates to Center objectives. Need assessment activities carried out by the CMHC provide criteria for evaluating the utilization of Center services by catchment area subpopulations and

TABLE 4

ESTIMATE OF UNMET NEEDS, TWO COMMUNITY MENTAL HEALTH CATCHMENT AREAS IN MONTGOMERY COUNTY, MARYLAND

| CATCHMENT AREA; AGE GROUP | 1970 POPULATION U.S. CENSUS | ESTIMATED NEEDS: TWO ASSUMPTIONS | | | | ACTUAL ADMISSIONS[2] | | | PERCENT OF UNMET NEEDS | | PERCENT DISTRIBUTION BY AGE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A.2 PERCENT OF POPULATION | B. U.S. ADMISSION RATES[1] | | | | | | | | | | |
| | | | INPT. | OUTPT. | TOTAL | INPT. | OUTPT. | TOTAL | ASSUMPT. A | ASSUMPT. B | ASSUMPT.A | ASSUMPT. B | ACTUAL UTIL. |
| (column no.) | (1) | (2) col.(1) x .02 | (3a) | (3b) | (3c)= 3a+3b | (4a) | (4b) | (4c)= 4a+4b | (5) col(2)-(4c) / col(2) | (6) col(3c)-(4c) / col(3c) | (7) % Dist. col(2) | (8) % Dist. col(3c) | (9) % Dist. col(4c) |
| Takoma Park-Silver Spring | | | | | | | | | | | | | |
| All ages | 119,514 | 2,383 | 763 | 791 | 1,554 | 477 | 532 | 1,009 | 57.7 | 35.1 | 100.0 | 100.0 | 100.0 |
| Under 25 | 50,550 | 1,011 | 179 | 340 | 519 | 92 | 227 | 319 | 68.4 | 38.5 | 42.4 | 33.4 | 31.6 |
| 25-44 | 30,920 | 618 | 315 | 298 | 613 | 174 | 207 | 381 | 38.3 | 37.8 | 26.0 | 39.4 | 37.8 |
| 45-64 | 27,241 | 545 | 221 | 137 | 355 | 173 | 95 | 268 | 50.8 | 25.1 | 22.9 | 23.0 | 26.6 |
| 65+ | 10,443 | 209 | 48 | 16 | 64 | 38 | 3 | 41 | 80.4 | 35.9 | 8.9 | 4.1 | 4.1 |
| Rockville-Up-County | | | | | | | | | | | | | |
| All ages | 160,775 | 3,216 | 903 | 974 | 1,877 | 336 | 682 | 1,018 | 68.3 | 45.8 | 100.0 | 100.0 | 100.0 |
| Under 25 | 74,156 | 1,483 | 195 | 449 | 644 | 65 | 332 | 397 | 73.2 | 38.4 | 46.1 | 34.3 | 39.0 |
| 25-44 | 33,067 | 662 | 336 | 319 | 655 | 151 | 260 | 411 | 37.9 | 37.3 | 20.6 | 34.9 | 40.4 |
| 45-64 | 35,449 | 709 | 288 | 179 | 467 | 100 | 87 | 187 | 73.6 | 60.0 | 22.0 | 24.9 | 18.4 |
| 65+ | 18,103 | 362 | 84 | 27 | 111 | 20 | 3 | 23 | 93.6 | 79.3 | 11.3 | 5.9 | 2.3 |

[1]Source: NIMH, Biometry Branch, (Utilization Rates for 1971) 1973, Reference (9).

[2]Source: Bachrach, L.L., "Selected Characteristics of Montgomery County Residents Admitted to Outpatient Mental Health Facilities, by Catchment Area, Fiscal Year 1969," Mental Health Program Evaluation Reports, Number 3, November 1970, Reference (10). Bachrach, L.L., "Selected Characteristics of Montgomery County Residents Admitted to Inpatient Mental Health Facilities, by Catchment Area, Fiscal Year 1969," Mental Health Program Evaluation Reports, Number 4, November 1970, Reference (11).

specific target groups. The third step is to consider how to improve services by determining reasons for inadequate utilization patterns. The search for explanations as to why client service phenomena exist may lead the Center in many different directions in terms of assessing and evaluating program designs, policies, procedures, as well as its relative acceptability and accessibility to the community.

The search for explanation and the development of reasonable programmatic responses of course should motivate the evaluator to do two things: (1) sharing the data with program staff to obtain their ideas and suggestions to test; and (2) examining client characteristics and service characteristics data in more detail.

The process of raising questions about the utilization of Centers' services should be a progressive refinement of the match between Center services, populations served, and needs existing in the catchment area. At the initiation of that refining process, both the evaluation of utilization and the identification of needs may be quite crude and proximate. However, those crude evaluations and identifications can be further used to define both the needs existing in the catchment area and the target populations which should be reached. With the constant assessment of utilization as a measure of progress on the dimension of needs identification and population penetration, the Center can over the course of time actively mold its program and policies to meet objectives with respect to specific populations and needs in its catchment area.

## E. 1970 CENSUS TRACT DATA AND SELECTED SOCIAL INDICATORS FOR A COUNTY AND ITS CENSUS TRACTS AS IT PERTAINS TO MENTAL HEALTH NEEDS AND SERVICES: AN ILLUSTRATIVE CASE STUDY[2]

### 1. Introduction and Commentary

Below we present a case study that incorporates many of the steps in the approach to the analysis of patterns of utilization heretofore sketched. It

[2]The data and much of the analysis presented here are taken from an unpublished paper by Neil Benson, Ph.D., Director of Program Evaluation of the Weld Mental Health Center, Greeley, Colorado.

is more complex and detailed than the Florida example used earlier. We present this material because it highlights the need for program evaluators to adapt the various kinds of measures and indicators to their own situation and to interpret the findings of such analyses contextually. The case also points up the problematic nature of assumptions relating various kinds of social indicators to the incidence of mental health problems. As the case itself points out, the use of such social indicators is merely heuristic; that is, they are simply enabling devices to help a Center or program evaluator further pinpoint his activity so that real judgments and assessments about the incidence of mental illness and mental health problems in a particular area can be made. Finally, this case illustrates a relatively inexpensive and uncomplicated way to ascertain needs and to compare them with service utilization in a particular Center. While the methodology employed falls short of a formal social area identification, it does cluster census tracts in terms of apparent homogeneity on certain social area indicators. All the data used in the case are available without cost or excessive expenditure of effort to the Center. No original data-gathering activities are required by the Center beyond the collection of information from available Center records about numbers of people using Center services. Finally, the analysis of these data, while not complicated, is useful to pinpoint areas for further program evaluation activity and the precise needs for services by population subgroups.

### 2. Analysis of a Catchment Area Population

#### a. Introduction

This example compares expected versus actual utilization of services at a particular CMHC in Colorado by each of 25 census tracts comprising a single countywide catchment area for the 1970 census. It assesses the relationship between relative "social distress" for each of the 25 census tracts and their rates of mental health service utilization. Two thousand clients of the Center over a nine-year period were classified in the study. The large sample was used in order to include clients from as many of the tiny rural communities as possible. The purpose was to assess the degree to which the Center adequately services the different areas of the county (census tracts). General descriptive characteristics of the socioeconomic and demographic aspects of the area are given, particular attention being paid to those characteristics indicating social distress or special needs for the catchment area as a whole.

#### b. Procedure

Basic data for the county (catchment area), state, and nation were taken directly from 1970 Census of Population (Volume 1, Characteristics of the Population). Social indicators and other descriptive data were obtained from Fourth Count Census Data by Catchment Area, available through the NIMH Mental Health Demographic Profile System.

Information on selected social indicators was obtained from two MHDPS Working Papers: "Demographic Norms of Community Mental Health Center Catchment Areas" (Shambaugh, Windle and Lawrence, 1975) and "Catchment Areas with Unusually High Proportions of Some 'High Risk' Groups: Region VIII" (Windle, Shambaugh, Goldsmith, Rosen and Spaner, 1975). The paper by Windle et al. specified 17 indicators as especially relevant to identifying high-risk or special-need populations.

All treatment modalities used at the Center were included in the sample. Ultimately excluded from the sample were out-of-catchment-area clients, as well as clients coming from Census Tract 3 because it was decided that the University distorted that tract's situation in any comparison of service utilization and social indicators (Tract 3 boundaries are the boundaries of the University campus). Client numbers and addresses were recorded for all clients used in the sample group. Several admissions for a given client and several different addresses were often recorded. The address listed at the time of the first admission was used, to achieve a single unduplicated count of clients and assign them to particular census tracts. The United States Census Tract Maps and District Maps available from the Bureau of the Census made it fairly easy to locate the appropriate census tract for most clients. Rural Route Post Office Delivery Maps accurately placed borderline addresses. Service utilization data by census tract was kept in a file by client ID number and census tract in which that client resided, but without names, thus ensuring client anonymity.

Analysis commenced with overall breakdown of clients served from each of the 25 census tracts. The expected number of clients was determined by multiplying the total sample (N = 2,000) by the percent each census tract represented of the total county population in 1970. Thus, the initial comparisons would rest on countywide utilization of CMHC services as the norm. A percent "overserved" or "underserved" was calculated by subtracting the expected number of clients served from the actual number of clients served and then dividing by the expected number of clients to be served. Minus percentages indicate that fewer clients were actually served than would have been arithmetically expected. Plus percentages indicate that more clients than arithmetically predicted were served. The formula used to make this determination was as follows:

$$\text{Percent over- or underserved} = \frac{(\text{actual number served}) - (\text{expected number served})}{\text{expected number served}}$$

Table 5 records the results.

The social indicators to be used were chosen by the following procedure. Catchment area standing was estimated for each of the 17 NIMH indicators, compared to overall U.S. distribution. The particular "social distress" pattern of the county is assumed to be revealed by the deviations in catchment area values beyond the nationally calculated 75th (or 25th) percentile in the direction associated with increased social problems. These factors were low average income, low number of teenagers in school, high percent

TABLE 5

UTILIZATION OF MENTAL HEALTH CENTER SERVICES BY CENSUS TRACT IN COUNTY
(CENSUS TRACT POPULATION DATA BASED ON 1970 CENSUS)

| CENSUS TRACT # | POP. OF TRACT | % POP. IS OF COUNTY POP. | "EXPECTED" NUMBER SERVED | ACTUAL NUMBER SERVED | % OVER OR UNDER SERVED | RANK BY "UNDER SERVICE"* |
|---|---|---|---|---|---|---|
| 1 | 5,840 | 6.53 | 131 | 229 | + 74.8 | 23 |
| 2 | 5,178 | 5.80 | 116 | 106 | - 8.6 | 10 |
| 3 | 1,597 | 1.79 | 36 | 0 | -- | -- |
| 4 | 4,497 | 5.04 | 101 | 73 | - 37.6 | 5 |
| 5 | 2,750 | 3.08 | 62 | 97 | - 56.4 | 17 |
| 6 | 1,079 | 1.21 | 24 | 50 | +108.3 | 24 |
| 7 | 4,238 | 4.75 | 95 | 150 | + 58.0 | 18 |
| 8 | 3,273 | 3.67 | 73 | 119 | + 63.0 | 21 |
| 9 | 3,638 | 4.07 | 81 | 68 | - 16.0 | 9 |
| 10 | 2,839 | 3.18 | 64 | 108 | + 69.0 | 22 |
| 11 | 1,385 | 1.55 | 31 | 50 | + 61.3 | 20 |
| 12 | 4,816 | 5.39 | 108 | 135 | + 25.0 | 11 |
| 13 | 3,416 | 3.83 | 77 | 110 | + 42.9 | 16 |
| 14 | 2,383 | 2.67 | 53 | 85 | + 60.4 | 19 |
| 15 | 1,449 | 1.62 | 32 | 73 | +128.1 | 25 |
| 16 | 2,889 | 3.24 | 65 | 73 | + 12.3 | 12 |
| 17 | 3,746 | 4.19 | 84 | 61 | - 27.4 | 7 |
| 18 | 1,851 | 2.07 | 41 | 43 | + 4.9 | 11 |
| 19 | 7,814 | 8.75 | 175 | 96 | - 45.1 | 4 |
| 20 | 5,284 | 5.92 | 118 | 38 | - 67.8 | 1 |
| 21 | 4,944 | 5.53 | 111 | 70 | - 37.0 | 6 |
| 22 | 6,062 | 6.79 | 136 | 51 | - 62.5 | 3 |
| 23 | 2,923 | 3.27 | 65 | 54 | - 16.9 | 8 |
| 24 | 824 | .92 | 18 | 21 | + 16.7 | 14 |
| 25 | 4,452 | 5.54 | 111 | 40 | - 64.0 | 2 |
| TOTAL | 89,297 | 100.00 | 2,000 | 2,000 | | |

*Rank by "underservice" is obtained by ranking each of the census tracts using the highest plus percentage, +128.3% for Census Tract #15, as 25 (the greatest overservice) down to -67.8% for Tract #20 as 1 (the least overservice).

of population of Spanish heritage, a great deal of moving around, and a high fraction of population living in group quarters. While it could have provided still more information to analyze data related to all the indicators, this was not done since local experience suggested that most of the factors showing significant deviations were the important ones, plus a few that were not on the NIMH list in explicit or direct form. Eight social indicators were ultimately selected. Their values were recorded for each of the 25 census tracts. These indices were: median income for white families (includes Spanish surnamed), percent of families in poverty, percent of population in poverty, percent civilian labor force unemployed, percent persons with eight years or less education, percent Spanish heritage, percent overcrowded housing (more than one person per room), and percent teens not in school. Of these eight indices, five were also on NIMH's list of selected social indicators suggested for identifying high-risk or special-need populations. Median family income was chosen as opposed to the NIMH indicator of median income of families and unrealted individuals, to conform with Center record-keeping practice. Percent of teenagers not in school was used because it provided a greater spread among the census tracts of the County than did the NIMH indicator, median number of school years completed. However, a stronger justification might have been that current truancy equals current distress, whereas level of years of schooling attained reflects the past more heavily. Finally, percentage in poverty was used in addition to percent of impoverished families and high percentage of those families in poverty. Three indicators tied to economic status weighted final rankings toward income. Five noneconomic indices provided for comprehensive analysis. There is no other methodologic justification for having weighted and combined these factors in this way other than it seemed to constitute a rough empirical reflection of social distress as experienced in a county in which most persons were poor, relative to national averages, so it seemed useful to try to identify those areas where people lived who were poor by the largest number of definitions. The really distressful were also of Spanish heritage, deficient in schooling, overcrowded and out of work. General indexing practice might call for the use of each variable only once. Careful scientific analysis would also have called for testing for sensitivity to various other combinations and weightings of the available variables, since so many available variables were not chosen. But the intention was merely to use the results to describe relatively homogeneous subareas within the county. Thus, the additional work and rigor did not seem justified.

Values for the eight social indicators are indicated in Table 6. Each was also ranked for all 25 census tracts (not shown). In order to make the several indicators of distress additive, low ranking for a census tract on a given social indicator was always chosen to indicate low distress. For example, Census Tract #6 is ranked 25 for median income and 21 for percent civilian labor force unemployed, indicating low socioeconomic or social status and a relatively high level of social distress.

TABLE 6

VALUES FOR SELECTED SOCIAL DISTRESS INDICATORS FOR COUNTY CENSUS TRACTS

| CENSUS TRACTS | +MEDIAN FAMILY INCOME (WHITE, INCLUDES CHILDREN) | % FAMILIES IN POVERTY | % POP. IN POVERTY | % CIVILIAN LABOR FORCE UNEMP. | % PERSONS WITH 8 YEARS OR LESS EDUC. | % SPANISH HERITAGE | % OVER CROWDED HOUSING | % TEENS NOT IN SCHOOL |
|---|---|---|---|---|---|---|---|---|
| 1 | 6,558** | 15.7* | 26.7* | 8.0** | 32.8 | 23.5** | 5.8 | 19.9** |
| 2 | 6,914** | 15.8* | 37.6* | 9.2** | 12.2 | 4.2* | 5.3 | 11.6* |
| 3 | 7,083** | 0 | 18.8* | 8.5** | 0 | 8.7* | 9.1 | 0 |
| 4 | 12,259 | 2.7 | 6.3 | 2.1 | 12.4 | 1.4 | 2.3 | 1.8 |
| 5 | 8,234 | 10.2 | 16.4 | 3.7 | 33.1 | 15.7** | 7.0 | 6.9 |
| 6 | 4,784** | 27.0** | 31.7** | 7.3** | 60.6** | 56.2** | 39.0** | 1.5 |
| 7 | 6,819** | 11.9 | 15.2 | 5.2 | 40.1* | 28.4** | 11.3* | 18.2** |
| 8 | 6,958** | 7.1 | 24.0* | 4.6 | 24.9 | 18.1** | 4.8 | 3.6 |
| 9 | 12,468 | 5.6 | 8.4 | 1.5 | 7.4 | .9 | 2.2 | 6.7 |
| 10 | 7,793 | 9.7 | 16.2 | 7.4** | 24.9 | 16.8** | 10.1* | 9.8* |
| 11 | 12,577 | 2.6 | 3.8 | .9 | 7.5 | 6.8* | 4.5 | 15.6** |
| 12 | 11,515 | 4.6 | 4.9 | 2.3 | 11.4 | 4.3* | 4.2 | 9.3 |
| 13 | 9,299 | 9.6 | 12.2 | 3.4 | 21.4 | 5.2* | 7.3 | 7.8 |
| 14 | 11,194 | 5.7 | 6.9 | 2.0 | 19.3 | 11.7* | 5.0 | 9.0 |
| 15 | 7,397* | 19.2* | 19.9 | 5.9* | 46.3** | 28.5** | 16.8** | 19.4** |
| 16 | 5,725** | 25.7** | 31.9** | 1.4 | 33.7 | 16.5** | 12.6* | 18.7** |
| 17 | 8,397 | 9.7 | 11.8 | 2.1 | 32.8 | 21.1** | 13.5* | 1.5 |
| 18 | 7,755* | 19.8* | 23.6* | 2.6 | 30.6 | 15.9** | 11.3* | 0 |
| 19 | 7,983* | 14.5 | 17.8 | 4.9 | 31.9 | 27.0** | 17.3** | 6.0 |
| 20 | 8,908 | 7.3 | 10.5 | 6.4* | 29.9 | 19.3** | 15.0** | .8 |
| 21 | 7,925* | 11.1 | 13.9 | 3.9 | 36.9* | 14.3** | 11.1* | 6.7 |
| 22 | 7,658* | 15.2 | 22.2* | 2.9 | 33.9 | 16.3** | 9.4 | 3.1 |
| 23 | 6,209** | 19.4* | 22.7* | 2.1 | 33.4 | 23.0* | 12.5* | 0 |
| 24 | 7,351* | 8.6 | 11.7 | 6.4* | 21.7 | 9.6* | 8.1 | 6.5 |
| 25 | 7,968 | 17.5* | 21.5* | 1.9 | 28.6 | 7.1* | 9.9 | 4.6 |
| Value for County | 8,361 | 11.9 | 17.3 | 4.2 | 27.4 | 15.4** | 9.4 | 3.6 |
| Value for County | 9,635 | 9.1 | 12.3 | 4.2 | 20.0 | 13.0 | 6.9 | 5.7 |
| Value for County | 9,961 | 10.7 | 13.7 | 4.4 | 28.3 | 4.6 | 8.2 | 7.3 |

*This value is equal to or greater than the value of 75% of the catchment area values for the U.S.
**This value is equal to or greater than the value of 90% of the catchment area values for the U.S.

+In the Median Family Income column a single asterisk indicates that 75% of the catchment areas in the U.S. have equal to or greater than this value. Two asterisks indicate a value equalled or exceeded by 90% of the catchment areas in the U.S.

Ranks were than summed, and the sums themselves were rank-ordered with the median family income variable used to break ties. This "rank of ranks" constituted a reasonably strongly integrated ordering of census tracts by social distress. Grouping contiguous census tracts with similar rankings approximately delineated what have been termed "natural social areas," which were compared to determine the degree to which these areas are "overserved" or "underserved." If these measures were related to absolute standards of need, such as Rosen's utilization standard of 2% of population in mental health care per year, they would also be useful for needs assessment.

c. Results and Discussion

• General characteristics of the catchment area: In general, the social indicator values for the County as a whole depict a catchment area with a relatively low median income and a moderately high level of families with poverty-level incomes. An obvious target group would consist of the relatively large Spanish heritage population. Catchment area values on other social indicators generally ranged around the median value or indicated the county to be slightly worse off than median catchment areas in the entire United States. The Windle et al. paper on catchment areas with unusually high proportions of "at risk" groups by Regions focused on the percent of Spanish heritage population and Recent Movers as the two at-risk populations for this catchment area. The categories seemed directly more helpful to the CMHC in some cases than others. Programmatic implications of dealing with the "poor" and with persons of "Spanish heritage" were relatively apparent. What to do because the population at risk frequently moves from residence to residence was much less clear. It must be remembered that the immediate purpose of the analysis was to pinpoint areas of distress, not to identify individuals.

• Characteristics of the census tracts: Preliminary scanning of all indicator values obtained for specific census tracts indicated a high number of persons at "high risk" for census tracts 1, 2, 6, 7, 10, 15, 16, 18, 21 and 23. Double-starred values in Table 7 indicate an extremely high value. Census tracts 1, 6, 7, 15 and 16 are the areas in which the greatest degree of concentration of high-risk populations or social distress are located within the county, compared with national norms by catchment areas. It would have been more accurate to use tract-derived norms, if available, since the data were by tract and the intention was to aggregate areas by tract.

The final "rank of ranks" in Table 8 offered a method for ranking all 25 census tracts as to relative degree of social distress, and indicates an overall high-risk population in regard to the presence or likelihood of

TABLE 7

RANKING OF CENSUS TRACTS BY COMBINED SOCIAL DISTRESS INDICATORS

| CENSUS TRACTS | MEDIAN INCOME | % FAMILIES IN POVERTY | % POP. IN POVERTY | % CIVILIAN LABOR FORCE UNEMP. | % PERSONS 8 YEARS OR LESS EDUC. | % OVER-CROWDED HOUSING | % TEENS NOT IN SCHOOL | % SPANISH HERITAGE | SUM OF RANKS | RANK OF RANKS |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 22 | 18 | 22 | 23 | 16 | 8 | 24 | 21 | 154 | 23 |
| 2 | 20 | 19 | 25 | 25 | 5 | 7 | 19 | 3 | 104 | 14 |
| 3 | 18 | 1 | 15 | 24 | 1 | 12 | 25 | 8 | 104 | 13 |
| 4 | 3 | 3 | 3 | 6 | 6 | 2 | 6 | 2 | 31 | 2 |
| 5 | 9 | 13 | 12 | 13 | 18 | 9 | 14 | 12 | 100 | 11 |
| 6 | 25 | 25 | 23 | 21 | 25 | 25 | 4 | 25 | 173 | 25 |
| 7 | 21 | 15 | 11 | 17 | 23 | 17 | 21 | 23 | 148 | 21 |
| 8 | 19 | 7 | 21 | 15 | 10 | 5 | 8 | 17 | 102 | 12 |
| 9 | 2 | 5 | 5 | 3 | 2 | 1 | 12 | 1 | 31 | 1 |
| 10 | 13 | 11 | 10 | 22 | 17 | 15 | 18 | 16 | 115 | 17 |
| 11 | 1 | 2 | 1 | 1 | 3 | 4 | 20 | 6 | 38 | 3 |
| 12 | 4 | 4 | 1 | 9 | 4 | 3 | 17 | 4 | 47 | 4 |
| 13 | 6 | 10 | 9 | 12 | 8 | 10 | 15 | 5 | 75 | 6 |
| 14 | 5 | 6 | 4 | 5 | 7 | 6 | 16 | 10 | 59 | 5 |
| 15 | 16 | 21 | 16 | 18 | 24 | 23 | 23 | 24 | 165 | 24 |
| 16 | 24 | 24 | 24 | 2 | 20 | 20 | 22 | 15 | 151 | 22 |
| 17 | 8 | 11 | 8 | 6 | 16 | 21 | 4 | 19 | 93 | 8 |
| 18 | 14 | 23 | 20 | 10 | 14 | 17 | 1 | 13 | 112 | 16 |
| 19 | 10 | 16 | 13 | 16 | 15 | 24 | 10 | 23 | 126 | 19 |
| 20 | 7 | 8 | 6 | 19 | 13 | 22 | 3 | 18 | 96 | 10 |
| 21 | 12 | 14 | 10 | 14 | 22 | 16 | 12 | 11 | 111 | 15 |
| 22 | 15 | 17 | 18 | 11 | 21 | 13 | 7 | 14 | 116 | 18 |
| 23 | 23 | 22 | 19 | 6 | 19 | 19 | 1 | 20 | 129 | 20 |
| 24 | 17 | 9 | 7 | 19 | 9 | 11 | 11 | 9 | 92 | 7 |
| 25 | 11 | 20 | 17 | 4 | 12 | 14 | 9 | 7 | 94 | 9 |

developing mental illness. Not surprisingly, the five census tracts ranked most highly in this manner are tracts 6, 15, 1, 16 and 7: all have high rankings for Percent Spanish Heritage; all are in proximity. The conclusion was to regard this collection of contiguous tracts as a social area.

It turned out to be easy and not an overly arbitrary judgmental process to combine all of the remaining census tracts into three other social areas. One was characterized by a population of middle-class people with the husbands employed in high-status occupations. Another was populated by lower-middle-class people, often in their own homes, in most characteristics showing up at the median for the county, including Spanish heritage population. The last area was made up of sparsely settled rural areas, not concentrated geographically like the others. Low population density is the major factor of programmatic interest in this social area.

• Relationship of social distress to amount of service: A major purpose of this study was to see if high scores for given areas in the measures of social disruption (the selected social indicators) were related to higher utilization rates of mental health services in the catchment area. The expected number of clients served in a given census tract (Table 5, column 4) was compared with the actual number of clients served in the sample (Table 5, column 5), and the amount of under- or overservice for that area was computed (Table 5, column 7). By computing ranks for "overservice," it is possible to compare rank ordering for social disruption with rank ordering for service utilization.

A rank difference correlation test performed between these two rankings had a value of .19, which was not significant. In point of fact, however, the five most socially distressed census tracts (tracts 6, 15, 1, 16 and 7) have the highest rate of service utilization in the county. These high-risk areas seem to be receiving relative rates of services comparable to their risk factor on the basis of the 2% predictor for incidence of mental illness. The other highly served areas include relatively more affluent and presumably less high-risk census tracts 10, 11, 13 and 14, which overlap heavily the most well-to-do social area (9, 11, 12, 13, 14). This is the part of the county in which the Center was located. The general pattern of over- or underservice relative to tract population actually seems to be strongly influenced by distance clients needed to travel: higher service of census tracts in the immediate Center area and underservice to all but one of the outlying census tracts. The Center subsequently established an outreach clinic in the outlying area to meet just such needs for the southern portion of the county.

• Effects of establishing a clinic: The establishment of the outreach clinic was designed to provide services to a distant area which had a fairly high density of population compared to some of the other rural areas and which had demonstrated a need for services peculiar to that area. The area had a high percentage of Spanish heritage individuals. In addition, large numbers of migrants, most of whom were of Spanish heritage, came to that part ot the county each year.

By comparing the percentage over- or underserved in this area before the clinic was opened (Table 8, column 7) with the rates of service in the period of time since the clinic opened (Table 8, column 11), it was possible to see the effect that the opening of the clinic had on comparative rates of service for clients in these census tracts (18, 19, 20, 21 and the southern portion of tract 25). The rates of service went up slightly for tracts 20 and 21, but those tracts still remained underserved. Census tract 19 remained unchanged and tract 18 actually showed a decline in relative rate of service utilization. The establishment of the outreach clinic seemed to have had little if any effect on the utilization of Center services by the people in the area it was designed to serve.

Initially, four reasons were uncovered to account for the apparent lack of utilization. First, one of the early decisions of the clinic was that it would not open cases which were already opened at existing public health offices, even though these persons were in fact among the CMHC clientele and they increased in number after the satellite opened. Since this was a major source of the clinic's referrals, such a procedure served to significantly reduce the identified caseload and their representation in the sample. Second, the clinic when opened had an outreach program with considerable emphasis on consultation and education. It worked in nontraditional ways with people who might normally never have received mental health services, but this further reduced the number of open cases. Additionally, for a period of time a significant number of open cases at the clinic came from an area that, although within the catchment area, had residences outside the county that was being used for the survey. Finally, portions of the services being offered by the clinic were actually being delivered in the adjacent counties' school districts. Taken as a whole, these four factors significantly deflated the apparent rate of mental health service utilization for the area served by the clinic.

In an updated survey conducted a year after the survey reported, all four of the census tracts in the area showed major increases in service rate utilization. Two of them showed service utilization rates higher than what would have been expected solely on the basis of population. The overall increase seemed to indicate that the presence of the clinic was beginning to make a demonstrable impact on conventional measures of the mental health service utilization in that portion of the county.

### d. Conclusions

It appears that the Center does provide some "extra" service to the individuals in the most socially distressed areas in the county, though not enough to be significant.

The adequate provision of mental health services to remote rural areas will likely be a continuing problem. Increases in population density might warrant the establishment of a second outreach office. In any event, the Center needs to develop services to outlying areas as a priority and to look to alternative ways of serving these areas.

TABLE 8

SHIFTS IN CLIENT SERVICE UTILIZATION BY CENSUS TRACT:
BEFORE AND AFTER ESTABLISHMENT OF SATELLITE CLINIC

| TRACT CHARACTERISTICS | | | 1087 CLIENTS BEFORE ESTABLISHMENT OF SATELLITE CLINIC (June 1964 - November 30, 1971) | | | | 913 CLIENTS AFTER ESTABLISHMENT OF SATELLITE CLINIC (December 1971 - July 1974) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CENSUS TRACTS | % OF TOTAL COUNTY POP. | SOCIAL INDICES RANK | *EXPECTED NUMBER SERVED | ACTUAL NUMBER SERVED | % OF THIS SAMPLE | % OVER OR UNDER SERVED | *EXPECTED NUMBER SERVED | ACTUAL NUMBER SERVED | % OF THIS SAMPLE | % OVER OR UNDER SERVED |
| 1 | 6.53 | 23 | 71 | 131 | 12.1 | + 84.5 | 60 | 98 | 10.7 | + 63.3 |
| 2 | 5.80 | 14 | 63 | 67 | 6.2 | + 6.3 | 53 | 39 | 4.3 | - 26.4 |
| 3 | 1.79 | 13 | 19 | 0 | 0 | -- | 17 | 0 | 0 | -- |
| 4 | 5.04 | 2 | 55 | 32 | 2.9 | - 41.8 | 56 | 41 | 4.5 | - 26.8 |
| 5 | 3.08 | 11 | 33 | 56 | 5.2 | + 69.7 | 29 | 41 | 4.5 | + 41.4 |
| 6 | 1.21 | 25 | 13 | 23 | 2.1 | + 76.9 | 11 | 27 | 3.0 | +145.5 |
| 7 | 4.75 | 21 | 52 | 92 | 8.5 | + 76.9 | 43 | 58 | 6.4 | + 34.9 |
| 8 | 3.67 | 12 | 40 | 72 | 6.6 | + 80.0 | 33 | 47 | 5.1 | + 42.4 |
| 9 | 4.07 | 1 | 44 | 43 | 4.0 | - 2.2 | 38 | 25 | 2.7 | + 34.2 |
| 10 | 3.18 | 17 | 35 | 41 | 3.8 | + 17.1 | 29 | 67 | 7.3 | +131.0 |
| 11 | 1.55 | 3 | 17 | 21 | 1.9 | + 23.5 | 14 | 29 | 3.2 | +107.1 |
| 12 | 5.39 | 4 | 59 | 77 | 7.1 | + 30.5 | 49 | 58 | 6.4 | + 18.4 |
| 13 | 3.83 | 6 | 42 | 52 | 4.8 | + 23.8 | 35 | 58 | 6.4 | + 65.7 |
| 14 | 2.67 | 5 | 29 | 40 | 3.7 | + 37.9 | 23 | 45 | 4.9 | + 95.7 |
| 15 | 1.62 | 24 | 18 | 47 | 4.3 | +161.1 | 15 | 26 | 2.8 | + 73.3 |
| 16 | 3.24 | 22 | 35 | 38 | 3.5 | + 8.6 | 30 | 25 | 3.8 | - 16.7 |
| 17 | 4.19 | 8 | 46 | 27 | 2.5 | - 41.3 | 38 | 24 | 3.7 | - 36.8 |
| 18 | 2.07 | 16 | 23 | 30 | 2.8 | + 13.3 | 18 | 13 | 1.4 | - 27.8 |
| 19 | 8.75 | 19 | 95 | 52 | 4.8 | - 45.3 | 80 | 44 | 4.8 | - 45.9 |
| 20 | 5.92 | 10 | 64 | 13 | 1.2 | - 80.0 | 54 | 25 | 2.7 | - 55.7 |
| 21 | 5.53 | 15 | 60 | 33 | 3.0 | - 45.0 | 51 | 37 | 4.0 | - 27.5 |
| 22 | 6.79 | 18 | 74 | 22 | 2.0 | - 70.2 | 62 | 29 | 3.2 | - 53.2 |
| 23 | 3.27 | 20 | 36 | 21 | 1.9 | - 41.7 | 29 | 33 | 3.6 | + 13.8 |
| 24 | .92 | 7 | 10 | 9 | .8 | - 10.0 | 8 | 12 | 1.3 | + 50.0 |
| 25 | 5.54 | 9 | 60 | 27 | 2.5 | - 55.0 | 51 | 13 | 1.4 | - 74.5 |
| TOTAL | | | 1087 | 1087 | -- | -- | 913 | 913 | -- | -- |

*Expected numbers served are obtained by multiplying the sample numbers by the percent that the census tract was of the total county population.

The fact that it is possible to delineate recognizable and distinctly different social areas enables the Center to look at these areas in terms of approaches to mental health services other than direct patient contact. For instance, poor or high-risk areas can be approached or served through agencies already providing general health care services to the people of these areas.

The present analysis of service by census tract and social area will serve as a basis for future comparisons. As the county grows in population, new demands for services are likely to rise. Sampling of current caseloads can provide information as to whether Center services are being utilized in patterns which conform to differential population growth rates within the county. Large discrepancies between the population size in a given area and Center service to that area should lead to a reappraisal of the location of Center services (in terms of outreach offices) and ways in which the Center can serve those areas.

The findings of the present study, or any "needs assessment study," need to be interpreted with caution. Social indicators, when used to delineate areas with a high risk for the development of mental illness, are capable of pointing out those groups of people (residing in that area) who are likely to have a higher incidence of mental problems, based upon assumptions and factors that relate to the incidence of mental illness or distress. Such indicators do not enable one to state with any finality the actual incidence of mental illness in particular areas. The assumptions are merely devices for focusing activity in areas where need is likely to be higher. The general relationship between poverty and other indicators of social distress and higher incidence of mental illness has been established. This does not mean, however, that the relationship is causal and that simply because an individual is poor and living under distressed social conditions he is necessarily mentally ill. Social area analysis deals with areas and not individuals. Its limitations in depicting actual versus probable rates of mental illness need to be clearly recognized.

Question #2: WHAT BARRIERS TO THE USE OF CMHC SERVICES EXIST FOR POTENTIALLY NEEDY GROUPS IN THE CATCHMENT AREA?

## A. INTRODUCTION

Both needs assessment (Chapter 4) and the evaluation of utilization (earlier sections of this chapter) lead directly to the identification of barriers to appropriate utilization of Center services. The program evaluator may obtain clues about barriers to utilization from many sources. Discrepant utilization rates, however, are particularly important for identifying service locations, provider groups, service elements, population groups, subareas, and other possible client and Center groupings around which (or in whose perception) barriers may exist. Especially when utilization is high for some populations and low for others that seem to be at comparable risk, the question whether inappropriate barriers explain the low utilization is a good one to consider. Without well-categorized utilization data and extensive demographic data about the catchment area, underutilization may be completely invisible. Where reasonable possibilities of underutilization emerge, a preliminary search for inappropriate barriers to access is generally a sensible task to carry out.

From its inception, a major aspect of the Center's program has been the intention that services be "accessible" to all residents of the catchment area, and that no one be refused service due to inability to pay. Accessibility was then generally perceived as having several components: physical accessibility; visibility in the community; procedural accessibility; economic, psychological and cultural accessibility. For example, could residents of the catchment area easily get to the Center? Did the Center have convenient hours? Were there barriers, like language differences? Centers were enjoined to be accessible to their catchment area populations, and to indicate in annual reports that they were maintaining such accessibility.

In a recently completed study on the utilization of neighborhood health centers, Messer Associates has proposed a more complex and variegated conceptual framework for describing and understanding the notion of "accessibility."[7] While this conceptual framework was put forward for neighborhood health centers, it is also directly applicable to community mental health centers. We will explicate the Messer model here in some

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[7] Rosen, B.M. Development of Accessibility Indexes for Ambulatory Care Providers: Volume I, An Analytic Framework for Constructing Judgmental and Statistical Indexes to Assess the Utilization of Neighborhood Health Centers. Draft report under Contract No. HSA-105-74-187, August 1975. (There was no NTIS number available to us at the time of writing.)

detail to enrich thinking about accessibility. While specific proven techniques for measuring many of the suggested indexes of accessibility do not yet exist, presentation of the conceptual materials here will contribute to the process of formulating measures of accessibility that are both convenient and relevant to the specific circumstances of CMHCs. Where we can suggest usable techniques, we shall.

The Messer concept begins with the understanding that barriers to care are directly reflected in utilization rates, which is directly measurable.

The Messer concept characterizes barriers in terms of four independent concepts. These have been adapted in NIMH's draft guidelines to the community mental health center environment as follows:

- Availability of services is the amount of the required types of services the Center can provide at any given time. This may be expressed in service days or beds per thousand catchment area population.

- Awareness of services is knowledge by the local population and community caretakers about the existence of a Center, the services it offers, and the conditions for which these services are appropriate.

- Acceptability of services is a predilection by community residents and caretakers to use and to continue to use a Center.

- Accessibility of services is the ease of reaching the Center and obtaining its services.

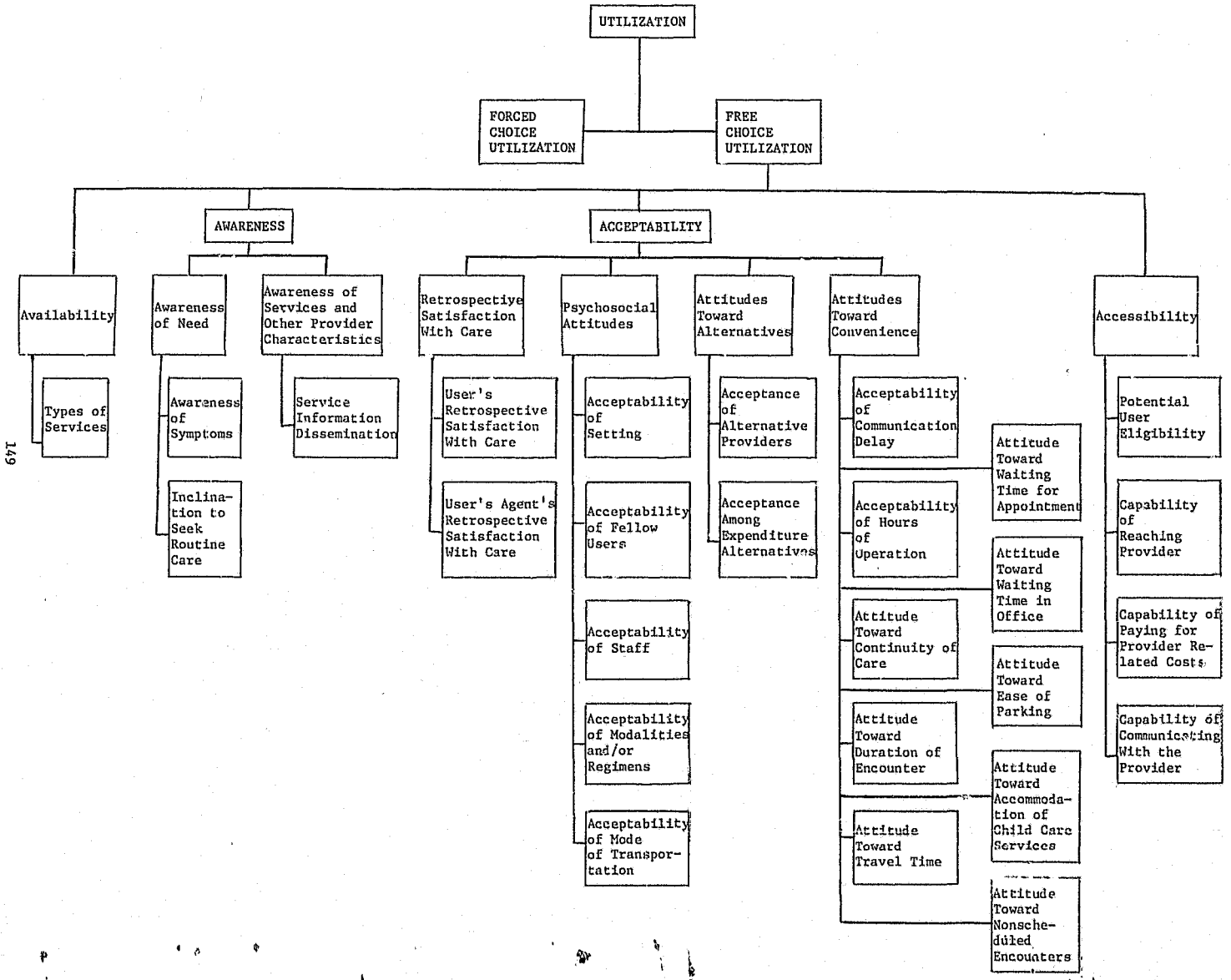
## B. THE MESSER ASSOCIATES ANALYTIC FRAMEWORK

These four independent variables were further differentiated into components. Table 9 presents the total analytic framework developed by Messer Associates. This analytic framework is provocative of more precise thinking about the dimensions of CMHCs service processes.

The evaluator can check through these materials to see what hypotheses they suggest about barriers that limit utilization of Center by particular population groups. Checking the validity of these hypotheses may require ingenuity. In general, investigation would require: (1) identifying (the) population group(s) that may be inhibited in or barred from utilization by lack of availability, awareness, acceptability or accessibility; (2) selecting or developing a suitable method to test

TABLE 9

ANALYTICAL FRAMEWORK



# CONTINUED

# 2 OF 5

the information or attitudes of these persons or others whose opinions are valuable and relevant about the CMHC and its services; (3) gathering the data; and (4) analyzing data to develop relevant findings and any appropriate courses of action. Investigations of characteristics of persons who are not clients of the Center involves asking questions of persons outside the Center. But it may not necessarily require household surveys. If other community caretakers or service providers (welfare workers, public health nurses, probation officers, drug counselors, school counselors) have good knowledge of a population group in question, find out informally what they know and believe, or conduct a key informant survey (Chapter 4, page 101). Community forums may also produce sufficient information (Chapter 4, page 108) at much less cost than general population survey research, but still offer adequate validity and reliability to determine whether a barrier exists and how important it is. A few of the likelier techniques are listed and analyzed in somewhat more detail in the next section.

Awareness of services involves vocabulatory and conceptual problems of understanding. Discovering that someone does not know about services the very nature of which is unfamiliar to him is a tricky business. If any question arises that he should have known or that knowing is way beyond what should be expected of him, a sensitive emotional situation may also arise. The attitudinal matters to be investigated under acceptability and accessibility are almost always sensitive matters, because they are so easily subject to political and other manipulation, especially when the Center is perceived or perceives itself as a powerful institution, not lightly to be offended. Because of these considerations, the use of intermediaries (e.g., key informants) or group interviewing techniques of one kind or another has a place for reasons of effectiveness as well as relatively low cost.

## C. EVALUATING ACCESSIBILITY

It is the responsibility of citizen board members, Center administrators, and program evaluators to assess the "accessibility of Center services" for the catchment area population. A variety of techniques, measures and descriptive statements can be employed. Below we have attempted to suggest some of the more feasible and simple in terms of each broad concept noted above (page 148). The areas, however, do overlap, and a study activity carried out to determine whether or not citizens are aware of CMHC services will also invariably turn up information related to the relative accessibility of services and their acceptability to the community. For the purpose of our presentation, however, we have attempted to locate techniques were the technique seems most applicable.

Techniques for assessing the availability of services:

(1) Service ratios should be calculated of the staff mandays available in various types of services (inpatient, outpatient, emergency) and beds in all facilities and private practice serving the catchment area, per thousand catchment area population. The portions of the population eligible for each of these services must be noted so that availability can be determined for various segments of the population. Services may be graded in quality, such as community-located or accredited. Separate calculations should be done for the Center as the marginal increment to making up the community's services.

(2) Types of services offered should be related to catchment area needs. This will require a key informant survey (Chapter 4), including other community caretakers to determine whether or not they feel enough mental health services of the various types are available in the community. This assessment, to be realistic, should include an assessment of the relative shortage of mental health services compared to other human services.

Techniques for assessing awareness of services:

(1) Survey samples of catchment area residents or chosen subsamples (i.e., a block or social area) to determine their knowledge of the existence, nature and procedures to obtain community mental health center services. Since surveys intended to test how well people are informed almost inevitably demonstrate a low level of knowledge, these surveys are likely to be useful only if intended to do something else in addition. For example, they may serve as "before" and "after" measures of the results of a public relations and educational campaign intended to increase local awareness of the CMHC and its activities. Surveys on community awareness may include items intended to establish preferred methods for raising community awareness. Items that establish prior awareness levels are included both to validate the need and to stimulate the respondent into suggesting solutions to a problem he otherwise had not realized existed. Or level of awareness surveys may include questions on the incidence and prevalence of mental and emotional illness designed to identify target populations or the general level of need, or they may identify current preferred sources of service so Centers may coordinate with these.

(2) Survey relevant caretakers in the community and community leaders to determine their awareness of the existence, nature and procedures to obtain CMHC services. Such a survey can also ask where caretakers currently refer clients. As suggested in the preceding discussion of the Messer Associates concept of accessibility, the key informant approach seems particularly promising as a source of information concerning not only caretakers' own awareness but what they know of the awareness and attitudes of others.

(3) Question persons coming to the Center to see what they understand. Although current clientele may know little about why other persons do not use the services of the Center, their responses to it, their reasons for seeking admission, and the sources of information they used may be very revealing. Where entire ethnic or cultural subgroups do not use the Center at all, however, their awareness, information and attitudes will be very little revealed by surveys of the current clientele.

(4) Conduct "process" measures of whether the Center is making efforts to create awareness. See questions in the site visit protocol (signs, telephone listings, etc.).

Techniques for assessing acceptability of services:

(1) A community impressions survey is described in the preceding chapter, under Community Forum (page 108).

(2) Retrospective client satisfaction questionnaires. See Table 10, page 153, for Messer Associates Hypothetical Questionnaire for Retrospective User Satisfaction. See also Chapter 7, Client Outcomes, for other examples of client satisfaction questionnaires. Aday and Andersen[3] studied the reasons for being dissatisfied with medical services. Among "process indices" they included office waiting time, availability of care after hours, ease of getting to care, out-of-pocket cost, getting needs met all at one place, concern of doctors for overall health, follow-up care, courteous treatment by nurses, information enabling choice of physician, information about what was wrong, information about treatment, and judgment of overall quality. Their survey found least satisfaction on the part of patients made to wait in the office, with availability of after-hours care, with long travel time (30 minutes or more), and with out-of-pocket cost levels. These categories are all applicable to CMHCs.

(3) Psychosocial attitudinal questionnaire of current CMHC clients to determine their awareness of service alternatives, their views of alternatives, their feelings about the convenience, pleasantness and ease of using Center services, as well as their understanding of what services are available. See Table 11 for Messer Associates Hypothetical Questionnaire for Psychosocial Attitudes, which we have adapted for CMHC use. Additional possibilities in this area could include:

(4) A survey of other caregivers' and community leaders' attitudes in terms of their willingness to refer and receive CMHC clients, their desire to participate in CMHC-sponsored C&E activities, joint case planning and conferences.

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[3] Aday, L.A., and Andersen, R. Access to Medical Care. Ann Arbor, Michigan: Health Administration Press, 1975. See page 63 for a summary table of their results. Their outcome measures are also of interest.

TABLE 10

MESSER ASSOCIATES'
HYPOTHETICAL QUESTIONNAIRE FOR RETROSPECTIVE USER SATISFACTION

| | STRONGLY AGREE | AGREE | MIXED FEELINGS | DISAGREE | STRONGLY DISAGREE |
|---|---|---|---|---|---|
| 1. I know when I come to the center that the doctor will not hurt me needlessly. | | | | | |
| 2. The staff at the center treat me with respect. | | | | | |
| 3. When I telephone or walk-in to the center, the person I talk to is usually helpful. | | | | | |
| 4. I get good care at the center. | | | | | |
| 5. The staff at the center listen to my problems. | | | | | |
| 6. The doctor at the center spends enough time with me. | | | | | |
| 7. The last time I came to the center, the person who helped me was well-qualified. | | | | | |
| 8. I would choose the person I saw the last time I came to the center to treat me again. | | | | | |
| 9. I expect to continue to use the center. | | | | | |
| 10. I would recommend the center to my friends. | | | | | |

TABLE 11

MESSER ASSOCIATES'
HYPOTHETICAL QUESTIONNAIRE FOR PSYCHOSOCIAL ATTITUDES
(Slightly Adapted for CMHC Use)

| | STRONGLY AGREE | AGREE | MIXED FEELINGS | DISAGREE | STRONGLY DISAGREE |
|---|---|---|---|---|---|
| 1. The _____ CMHC is a safe place to be. | | | | | |
| 2. The _____ CMHC is clean, comfortable, and attractive. | | | | | |
| 3. People who go to _____ CMHC are people I feel comfortable with. | | | | | |
| 4. _____ CMHC staff treat me with respect. | | | | | |
| 5. _____ CMHC provides important services. | | | | | |
| 6. I prefer _____ CMHC to a state mental hospital. | | | | | |
| 7. I prefer _____ CMHC to a private mental health professional. | | | | | |
| 8. I prefer _____ CMHC to other community agencies. | | | | | |
| 9. I prefer _____ CMHC to non-specialists in mental health. | | | | | |
| 10. I don't mind spending money for my mental health. | | | | | |
| 11. I would use _____ CMHC if I were mentally disturbed. | | | | | |

(5) Measures of the ambience of treatment settings and styles. The Moos Ward Atmosphere Scale and Community-oriented Program Environment Scale have been adapted to the assessment of group therapy "atmosphere."[4] Either the Moos community-oriented scale or the Silbergeld adaptation of the Ward atmosphere scale could be used in CMHCs.

(6) A client complaint system. It would be desirable to have complaints sent to an ombudsman or person independent of the Center. Complaints to the Center administrator should be recorded and reviewed periodically. Efforts to respond to complaints should be recorded, as well as ombudsman efforts to follow through on complaints made.

Techniques for assessing accessibility of services:

(1) Geographic:

(a) The physical ease of reaching the Center can be measured by computing travel time based on the geography of the catchment area and the various public transportation lines available to catchment area residents. Such facts may explain differences in utilization rates for different subareas of the catchment area.

(b) Alternative modes of accessibility can be assessed through determining Center policy and publicity concerning the availability of telephone consultation, home visits, walk-ins, and various other modes of easy access to Center services, and their comparative utilization. Each can then be measured by process measures of Center policy and practice, and also by empirical data on what happens to clients (actual waiting time), attitude of clients toward the barriers and impact (drop-out rates from those who start to apply).

(2) Psychological and cultural:

(a) Specific provisions to accommodate specific linguistic and cultural population differences.

(b) Attractiveness or forbidding qualities of the facility, staff, and administrative procedures.

(c) Reputation of the Center professionally, performance-wise, and in human terms.

(3) Temporal:

(a) Waiting time measures. An actual sample of waiting times can easily be collected, and people's attitudes toward the waiting period ascertained. A simple, very general time attitude questionnaire appears as Table 12. In many situations, actual responses to real experiences would be gathered.

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[4] Silbergeld, Sam. Assessment of Environment-Therapy Systems: The Group Atmosphere Scale. Journal of Consulting and Clinical Psychology, 43: 460-469, 1975.

TABLE 12

MESSER ASSOCIATES'
HYPOTHETICAL TIME ATTITUDE QUESTIONNAIRE

1. I begin to become annoyed when the time it takes me to get to a doctor or clinic for a routine visit is (please check one)

| | |
|---|---|
| ____ 5 to 15 minutes | ____ 45 minutes to an hour |
| ____ 15 to 30 minutes | ____ An hour to an hour and a half |
| ____ 30 to 45 minutes | ____ Over an hour and a half |

2. I will not go to a particular doctor or clinic for a routine visit if the time it takes me to get there is (please check one)

| | |
|---|---|
| ____ 15 to 30 minutes | ____ An hour to an hour and a half |
| ____ 30 to 45 minutes | ____ Over an hour and a half |
| ____ 45 minutes to an hour | |

3. I begin to become annoyed if my scheduled appointment for a routine visit with a doctor or at a clinic (please check one)

____ Is not on the same day I ask for the appointment
____ Is more than a day from when I asked for the appointment
____ Is more than 3 days from when I asked for the appointment
____ Is more than 7 days from when I asked for the appointment
____ Is more than 14 days from when I asked for the appointment
____ Is more than 21 days from when I asked for the appointment
____ Is more than a month from when I asked for the appointment

4. I will not go to a particular doctor or clinic for a routine visit if my scheduled appointment (please check one)

____ Is not on the same day I ask for the appointment
____ Is more than a day from when I asked for the appointment
____ Is more than 3 days from when I asked for the appointment
____ Is more than 7 days from when I asked for the appointment
____ Is more than 14 days from when I asked for the appointment
____ Is more than 21 days from when I asked for the appointment
____ Is more than a month from when I asked for the appointment

5. I begin to become annoyed when I visit a doctor or clinic for a routine visit if I have to wait in the waiting room (please check one)

| | |
|---|---|
| ____ 5 to 15 minutes | ____ 45 minutes to an hour |
| ____ 15 to 30 minutes | ____ An hour to an hour and a half |
| ____ 30 to 45 minutes | ____ More than an hour and a half |

TABLE 12 (Cont.)

6. I will not go to a particular doctor or clinic for a routine visit if I have to wait in the waiting room (please check one)

| | |
|---|---|
| ____ 5 to 15 minutes | ____ 45 minutes to an hour |
| ____ 15 to 30 minutes | ____ An hour to an hour and a half |
| ____ 30 to 45 minutes | ____ More than an hour and a half |

7. I begin to become annoyed when the total time it takes me to see a doctor or at a clinic for a routine visit is (please check one)

| | |
|---|---|
| ____ 5 to 15 minutes | ____ 45 minutes to an hour |
| ____ 15 to 30 minutes | ____ An hour to an hour and a half |
| ____ 30 to 45 minutes | ____ More than an hour and a half |

8. I will not go to a particular doctor or clinic for a routine visit if the total time I spend there is (please check one)

| | |
|---|---|
| ____ 5 to 15 minutes | ____ An hour and a half to two hours |
| ____ 30 to 45 minutes | ____ Two to two and a half hours |
| ____ 45 to 60 minutes | ____ Two and a half to three hours |
| ____ An hour to an hour and a half | ____ More than three hours |

(b) Hours of operation by waiting time by service element, and location can be measured.

(c) Scheduling for appointments can be measured (time lapse; ability to meet client's first, second or third preferences for appointments; time required to make the appointment by telephone or face-to-face).

(4) Financial:

(a) Rules of eligibility, including rationales for sliding scale by target population and annual incomes.

(b) Clients' attitudes toward costs of service: cost, by service, and billing practice; attitude toward cost and billing practice; studies of change in utilization with change in cost and billing; differences among subareas in regard to sensitivity to cost.

Somewhat similar questions about accessibility of emergency and crisis response services can also be developed. Are persons who are brought to the service or who present themselves to it advised immediately on their entitlement to Center services? To a variety of Center services? Of their right to choose between Center services and other private or public services? Of the conditions under which service may be terminated by client or Center? Are there appropriate and attractive brochures about the emergency service available at suitable points throughout the catchment area? Are the services well-publicized among community caretaker agencies? Are arrangements adequately explicit with local police departments (and others who may with some frequency encounter mental health emergencies)? Are police, ambulance, fire and health emergency and hot-line personnel equipped to say and do those things which should enhance the psychological accessibility and acceptability of the Center's services to persons whom they refer or escort to the Center's emergency services? Are the emergency services available when and where needed? In short, all the dimensions of accessibility apply to emergency services (geography, time, psychological and sociocultural factors).

Consultation and education services should also be checked for their accessibility. The same categories of space, time, cost, attitude, communications difficulties, and service availability apply. Since the clients in this case are usually the professional leaders of other agencies and institutions, the psychological factors involved in acceptability are somewhat different, but only marginally so. What it takes to be psychologically accessible and acceptable to a juvenile judge, a school counseling unit, or an association of pastoral counselors is ultimately the same as with direct service clients: a welcoming and courteous attitude, good reputation for competence and effectiveness, and an ability to create and sustain sufficient close communication. Whether these or other factors act as barriers to utilization is possible for the evaluator to discover and validate by the same kinds of techniques already listed: phone or questionnaire surveys of users, and group or individual interviews of key informants.

A final note: The evaluation of utilization rates for the Center should provide initial clues and directions for further investigation of the existence of barriers to receiving service; obviously, not all accessibility concept variables can be evaluated at once. A Center may choose to undertake one of the techniques noted above with respect to a particular population subgroup, a particular subarea of its catchment area, or a particular high-risk population in order to determine what, if any, barriers exist to their receiving service at the Center. In such an evaluation, the aspects of accessibility outlined above all have relevance and provide different perspectives from which to view what, if any, factors mitigate against Center service use by a potential catchment area subpopulation. Results could be used, for instance, toward planning a new satellite to reach a population heretofore finding it difficult to get to the Center, as in the Colorado example above; to change the hours of operation, waiting time, physical setting or receptionist demeanor of a particular service element or program; or to undertake a massive publicity campaign in the community to apprise residents of the existence, nature and procedures for obtaining CMHC services. Finally, as Center services expand, or other overlapping services are created outside the Center, or needs change, the monitoring of acceptability may uncover instances in which services are highly accessible, acceptable and visible but are nevertheless subject to decreasing use. In those cases, overcapacity may be the cause, and the monitoring of acceptability will have proven useful by eliminating some of the other most plausible explanations.

Question #3: HOW DO PEOPLE USE CMHC SERVICES?

As important as it is to measure the overall utilization of a CMHC program and to identify those factors which constrain or encourage such utilization, it is equally important to explore the internal patterns of service use. The intent of such analyses is to determine whether the structure of a service system is such that it supports appropriate utilization of component units and modalities by individuals in need of the services that are offered and minimizes barriers to the orderly movement of clients through a service system. The techniques presented in this section provide examples of various approaches for evaluating internal patterns of service use.

## A. A TECHNIQUE FOR PROFILING THE UTILIZATION OF SPECIFIC SERVICE ELEMENTS

### What is the technique?

The construction of a utilization profile for service elements allows a Center to determine the degree to which care provided in various service elements varies as a function of sex, age and race. Three indices are used in the construction of the profile, based on data derived from an MIS admission and change of status form. This technique has been developed at the Connecticut Mental Health Center, as an aspect of their program evaluation and monitoring application of the Multi-State Information System (MSIS), a computerized information system for mental health facilities developed at the Rockland State Hospital in Rockland County, New York.

### When should the technique be used and what are its limitations?

When: The Center is interested in determining whether a racial or sex and age preference exists in its service elements in terms of admissions, retentions, and treatment and discharge. Service preferences such as priority to the poor may or may not conform to program objectives. This technique can create greater conformity of service element behavior with stated program objectives.

Limitations: The primary limitation is that interpretation is needed to make sense of any particular service element's profile. For instance, not all service elements experience equal demand, nor are all services in any necessary fixed relationship to one another in demand changes across time. An additional limitation is the prerequisite demand that the CMHC possess a functioning management information system that can report admission and change of status data by client for each service element, including transfers between service elements. The MIS need not necessarily

be computerized in small Centers for this application, though producing the required data should be a very simple matter for a computerized system.

How do you implement the technique?

(1) A listing of operating service elements is made. A suggested criterion for determining service elements is whether or not admission and discharge forms are maintained by that element. It is sometimes a valid question for the evaluator whether a program is well enough integrated administratively to be evaluated unless it at least meets this minimal definition for being a service element.

(2) For each service element, calculate a utilization rate by sex, age and race. (Explained in the first section of this chapter, pages 125-132.)

(3) Analyze the utilization rates to determine differential utilization of service element by sex, age and race. A resulting observation here might take the following form: The drug dependence unit treats a disproportionate number of young black males compared to the rest of the Center. Utilization rates calculated by service element and population subgroup can be used to identify differences in use of discrete service elements by subpopulations within the catchment area. Special attention should be paid here to the possibility that treatment programs may operate so that barriers to services which formerly existed at entry level in the Center have been moved deeper into the organization's infrastructure where they are less visible. For example, historically few young males may have been seen at the Center. Center utilization rates now show a proportionate number of young black males in terms of their representation in the catchment area population. Yet nearly all of these young males are concentrated in the drug dependence unit.

(4) Construct a utilization profile. Differential utilization by subgroups may reflect either differential need or differential accessibility. For instance, is the fact that most young black males seen at the Center are in the drug dependence unit reflective simply of their need for that service, or is it that the drug dependence unit is the only place in the Center where they feel comfortable in getting help and counsel about their problems? If differences in service utilization are not in line with estimates of actual client need, additional analyses may be designed to identify barriers to service use and to determine the degree to which the kind of care provided varies as a function of sex, age and race. The three indices used in this analysis consist of the following:

(a) Absorption index. This is the number and kinds (proportioned by population subgroup) of referrals received by a service element within the CMHC from central intake or other service elements of the Center. It reflects intracenter referrals from one service element to another in terms of population characteristics, and can also be used to ascertain, for a

particular service element, its absorption of specific clients by population characteristics from the overall Center client mix. Index = Transfers in during the fiscal year ÷ Patients on the books at the start of the fiscal year plus all admission, readmissions and transfers in during the fiscal year x 100. The index addresses the question of whether or not a distributive bias favoring the absorption of particular population subgroups exists with particular service elements. An example of how to use the concept follows: If nine of ten 1975 referrals to the CMHC children's program from central intake were of the white race and came from families with annual incomes over $15,000, and 16 of 20 referrals from central intake to the Center's special education program for learning deficiencies were black inner-city children from families with a median income of $8,000, it raises the question of possible bias. A computer subroutine capable of making the comparative analysis for all service elements simultaneously will reveal if there are patterns of referral, acceptance or rejection either toward particular programs or away from them. It is these patterns that constitute the index.

(b) Retention index. This is the average length of treatment during a given time period stated as the numerator of a fraction whose denominator is the number of clients who enter and remain in treatment over a given time period within the particular service element. Index = Patients on the books at the end of the year ÷ Patients on the books at the start of the fiscal year plus all admissions, readmissions and transfers in during the fiscal year x 100. This is a very rough measure of length of ambulatory treatment, but does give an impression of resource utilization.

(c) Discharge index. This is the fraction formed by dividing the number of clients terminated from treatment during the chosen period by the number who have received any kind of treatment during the period chosen. The higher the index, the more the element acts as the final path of a patient's treatment career.

Examples of analytic output (hypothetical):

(1) Nonwhite clients were more likely to be discharged and less likely to be retained over a 12-month period in service element X, a unit for intensive one-to-one psychotherapy, staffed by a male psychiatrist, two female psychologists (one a Ph.D.) and a resident in psychiatry (a male) who was succeeded by another male psychiatric resident midway in the year. All five of the therapists were white and favored a highly verbal approach to psychotherapy. Since many of the black clients dropped out, often against advice, it seemed likely that the discharge and retention pattern was not the result of the therapist's greater effectiveness with the black clients. The two hypotheses requiring further investigation were (a) wrong modality for engaging the black clients; (b) wrong therapists--either biased or culturally not coping with the black clients.

(2) In service element Y, an inpatient unit, a previously noted bias favoring the direct admission of nonwhites is countered by a tendency to refer proportionately more whites than nonwhites to the inpatient unit from

other service elements of the CMHC. Thus, the internal processes of the Center create a biased redistribution that favors the white population and runs counter to the entry bias favoring the nonwhite population. This may indicate that clinical staff respond differentially to patients in treatment than to initial applicants for service. It may also indicate that more effort is expended to avoid hospitalization with the whites of the catchment area.

What is the level of effort required?

Estimated resoure requirements:

- Mandays: 2-4 days for calculating the utilization profile; 2-4 days interpreting the profile, plus minimal additional data-gathering and processing (especially in an automated system).

- Professional levels required: Program evaluator and service element directors.

- Elapsed time: 6-12 months.

- Other resources required: A functioning MIS system that can note and tabulate changes in status for clients by service element, by selected demographic characteristics.

Limitations of these estimates:

- Time required for interpretation and additional necessary investigation could vary widely. Additionally, more time could be expected to be spent by a Center which lacked the MIS capability for producing data in the specified categories.

What are the primary sources of information about this technique?

This system is used as an annual check of performance over time, in relation to the measures, at the Connecticut Mental Health Center. See:

- Tischler, G.L. The Use of MSIS in Program Evaluation. In: Lasker, E.M., and Bank, R. (Eds.). Safeguarding Psychiatric Privacy. New York: Wiley & Sons, 1975.

## B. A TECHNIQUE FOR MEASURING CLIENT MOVEMENT WITHIN THE SERVICE SYSTEM

What is the technique?

The technique consists of filling out for each client transferred or referred within a CMHC a simple tracking slip in triplicate that indicates

referral to a particular CMHC service element. One copy is kept in central Center files, one given to the patient as an appointment slip, and one forwarded to the service which will be receiving the client. Monthly tallies of centrally collected slips and slips received by each service element are made and compared to determine results of referral (i.e., contact made, visit completed, or no-shows). Referrals within the Center help define program boundaries, can show the need for strengthening internal connections in what is claimed to be a program, and provide clues to internal "dumping" among programs and services. A yearly audit of the slips will assure that head counts total up, i.e., that an unduplicated count has been made.

When should the technique be used and what are its limitations?

When: When the Center has an MIS which records this information, analyses should be done periodically to assess the effectiveness of Center continuity of care in terms of numbers and proportions of successful transfers. Use of a special recording procedure is useful as a time-limited study on a sample of clients for the Center to track referred patients within its own service elements, when a centralized data-gathering capability does not exist.

Limitations: The technique measures gross patient movement only. It does not consider the appropriateness of therapist's judgment to transfer patient, nor continuity with respect to therapist, nor staff communication, nor follow-up of patient. To measure such aspects of continuity, NIMH has developed a Continuity of Care Inventory which can be tailored to different levels of intensity and duration. (See Section C, page 166.)

How do you implement the technique?

(1) For each client transferred or referred within the Center, a secretary fills out the slip, which at minimum indicates:

(a) Client's name (and number if used);
(b) Date;
(c) Service element referring;
(d) Disposition.

(2) Each month, the central records slips are tallied as to:

(a) Total number of referrals within CMHC this month;

(b) Number referred to each service element [which total should equal (a)].

Individual service elements should also tally, compile, and submit to the designated person two numbers and a summary list:

(c) Total number of "successful" transfers completed;

(d) Number of tracking slips received [which need not equal (c)];

(e) List of numbers of successful transfers from each service element referring.

(3) These data are then compared and analyzed to determine:

(a) Proportion of incomplete referrals, by referring and "referred to" service elements. This is done by first comparing the numbers generated for and by each service element under (2)(b) and (2)(c) above to ensure accuracy. When accuracy is achieved, the numbers generated under (2)(b) and (2)(c) above are compared to determine the proportion of unsuccessful transfers by "service element referred to." To determine unsuccessful transfers by "service element referring," the central records slips are tallied by "service element referring" and these numbers are compared with the results of totaling by service element the numbers received under (2)(e) above.

(b) In case of large or insignificant proportion of unsuccessful transfers to or from a service element, the evaluator should pose several explanatory hypotheses, which he can then informally test with the director of service. For example:

- The service element is located too far away from referring service. Barriers to access may exist.
- Clients are responding to a need sufficient to bring them into the service element of initial contact, but are not ready, willing or able to continue treatment and certainly not to transfer once a transient, strong impulsion to seek help has faded. This hypothesis is loaded with possibilities for projecting responsibilities to departed clients. It is well to be cautious about accepting it too readily. However, it also may be valid. What is the evidence?
- Time between referral and first appointment at referred service is too long.
- Inadequate preparation of the client by referring element. Client is not willing to accept referral because he has heard too little or the wrong message.
- Inadequate follow-up by receiving service element. The client feels unwelcome, unattended to, not helped.
- "Dumping" of unwanted clients is being unsuccessfully attempted (a somewhat delicate subject but one which may require probing).

(c) Depending upon the adequacy of these hypotheses to explain the unsuccessful transfers, the evaluator can also perform a demographic analysis of the unsuccessful transfers to determine if there are age, sex, ethnic group, economic or other patterns associated with successful and unsuccessful transfers, by service element.

What is the level of effort required?

Estimated resource requirements:

- Mandays: For a special study, filling out the tracking slips and conducting tallies: 4-8 hours/month/service element of secretarial time. For hypothesis-building, testing, and further analyses by evaluator: 12-20 hours. [N.b. If data are routinely available, the service element recording and tallying time can be reduced to less than one hour per month per service element for reconciling discrepancies and explaining anomalies. Evaluator time may also be reduced slightly thereby.]

- Professional levels required: Secretaries, program evaluator, ward or service element staff.

- Elapsed time: If routine data exist, 2 weeks; for special study, 4-12 months.

- Other resources required: None.

Limitations of these estimates:

- The amount of time to be spent in the analysis and implementation of findings is indefinite.

What are the primary sources of information about this technique?


- Beigel, A. Evaluation on a Shoestring. In: Hargreaves, W.A.; Attkisson, C.C.; McIntyre, M.H.; Siegel, L.M.; and Sorensen, J.E. (Eds.). Resource Materials for Community Mental Health Program Evaluation: Volume I -- Elements of Program Evaluation. Accession No. PB-249-043. Springfield, Virginia: National Technical Information Service, 1975.


## C. A TECHNIQUE FOR MEASURING CONTINUITY OF CARE

What is the technique?

The Continuity of Care Inventory (CCI) developed by NIMH is designed to provide several measures of continuity of care in a community mental health

center during a sample month, or longer. The inventory as designed examines only the four mandated direct services provided by the Center under pre-existing law (emergency, inpatient, outpatient, and partial hospitalization).

From the data the inventory gathers, it is possible to ascertain the extent to which mechanisms implementing continuity of care are used for persons: (1) entering the Center and receiving direct services; (2) transferring among the Center's direct services; (3) transferring to a medical facility while in treatment at any of the treatment services; and (4) remaining in the same treatment service for the stipulated time period.

Continuity of care is, of course, an important concept in all aspects of public health. Assuming that there may be a treatment of choice under some circumstances, a least costly treatment of highest attainable value under other circumstances, and always a possibility that improved awareness of a client's situation will lead to possibilities for constructively modifying his treatment plan, it follows that appropriate modifications or maintenance of a therapeutic regime becomes a significant measure. It measures the capability of more or less discrete service elements to function as a therapeutic system. It also measures--or at least offers suggestions toward evaluating--the quality and the efficiency of the care provided. Continuity of care may therefore be a concept whose realization should be considered in particular CMHC quality assessment systems (see Chapter 10). Measures of continuity of care may also accordingly be used with the results of cost-outcome studies (Chapter 8) to permit a more complete and valid judgment of the validity and integrity of the results of the CMHC resource allocation process. Is the public money and the professional time it pays for being efficiently and effectively expended?

When should the technique be used and what are its limitations?

When: The major features of this technique are its logical completeness and its inclusion of therapist judgments. But the method proposed should be viewed as a model rather than a panacea or a mandated procedure. It can and should be altered to fit a Center's capacity and needs for evaluation. For a small Center, the observation period could be lengthened in order to obtain larger samples and hence more reliable data. In large, multi-unit Centers concurrent measures of continuity for all of the essential direct services may be overly ambitious. Measurement could be focused on any pair of direct essential services or any pair of affiliates, since the inventory consists of five independent, separate parts. Thus, a Center's area of major concern about continuity of care and its capacity for evaluation can determine the use of the inventory. The inventory has the additional advantage of requiring no elaborate or sophisticated data-collecting equipment. Each part of the five-section questionnaire consists of about 10-15 multiple-choice items intended to be minimally burdensome to the therapist.

How do you implement the technique?

(1) Drawing a sample: When all sections of the inventory are used, the total sample of Center clients comprises a moving and a nonmoving sample.

The moving sample includes all clients (a) transferred among any of the Center's four mandated direct treatment services; (b) referred to another Center or noncenter service or facility; or (c) discharged. The moving sample is extracted from (a) all clients on the Center's roll for the essential direct treatment services on the first day of the observation period; (b) all additions to the roll during the observation period.

The nonmoving sample is a statistically random selection of an adequate sample of clients remaining in each of the three essential direct services (inpatient, outpatient care, and partial hospitalization) for the duration of the stipulated observation period. It is assumed that emergency care is a temporary status and does not remain unchanged for any client for as long as one month.

(2) Monitoring the sample: To facilitate the investigator's recording of client movement and monitoring the use of the inventory, a roster should be prepared of: (a) names of all persons on the Center roll at the beginning of the observation period, to which should be added (b) all persons admitted to the direct services during this period. The roster should include the following data for each client: (a) name and/or case number; (b) client's treatment status at the beginning of the observation period or on entry during this period (viz., emergency or nonemergency admission or readmission); and (c) the treatment person attending him at that time. Unless due to be discharged on this opening date of the observation period, persons on the roll but on home leave, on authorized or unauthorized leave or in a medical facility should be included on this list.[5]

All client movement within and out of the Center during the observation period can be recorded on this list, thus identifying (a) persons who changed treatment status during the reporting period; (b) the sections of the inventory needing completion to record this movement; and (c) the treatment persons responsible for completing and turning in the appropriate inventory sections. In this way, the inventory can be monitored. Having identified those persons who changed status during the reporting period, the remainder on the roster comprises the nonmoving sample from which a sample of adequate size from each service must be randomly selected.

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[5] Bass, Rosalyn D. A Method for Measuring Continuity of Care in a Community Mental Health Center. NTIS Evaluation Study Reports Accession No. PB-211-005. Springfield, Virginia: National Technical Information Service, 1971. This manual includes a good method for preparing an accurate roster of current clients.

(3) Completing the inventory: The CCI has five sections covering different aspects of the treatment program provided by the Center's essential direct services. The inventory should be used as follows during the chosen reporting period:

SECTION 1 (EMERGENCY AND NONEMERGENCY ADMISSIONS AND READMISSIONS)

*To be completed for* every admission, readmission and emergency entering the Center at a central admission point or at any Center affiliate;
*By* whoever examines the client and refers him to the appropriate treatment service;
*When* the person leaves intake status.

SECTION 2 (CHANGE IN TREATMENT STATUS)

*To be completed for* any person receiving inpatient, outpatient, or partial care who:
(a) is transferred within or out of the Center for the major source of his treatment (except to a medical facility),
(b) is discharged from the Center, or
(c) dies;
*By* the client's treatment person or the transferring or discharging caretaker;
*When* the client is transferred, discharged, or dies.

SECTION 3 (FOLLOW-UP FOR SECTIONS 1 AND 2)

*To be completed for* all emergencies, nonemergency admissions, and persons in the current sample who were transferred from and received at another essential direct-treatment service in the Center during the reporting period;
*By* the client's assigned therapist in the new service or a supervising staff member for clients having no assigned therapist;
*When* the client appears for treatment in the new service or no later than one month from the date of transfer to the new service.

SECTION 4 (TRANSFER TO A MEDICAL FACILITY)

*To be completed for* any person in the Center's essential treatment services whose treatment is interrupted by hospitalization at a medical facility at the start of or during the reporting period;
*By* the client's treatment person;
*When* the client returns to his therapist or treatment service or one month from the hospital admission date, if he has not yet returned to the Center program at that time.

SECTION 5 (UNCHANGED TREATMENT STATUS)

*To be completed for* an adequately large, randomly selected sample of clients, remaining in each of the essential treatment services for the entire reporting period (home visits, weekend passes, and unauthorized leave, until discharged, do not constitute a change in the client's treatment status);

*By* the client's treatment person or a supervising staff member for clients without an assigned therapist;
*When* the one-month reporting period is over.

While multiple moves for a client are possible during even so short an observation period as one month, only the first move of any client will be recorded and examined by the inventory. Thus, a treatment person will be required to complete only one section of the inventory for any client changing treatment status, that is, when he transfers or receives a client for treatment.

(4) Analyzing inventory results: The inventory measures a variety of indexes: i.e., movement, stability of client-caretaker relationship, communication, and client retrieval. The reader is referred to the NIMH publication cited in footnote 5 for the specific questions that need to be answered to produce these indices. We will, however, briefly review the specific indices produced under each major area. Movement indices are intended to measure the percentages of the moves from one service element to another in which: the movement was initiated by recognition of a therapeutic need; the movement was intended to achieve a more appropriate service placement; the movement was expeditiously and quickly completed; and the movement resulted in a client's actually beginning treatment in the new service to which transferred.

The stability of client-caretaker relationship is measured by the percent of persons who have had no change in therapist.

With respect to communication, the inventory measures (a) percent of case records containing treatment goals; (b) percent of case records containing treatment plans; (c) percent of records transferred with transferring clients; (d) percent of records transferred with the client that are deemed by the new therapist to contain adequate information; (e) percent of joint therapeutic planning between new and old therapists.

With respect to client retrieval, the inventory measures (a) percent of persons contacted within one week of a missed appointment or unauthorized leave, and (b) percent success of retrieval efforts in returning clients needing therapy to the Center within one month.

What is the level of effort required?

Estimated resource requirements:

- Mandays (total = 3 manmonths for a total of 4 service elements and all 5 steps):
  - (1) Planning: 1/2 day per service element administrator.
  - (2) Data collection: 1 manmonth.

(3) Data analysis and reporting: 1-1/2 manmonths.

(4) Orientation of therapists: 2-1/2 hours per therapist.

(5) Completion of forms: 1 minute per client.

- Professional levels required: The coordinator of the project, administrators, clinicians.

- Elapsed time: 3 months.

- Other resources required: None.

Limitations of these estimates:

- The cooperation of therapists may be difficult to obtain, and the validity of the "reasons" they give should be checked.

What are the primary sources of information about this technique?

- Bass, R.D., and Windle, C. Continuity of Care: An Approach to Measurement. American Journal of Psychiatry, 129:196-201, 1972.

- See also the manual cited in footnote 5.

## D. CONSTRUCTING AND EVALUATING OTHER PATTERNS OF USE OF CMHC SERVICES

The purpose of this section is to suggest some other variables that can be assembled into patterns of use of Center services that are more specific for CMHC structure, process and outcome data. It is possible to construct many such patterns. Evaluators should exercise creative discernment in defining and describing patterns of use that reflect the special characteristics of their Center. An important and obvious level of input for the program evaluator in these matters is to design forms, the categories on the forms, and methods to store and retrieve information. These administrative arrangements determine the kinds of patterns it is possible to describe, and thus constrain evaluation as described in Chapters 7-9.

### 1. Three Sets of Variables

Variables relating to patterns of use can be structured in terms of three categories: basic client information, process and outcome variables. Each set of these variables should be tallied by client. Further aggregations of selected client variables can then be made to arrive at broader patterns of use reflecting program elements and services.

(1) Client information variables: These variables relate to the characteristics of the individual client being served. They include:

- Sex, age and ethnic group;
- Demographic information (socioeconomic status, family status, etc.);
- Residence by social area and/or census tract in the catchment area;
- Referral source;
- Presenting problem and/or initial diagnosis.

(2) Process variables: Process variables relate to aspects of what happens to the client during his episode of care in the CMHC. Process variables must be collected in terms of individual clients, but can be usefully aggregated in terms of programs. Process variables collected by client include:

- Units of service provided (e.g., four sessions of individual psychotherapy and 16 outpatient group sessions);
- Duration of service (e.g., client received above services over a period of 22 weeks);
- Duration of service by units of service provided (e.g., client received two sessions of psychotherapy in his first week of service, followed for the next 16 weeks by weekly group outpatient meetings, followed by two individual psychotherapy sessions over the next two weeks and an additional session at termination at week 22);
- Staff responsibility (e.g., Ms. X provided three individual psychotherapy sessions, Mr. Y led the outpatient group, and Mrs. Z provided two psychotherapy sessions).

This kind of information can be conveniently presented on a table or log such as the following:

| Unit of Services / Duration | Weeks 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Indiv. Psych. | Ms X | | | | | | | | | | | | | | | | | | | | | |
| Indiv. Psych. | Ms X | | | | | | | | | | | | | | | | | | | | | |
| Outpatient Group | | Mr Y | Mr Y | Mr Y | Mr Y | Mr Y | Mr Y | Mr Y | Mr Y | Mr Y | Mr Y | Mr Y | Mr Y | Mr Y | Mr Y | Mr Y | Mr Y | Mr Y | | | | |
| Indiv. Psych. | | | | | | | | | | | | | | | | | | | Mrs Z | | Mrs Z | Ms X |
| | | | | | | | | | | | | | | | | | | | | | | |

Such client information can also be aggregated by program in the following ways:

- Number of episodes of care;
- Average duration of care per episode of care;
- Number of units of service provided;
- Average duration of stay by service element;
- Number of clients seen and/or units of service provided by staff responsible.

(3) Outcome variables: Outcome variables relate to the effects of services on the client. They include:

- Client satisfaction with services provided;
- Provider opinion of results;
- Goal attainment and/or successful/unsuccessful completion of service or treatment plan;
- Referral out (other agencies or services to which client is referred upon termination of services);
- Follow-up (any follow-up activities provided by the Center after completion of services);
- Readmission to CMHC or other known mental health program.

## 2. Aggregations of the Variables

Below we present three examples of possible uses of the variables outlined above, to help Centers improve their programs.

(1) Analysis of services provided by types of presenting problem or initial diagnosis: Aggregation for a set period of time--e.g., six months--by presenting problem or initial diagnosis allows the establishment of normative patterns of care and an assessment of their appropriateness for clients with traditional, common or frequent presenting problems. If these patterns of care were deemed appropriate, they could be used to evaluate other clients' progress over time in order to determine whether or not treatment was proceeding according to normative expectations. The analysis of services provided in terms of presenting problems can further be analyzed to change the kinds of services available or used for various presenting problems.

For instance, in one Center in a given reporting period, 60 clients were seen with the initial presenting problem of "family crisis." Of these, 30 received individual psychotherapy, averaging five sessions apiece; 15 were referred to outpatient groups with an average of seven sessions apiece; ten were seen only once at the initial intake inverview and never

returned; five were referred elsewhere. These data indicate that the Center tends to treat people with a family crisis by individual psychotherapy. The evaluative question to be asked is whether or not the outcome of those patients treated in individual psychotherapy is equal to the outcomes of those people seen in the more economical outpatient groups. An additional evaluative question could be asked about the ten patients who came only once and were never seen or heard from again. The demographic characteristics and referral source of these ten could be compared with clients who completed therapy, in order to determine possible biases or program inadequacies with respect to certain kinds of clients.

(2) Types of services provided to clients differing in sex, age and race of clients. Such an analysis permits patterning of the various ways in which the CMHC deals with various sexes, ages and races of clients. Such an analysis could help the Center determine whether there are discriminatory biases built into the assignment of clients to particular service elements.

For instance, an analysis might uncover that women are generally treated through individual psychotherapy while most men are sent to outpatient groups, This might reflect a difference in the hours at which women and men come for service, preferences they have, or clinician judgments or preferences.

(3) Referral sources correlated with presenting problems: A correlation of the referral sources with presenting problems allows the Center to generalize about the kinds of problems frequently referred by different agencies. The Center can determine how appropriate such referrals are and can take steps to help agencies make more appropriate referrals. Such an analysis could also provide the basis for providing particular kinds of C&E services to such referring agencies if a standard pattern of presenting problem was being referred to the Center which could be effectively handled elsewhere than the CMHC.

For example, an analysis of this sort could reveal that a local church consistently refers elderly people to the community mental health center. The Center might constructively spend some time in helping the church set up a program for elderly people. Another example could take the following form: A local junior high school consistently refers teenage hyperactive and delinquent boys to the community mental health center. The Center might respond to this finding by setting up special groups for such youth in the junior high school or working with teachers or guidance counselors in establishing more understanding and responsiveness to such youth.

Question #4: HOW DO THE PATTERNS OF USE OF ONE CMHC COMPARE WITH OTHER CENTERS?

## A. THE CMHC PROFILE PACKAGE

The CMHC Profile Package is extremely useful in comparing the performance of one program with state, regional and national norms to gain some sense of where the Center stands in relation to others. Thus, the profile package permits a Center to pinpoint aspects of its or its clients' behavior, and easily ascertain whether these are typical or unique. In turn, evidence of discrepancies is useful in helping to determine what to evaluate.

The profile package utilizes aggregated data reported to NIMH by all federally funded CMHCs annually in the Inventory of Comprehensive Community Mental Health Centers. Data are converted into over 100 indexes relating to Center staffing patterns, allocation of staff time to direct and indirect services, the C&E program for schools and other service agencies in the community, the Center's expenditures and funding patterns including reimbursements for direct and indirect services, utilization rates by the catchment area population for the various treatment modalities, patient demographic characteristics, sorts of Center referrals, types of dispositions, and finally, the flow of clients between the Center and the state hospital.

Each Center is sent a profile printout as shown in Table 13, page 176, an extracted sample dealing with "Caseload" and "Patient Characteristics" which contains the reported data for itself and parallel index values for all Centers in the state, DHEW administrative region and the United States. Median values for each index are calculated for only those states with five or more reporting CMHCs and for each of the ten DHEW administrative regions. For the universe of reporting federally funded CMHCs, the median and 25th and 75th percentile values are shown. The profile package also gives decile values for all indexes.

The profile package helps to identify indexes in which a Center differs markedly from others in its state or region. Deviance in median values, of course, may indicate ways in which the Center falls below standard practice, or may reflect program innovation or Center responsiveness to unusual catchment area needs. As to practical control for variation in catchment area settings, decile values are provided for all indexes for Centers in metropolitan, part-metropolitan and nonmetropolitan areas and for Centers in poverty and nonpoverty areas.

Two cautionary notes are appropriate: (1) Publication of the profile package necessarily lags; an evaluator must make pragmatic allowances for or adjustments in certain indices where time lapse is most probable to have brought about significant change in values. Depending on the control tendency of the data comprising a given index, these changes in value may

TABLE 13

SAMPLE TABLE FROM NIMH PROFILE PACKAGE

| | INDEX | VALUE FOR YOUR CENTER | MEDIAN VALUE- ALL CENTERS IN YOUR STATE | MEDIAN VALUE- ALL CENTERS IN YOUR DHEW REGION | ALL CENTERS IN THE U.S. MEDIAN 25%ILE | 50%ILE | 75%ILE |
|---|---|---|---|---|---|---|---|
| CASELOAD: GENERAL | | | | | | | |
| 79. | Percent of Persons Served who Reside in Catchment Area. | 99.00 | -3.00 | 92.00 | 83.00 | 95.00 | 99.00 |
| 80. | Annual Number of Persons Served | 1656.00 | -3.00 | 3322.00 | 1386.00 | 2223.00 | 3315.00 |
| 81. | Persons Served per 1,000 CA Population. | 23.00 | -3.00 | 19.98 | 11.33 | 16.06 | 22.81 |
| 82. | Inpatient Episodes as a Percent of Total Episodes | 12.52 | -3.00 | 12.65 | 7.41 | 14.01 | 22.68 |
| 83. | Day Care Episodes as a Percent of Total Episodes. | 4.50 | -3.00 | 3.91 | 2.84 | 5.20 | 8.61 |
| 84. | Outpatient Episodes as a Percent of Total Episodes. | 81.19 | -3.00 | 81.19 | 67.69 | 78.56 | 85.50 |
| | INPATIENT | | | | | | |
| 85. | Inpatient Episodes per 1,000 CA Population. | 3.90 | -3.00 | 2.77 | 1.17 | 2.29 | 3.99 |
| 86. | Inpatient Days per 1,000 CA Population. | 84.28 | -3.00 | 52.04 | 16.88 | 37.65 | 74.20 |
| 87. | Inpatient Beds per 1,000 CA Population. | 0.26 | -3.00 | 0.20 | 0.10 | 0.17 | 0.27 |
| 88. | Percent Occupancy - Inpatient Beds. | 87.50 | -3.00 | 76.44 | 41.26 | 66.03 | 88.00 |
| 89. | Average Days per Inpatient Episode. | 21.59 | -3.00 | 17.31 | 9.74 | 14.00 | 21.74 |
| | DAY CARE | | | | | | |
| 90. | Day Care Episodes per 1,000 CA Population | 1.40 | -3.00 | 1.30 | 0.44 | 0.88 | 1.63 |
| 91. | Day Care Days per 1,000 CA Population | 40.10 | -3.00 | 26.56 | 11.02 | 21.07 | 46.58 |
| 92. | Average Days per Day Care Episode | 28.58 | -3.00 | 30.46 | 14.48 | 25.13 | 42.34 |
| | OUTPATIENT CARE | | | | | | |
| 93. | Outpatient Episodes per 1,000 CA Population | 25.31 | -3.00 | 15.32 | 9.06 | 13.77 | 18.18 |
| 94. | Outpatient Visits per 1,000 CA Population | 110.72 | -3.00 | 91.93 | 37.89 | 62.99 | 104.05 |
| 95. | Family & Group Visits as a Percent of Total Visits. | 22.85 | -3.00 | 19.74 | 10.91 | 18.30 | 33.26 |
| | PATIENT CHARACTERISTICS | | | | | | |
| 96. | Percent of Total Admissions with Alcohol Disorders. | 5.34 | -3.00 | 5.59 | 3.20 | 5.60 | 11.34 |
| 97. | Percent of Total Admissions with Drug Disorders | 24.84 | -3.00 | 1.42 | 1.06 | 2.00 | 4.13 |
| 98. | Percent of Total Admissions Under 18. | 20.94 | -3.00 | 29.08 | 19.64 | 24.57 | 31.90 |
| 99. | Percent of Total Admissions 65+ Over. | 1.25 | -3.00 | 3.21 | 2.09 | 3.39 | 5.00 |
| 100. | Percent of Total Admissions with Weekly Family Income Under $100 | 61.00 | -3.00 | 55.22 | 43.10 | 55.17 | 68.76 |
| 101. | Percent of Total Admissions with Grade School or Less Education. | 24.49 | -3.00 | 47.34 | 28.95 | 39.80 | 55.33 |
| 102. | Percent of Total Admissions who are Female. | 53.36 | -3.00 | 50.10 | 48.49 | 52.73 | 55.98 |
| 103. | Percent of Total Admissions who are Nonwhite. | 30.81 | -3.00 | 5.60 | 1.99 | 9.63 | 24.06 |
| 104. | Percent of Total Admissions with No Prev. Psych. Care | 53.64 | -3.00 | 47.45 | 41.09 | 55.18 | 64.71 |
| 105. | Percent of Total Admissions with Prev. S&C Mental Hospital Care | 11.04 | -3.00 | 9.68 | 5.64 | 9.50 | 15.98 |
| 106. | Percent of Total Admissions Referred by Self, Family, Friend. | 59.32 | -3.00 | 44.08 | 26.92 | 34.48 | 44.42 |
| 107. | Percent of Total Discharges Referred by Public Mental Hospital | 1.63 | -3.00 | 1.63 | 1.09 | 2.45 | 4.62 |
| 108. | Percent of Total Discharges who Dropped Out of Program. | 56.01 | -3.00 | 24.91 | 14.76 | 27.05 | 42.35 |

or may not be significant. This problem can sometimes be further reduced when the profile package index being used offers consistent time series data for several successive years. Extrapolations of trend may be justified, for those who understand how to protect calculated trend lines. (2) When interpreting the significance of the Center's profile, it is important not to ignore statistical deviance. Sometimes small deviations from a chosen value or norm are important, sometimes not. Furthermore, the evaluator should always check out his own interpretation of discrepancies with both clinicians and administrators, before concluding that he understands them.

Further information on the CMHC Profile Package can be obtained from Rosalyn Bass, Division of Biometry and Epidemiology, NIMH, 5600 Fishers Lane, Rockville, Maryland 20852.

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# CHAPTER 6: COST ANALYSIS

## A. INTRODUCTION

Major sections of this chapter are presented as a series of building blocks or separate techniques which provide the evaluator (and perhaps the Center director and senior clinicians) with an introduction to cost-finding. They are intended to enable the reader to decide if he needs to know still more in order to be effective, and to offer initial guidance on where to learn more.

Why is cost-finding included at all in a manual of program evaluation techniques? Costs are one of the basic values of importance to management, and under PL 94-63 the evaluator needs to understand what CMHC cost figures are based on in order to have confidence in the cost figures he uses. With this understanding, he also gains ability to ask intelligently and reasonably for rearrangement and recategorizations of cost figures supplied by others (normally, the CMHC accountant or MIS supervisor) when he needs them. Direct analysis of costs often is productive for program evaluation. Both total and unit cost data can be used by the program evaluator in a variety of evaluative ways. Increases over time in unit costs or total costs can indicate possible trouble or inefficiency, and can be explored. If inefficiency, rather than inflation or increased utilization, is indeed what's behind cost increases, the evaluator can alert management and action can be taken. Decreases in total costs may signal increased efficiency or reduced utilization of services, among other things. In the former case, the CMHC can profit from whatever techniques were employed to increase efficiency, while in the latter, personnel reassignments may be indicated. However, the real basis for including these materials is that cost-finding is a necessary prerequisite to cost-outcome and cost-effectiveness studies, and thus of basic importance in program evaluation.

The overall cost-finding methodology is a sequential process which begins with defining cost centers; then identifies (1) professional service costs, (2) obvious, clearly attributable costs, and (3) overall support costs; proceeds to various techniques for allocating these costs to service-producing cost centers; and ends with techniques for unit cost calculations for individual CMHC services.

Emphasis on the following points should help to keep the chapter in perspective:

- Under PL 94-63, all CMHCs will have to establish cost centers for existing services and for evaluation. They are likely to need several more as they apply for conversion, C&E, and other separate grant funding provided in the Act. The evaluator (and his management) have to make sure that the costs of evaluation are identifiable. Generally it is in the

Center's interest to develop an accounting system that also enables easy and accurate identification of costs by program element for program evaluation purposes. It may well also be in the evaluator's interest, when particular grant applications are prepared, to obtain consideration for appropriate modifications in the accounting system, to make his work easier if the grant is received and to make clear what hidden problems in the administration system may later need to be dealt with if proper evaluation is to be conducted of work under a new services grant.

• Many CMHCs keep accounting and program evaluation functionally separate. This relieves the program evaluator from needing also to be a cost accountant, but the division of authority between evaluation and accounting may only complicate the process of obtaining good cost figures. Obtaining valid cost figures is often necessary to treat as a shared problem, if it is to be resolved. This chapter should make it easier for the evaluator genuinely to take part in solving problems in the cost system created by program evaluation demands. Those with whom he may share the problem include the CMHC accountant and the Center administrator.

• Evaluation and the program evaluator are dependent on the accounting system, just as on a variety of other systems, to make necessary information available in usable form. What is presented here can be an aid toward clarifying the terms of the evaluator's dependency. Because accounting is a support function, however, an inexperienced evaluator may be tempted to act as though accountants exist in order to support program evaluation. They do not. The program evaluator is more likely to get the cost information he needs conveniently and easily if he always remembers that he depends on the accounting department, not the other way around; and that the support that accounting provides to program evaluation is incidental, at best, to what the accountants see as their major support functions.

• Cost-finding, in itself, is not program evaluation. The comparison of cost data over time, or the detailed analysis of cost data to determine why costs are as they are and how they might be reduced, or contained, is routine administrative self-improvement. The ultimate goal of cost analysis of and for itself is to improve management and increase efficiency. Program evaluation, however, includes many other process and outcome variables, refers to performance data as well as input data, and deals with analysis and decisions concerning alternative uses of resources as well as efficiency.

## 1. Some Prerequisites

### a. Books to Consult

The application of cost-finding techniques as program evaluation methods assumes the establishment of an ongoing accounting system and rate-setting structure in the CMHC. A fundamental text on the basics of an accounting

system for CMHCs is Guidelines for a Minimum Statistical Accounting System for Community Mental Health Centers, E. Myles Cooper, NIMH Methodology Reports, Series C, No. 7, DHEW Publication No. (ADM) 74-14, 1973. Pages 55-59 discuss such issues as record-keeping, journals, chart of accounts, and cost-finding. Establishment of a rate-setting structure normally precedes cost-finding, since the rate structure is likely to determine what categories of cost need to be accounted for separately in order to assure that rates bear some reasonable relationship to actual costs incurred. The reader is urged to consult Cost-Finding and Rate-Setting for Community Mental Health Centers, James E. Sorensen and David W. Phipps, NIMH Methodology Reports, Series C, No. 6, DHEW Publication No. (HSM) 73-9069, for its discussion of rate-setting (Chapter 5). The same publication is a basic source for almost all of the discussion on cost-finding that is contained in this chapter. It is available from NIMH (Biometry & Epidemiology Division).

b. Definitions of Common Terms

It may help the reader to understand what is meant by cost-finding and to discuss cost issues with specialists in accounting, if some accounting terms are defined.

*Accounting* is systematic recording and summarizing of business and financial transactions, plus analysis, verification and reporting of results. *Budgeting* takes place periodically, and consists of planning and allocating fiscal resources in advance to the organization's units, services and activities. A *cost center* is an activity-producing department, group of people, or function for which the CMHC wishes to identify costs. Some examples of possible cost centers are inpatient services, emergency services, cafeteria, and program evaluation. *Final cost centers* (service-producing cost centers) are those which provide a direct mental health service to clients (e.g., inpatient services). *Support cost centers* are those which contribute to the operation of the CMHC but do not provide direct mental health services to clients (e.g., cafeteria or program evaluation). *Cost-finding* is a method for allocating and reallocating costs from a point of data collection or original expenditure into different sets or subsets of costs, so that all relevant costs--direct, indirect, or unassigned--are ultimately charged against the cost center which should bear responsibility for them. *Direct costs* are costs charged directly to the organizational unit originally making the expenditure, regardless of any later reallocation to other organizational units or final producing cost centers. *Fixed costs* are costs which remain constant in total amount regardless of the volume of program activity. *Indirect costs* are costs that are allocated from the organizational unit originally making the expenditure to another organizational unit which benefits from, controls, or influences the cost. *Rate-setting* is simply the process of establishing financial charges for services. *Variable costs* are costs expected to fluctuate directly in proportion to some measure of program activity (such as number of clients).

### c. Establishing a List of Cost Centers

In addition to cost centers corresponding to particular program elements, it is appropriate to consider the function of program evaluation as a support cost center in a CMHC. Furthermore, with new legislative requirements for spending a minimum of 2% of a CMHC's operating budget on program evaluation, the CMHC will need to maintain a separate account for program evaluation to monitor its expenditures in this area.

Cost centers are generally defined to reflect either or both of two major influences: the needs and desires of those who control the accounting department, or cost-accounting conventions. Ideally, the two become integrated into an accurate and useful framework for describing the costs of the institution.

Where cost centers were defined before program evaluation became a recognized function, modifying them to reflect the needs of program evaluation may turn out to be a matter of some difficulty. It will certainly not happen merely because of an evaluator's convenience or preference. Strong reasons--and good mutual understanding between the accountants and the evaluators--will help. Sufficient understanding of what is involved in the accounting system often helps a program evaluator considerably, in jointly planning for changes. Where cost centers are only in process of formation, the needs of program evaluation should ideally be considered along with other needs, such as financial control, budgeting, program management, gaining full reimbursement, and post-audit. The program evaluation requirements of PL 94-63 notwithstanding, CMHC directors and administrators can be expected to give very high priority to many of these other functional requirements. The evaluator should prepare his list of desired cost centers to correspond as much as possible with cost centers that make sense to other people. For his maximum convenience, final cost centers should be elements that can be combined together into various combinations to form programs. But final cost centers created on this basis may be too small for practical purposes. Other principles for defining cost centers are, of course, possible, such as "reasonable-sized unit for cost control purposes," which means a unit large enough and so defined that it is meaningful for a person administratively in charge of it to strongly influence or more or less completely control its costs.

## B. TECHNIQUES FOR ALLOCATING COSTS TO COST CENTERS

### 1. Techniques to Allocate the Cost of Professional Services to Cost Centers (Final and Support)

Professional salaries are the major costs of most mental health service programs. The techniques for calculating them are simple, but the record-keeping required for highly accurate results is substantial and has only recently begun in any but a few CMHCs. If professional services costs are not already

accumulated as such in the CMHC, the evaluator may need to initiate the process of deciding how to do so, including the issue of which technique to use among the three that immediately follow. If professional services costs are accumulated, the evaluator needs to know which method is being used, thus enabling the evaluator to make allowances for error appropriate to the method, or to arrange for more accurate record-keeping if needed and warranted, or to defer evaluation studies that require cost figures that the CMHC for the time being cannot prepare without making efforts too unpleasant or costly to be worthwhile. What follows should suffice to answer the question, "Is the method for accumulating professional services costs accurate enough for the evaluation studies in which these figures will be employed?" There are three techniques for allocating costs of professional services:

a. The Exact Time Approach

What is the technique?

This technique allocates professional personnel costs to the various cost centers on the basis of the exact amount of time spent by each professional on work in behalf of the cost centers. Most professional personnel time is spent in final cost centers and administration only; it is very rare that professional time is spent in support cost centers other than administration and program evaluation. Much of the nonprofessional time expended on behalf of the CMHC, however, cannot be properly allocated to particular services and is not handled in the initial allocation to final cost centers but in distribution methods such as those starting on page 188. Each direct service staff member's salary and associated fringe benefits are allocated to cost centers on the basis of relative time spent on each cost center's behalf. The technique uses a transaction report, time analysis, or other summary of professional hours each day, week, or month as a basis for calculations. These reports are normally retained and distributed through the CMHC's information system.

When should the technique be used and what are its limitations?

The technique applies when the amount of professional personnel time devoted to the various CMHC services from week to week may be relatively unpredictable or highly variable, such as in Centers where professionals work in a number of different programs. For CMHCs in which professionals tend to spend about the same number of hours each week in the various service areas, the two other techniques in this section (Estimated Time Approach and Periodic Study Approach) will probably be considerably less expensive, while sacrificing accuracy only slightly. The Exact Time Approach can be used to produce auditable records, and may be appropriate when contracting to provide guaranteed amounts of service under circumstances in which the CMHC may be called upon to prove its performance. The accuracy of the system is not usually required for program evaluation; simpler systems provide ample accuracy for ordinary measurement purposes.

The technique's chief limitation is in the time it requires of professionals to provide data on the exact amount of time spent in each discrete activity each day. Another disadvantage is that staff may perceive the use of exact time reporting negatively, as a surveillance and control mechanism rather than as an accounting mechanism. It may require considerable management time to assure staff that the system's purpose is cost analysis, unless the record-keeping system is linked with an incentive system of a sort attractive to the staff. Obviously, most of these considerations are beyond the scope of the program evaluator, but he should be sensitive to their existence if he decides to become an advocate for this technique, or is asked to endorse it as desirable for program evaluation.

How do you implement the technique?

For this technique, the CMHC information system needs to have the capability of calculating service delivery time spent in each cost center. These data may be gathered from service tickets, staff logs, time cards, etc. If these data are recorded and associated with indications about what was done, and for which clients, the record also becomes a basis for process (quality) assessment (Chapter 10) and some kinds of outcome assessment (Chapters 7 and 8).

On a periodic basis (probably no more often than monthly), the CMHC can use the professional time data to allocate costs of professional services to the various cost centers. Each professional's salary and fringe benefit costs are used to compute a cost per hour for that individual professional. The hours or fractions of hours reported for each activity are then multiplied by the hourly cost to determine a cost for the activity, which is then allocated to the appropriate cost center. In such a system, total costs can be overstated if professionals are on salary and work more than the required number of hours per week. It is easy to see that if a salaried professional works 50 hours in a given week, ten hours of cost above his salary will be charged to cost centers as a cost, although the actual cost to the CMHC is the professional's salary and fringe benefits, which are invariate with respect to total hours worked beyond the agreed minimum. A method to overcome this difficulty, such as apportioning the salary of each professional over the time period in question, needs to be worked out by the CMHC.

What is the level of effort required?

Estimated resource requirements:

- Mandays: A simple transaction report might take 1-2 minutes of professional staff time per transaction. Additional staff time (2-3 mandays) could be used in the analysis of resulting data in each reporting period.

- Professional levels required: Professional staff required to provide data. Analysis could be conducted by program evaluator or other trained staff.

- Elapsed time: Data are continuously being reported. Analysis could take place monthly or quarterly.

- Other resources required: Computer preferable to aggregate and supply summary reports.

Limitations of these estimates:

- These are Arthur D. Little, Inc., estimates. Very few data are published on the resource requirements of this technique. It is a well-understood and commonly used method, however, on which resource data could be collected.

What are the primary sources of information about this technique?

- Sorensen, J.E., and Phipps, D.W. Cost-finding and Rate-setting for Community Mental Health Centers, Chapter 3. DHEW Publication No. HSM 72-9138. Washington, D.C.: U.S. Government Printing Office, 1972.

- Smith, T.S., and Sorenson, J.E. (Eds.). Integrated Management Information Systems for Community Mental Health Centers, Chapter 5. DHEW Publication No. ADM 75-165. NIMH, 1974.

### b. The Estimated Time Approach

This technique allocates personnel expense to cost centers on the basis of estimated time spent in behalf of each cost center, rather than exact time. On a periodic basis (daily or weekly) relevant staff members could fill out a single form estimating the time spent on various activities in the period in question. Use of high-priced time to fill out forms could be avoided completely if appointment calendars for each professional were faithfully maintained. The Estimated Time Approach generally is less expensive because it requires less high-priced time in providing the data to the system; but it permits only less sophisticated analysis and validation of the data, and sacrifices accuracy in cost-finding.

### c. The Periodic Study Approach

A third variation in allocating salary costs incurred in the direct delivery of services is the Periodic Study Approach, a technique to allocate professional personnel costs on the basis of studies every 2-3 months of the relative proportion of time spent in each cost center by professional staff. This technique is applicable only in CMHCs with stable calendars and schedules, and should not be used in CMHCs where programmatic time expenditures vary considerably from week to week. A sample--usually one week--of professional activities is used to determine how professionals spend

their time. Data may be either exact or estimated, and either self-reported or observer recorded. The proportions derived in that study are then used during each week following for cost-finding purposes, until the next study is completed (at which time the proportions may change). In this way, the cost of professional personnel expense allocation is minimized, particularly the use of professional time in providing data to the system. If the CMHC ever determines that the technique is no longer appropriate to use, it can change to the estimated time or exact time approach relatively easily, though at an increased cost for data collection.

2. A Technique to Allocate Directly Attributable Costs to Cost Centers

Many costs incurred by a CMHC are neither professional salary expense, which is allocated to final cost centers and administration (as above), nor general support expense (such as housekeeping, dietary, building and equipment, administration, etc.--see below for allocation techniques). These costs are costs such as nonprofessional salaries, supplies, utilities, drugs, repairs, etc., which are usually directly provided to a single cost center and hence are allocable to single cost centers in a straightforward way. For example, the salary expense for aides employed full-time for inpatient services should be allocated directly to the inpatient services cost center; there is no basis, or logic, in dividing this cost among other cost centers. Similarly, the monthly telephone charges for the outpatient services cost center are clearly attributable to that cost center alone. In general, whenever a discrete expense is directly, clearly and completely attributable to a cost center, it should be allocated directly to that cost center. This is the same concept that underlies the techniques for allocating professional salary expense: the allocation of hours of work (hence cost) to various cost centers implies that the hours of work were performed on behalf of specific cost centers, which is certainly true for professional staff members.

Two classes of costs are included: nonprofessional salaries, and expenses generated from contact with outside agencies. Clerks and other support staff may work exclusively for specific cost centers. Their salary expense can be automatically assigned to those cost centers each week. Where nonprofessional staff spend varying amounts of time each week on behalf of different cost centers, their hourly rates for salaries plus fringe benefits can be multiplied by the hours spent on behalf of each cost center, and the cost then attributed to that cost center. This would be most likely to occur where support staff reported to a central nursing or other clinical service rather than individual cost centers, and were assigned each day to various services.

CMHCs are faced with a variety of costs paid to external agencies but actually incurred by specific CMHC cost centers. Telephone service is one example; air travel, supplies, interior building repairs (unless the CMHC has an internal building and equipment staff), drugs, and consultant fees are also included in this category. A simple device, such as a charge slip

giving the amount, nature of expense, and cost center identification can be used to permit easy clerical assignment of these costs to the CMHC's cost centers. Allocations can be made at the time invoices are paid, or anytime after the exact amount of the charge is known.

### 3. Techniques to Allocate Nonfinal or Support Cost Center Costs to Final Cost Centers

Once all costs are initially allocated among final cost centers and support cost centers, it becomes possible to begin redistributing the support costs (general administrative and other general overhead costs) to the final cost centers. This is appropriate because the final cost centers are, it will be recalled, the "production" activities of the CMHC, and accurate estimates of the costs of services provided to clients must include a share of the general overhead or support cost. In general, the formulas for making these redistributions of support costs result in estimates of what percentage of a support cost center's services (hence costs) was provided to any other given cost center. Sometimes these formulas are based on the amounts of service rendered to each cost center (pounds of laundry processed per cost center), and sometimes a characteristic of the cost centers receiving support services is used (square feet of floor space, for allocation of building depreciation expense). Formulas for most support center costs have been developed and are well identified in the accounting texts--and in most ordinary cost-finding systems. Where actual dollar amounts of service rendered are available, the direct charge technique for directly attributable costs can be used as described above.

As percentages are decided (and used to compute dollar equivalents), or dollar amounts are attributed, the resulting sums are simply subtracted from the accumulated total of each support cost center, and are added to the accumulated totals of the final and support cost centers on whose behalf the expenses are estimated to have been incurred. Table 1, on the next page, provides an illustration which should somewhat clarify the preceding sentence. In it, the results of the process of using allocation formulas are expressed as percentages of the accumulated costs of support cost centers 1-4. These percentages are totally assigned to the final cost centers W-Z and to the other support cost centers. Prior to the process of actual subtraction and addition, all costs of each support cost center are thus fully allocated elsewhere.

## C. TECHNIQUES FOR DETERMINING FINAL COST CENTER COSTS

When professional personnel expense and directly attributable costs have been allocated to final cost centers, and when allocation formulas for allocating support costs to all other support and final centers have been specified, it is then necessary to employ a method to allocate all support center costs to final cost centers. A special problem arises in cases like that illustrated in Table 1. Whenever support centers serve other

TABLE 1

SINGLE ALLOCATIONS OF COSTS FROM
SUPPORT COST CENTERS TO ALL COST CENTERS

| Cost Centers Receiving Support | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| W | 20% | 30% | 10% | 5% |
| X | 10% | 5% | 50% | 30% |
| Y | 10% | 15% | 10% | 20% |
| Z | 30% | 40% | 20% | 25% |
| 1 | - | - | 3% | 10% |
| 2 | 10% | - | 1% | 5% |
| 3 | 10% | 5% | - | 5% |
| 4 | 10% | 5% | 6% | - |
| | 100% | 100% | 100% | 100% |

support centers as well as final centers, any given support center may allocate all of its own costs only to find that other support center costs have been allocated to it as well, requiring another iteration of allocations conceivably ad infinitum. Four techniques have been developed to deal with this situation:

(1) The Direct Allocation Method: This technique simplifies the situation by acting as though support centers do not serve one another. It permits allocations from support centers to final centers only. Total expense of operating each support center is not obtained as an interim step, and distortions may be introduced into the cost structure of final cost centers.

(2) The Step-Down Method: This method allows for allocation of support center costs to all other cost centers, final or support. It follows a sequential process by which each support center's costs are allocated, after which that center is closed off from receiving any further allocation to itself. The sequence of allocation may materially affect the results of the allocation process; total operating costs of support centers will not always be found; distortions may occur.

(3) The Double Distribution Method: This technique permits the recycling of expenses allocated to support centers by other centers through a second allocation process. The first step permits allocation of support center costs to all other cost centers. The second step then uses the step-down process for the final cost allocation.

(4) Simultaneous equations: This technique permits complete inter-allocation of costs among all cost centers. Fully allocated costs of support and final cost centers are produced. This technique is not usually suitable for hand manipulation or desk calculator. Rather, it requires a computer facility. (Programming is fairly straightforward, and costs are minimal.)

These four methods are further compared in Table 2, on the following page.

### 1. The Step-Down Method

The Step-Down Method is the one technique for determining final cost center costs that has been chosen to be described in some detail in this manual. The intention is to illustrate what is involved for program evaluators without access to cost-accounting texts, and in need of assessing the accounting problems involved in developing good cost figures. Unlike the direct allocation method, the step-down method permits allocation of support center costs to other support centers as well as to final cost centers. This is the simplest of the three techniques which permit such allocations, but is the least precise as well.

TABLE 2

COMPARISON OF FOUR METHODS
TO DETERMINE FINAL COST CENTER COSTS

| | DIRECT ALLOCATION | STEP-DOWN | DOUBLE DISTRIBUTION | SIMULTANEOUS EQUATIONS |
|---|---|---|---|---|
| Appropriateness to CMHCs | Small CMHCs, with very few cost centers. | Often or generally adequate, especially in small & simple CMHCs. | Usually adequate but cumbersome if number of cost centers is high. | Appropriate to large, complex CMHCs. |
| Comparative cost | Least costly. | Among least costly. | Requires more clerical work than direct allocation & step-down. | Somewhat more costly in computer time or for solving simultaneous equations. |
| Skill level | Accountant, evaluator or junior analyst. | Accountant, evaluator or junior analyst. | Accountant, evaluator or junior analyst. | Mathematical or computer competency required. |
| Mechanical aids | Hand methods sufficient. | Hand methods sufficient. | Hand methods sufficient. | Computer is desirable. |
| Degree of accuracy | May produce significant distortions. | Somewhat inaccurate if a great deal of service is done by most support centers on behalf of most others. | Most accurate of the hand methods. | Mathematical accuracy, if records are kept well. |
| Adequacy for producing cost figures for program evaluation purposes | Marginal at best. | Usually acceptable, especially if some of the support cost centers can appropriately be made last in the allocation sequence (see text). | Normally acceptable. | Best attainable: probably better than normally needed. |

What is the technique?

In the step-down method, costs are allocated from support cost centers to all other cost centers in a one-at-a-time, sequential process. The first support center's costs may be allocated to all other cost centers, but the first center's account is then closed and cannot receive any allocations from any other support cost centers. The second center than allocates its new total costs (what it began with, plus what it was allocated by the first center) to all other cost centers, and its account is closed. The process proceeds in this fashion until all support centers have allocated their costs. Clearly, the sequence in which support center costs are allocated may materially affect the results of the process. In general, support centers are arranged in an order based on the following rationale: allocate first the costs of the support center that collectively provides the greatest amount of service to other support centers and receives the least amount from other centers; allocate last the center collectively receiving the most and providing the least to other support centers.

When should the technique be used and what are its limitations?

The technique can be used when a CMHC recognizes that the direct allocation method is unsuitable in its own circumstances, or when greater accuracy than the direct allocation method provides is needed. Its principal limitation is that the total costs of support cost centers are not found (since the accounts of these centers are closed to receiving further allocations once the center's costs are allocated), and distortions in final cost center total costs will occur because of the sequence in which the support cost centers are taken.

How do you implement the technique?

The process of work can best be described by reference to the accompanying table on the step-down technique (Table 3, page 193). In this table, final cost centers are Programs 600, 620, 640, 650, 660 and 690; all other account numbers refer to support cost centers. The process begins with identification of the initial allocation of costs to all cost centers, using direct allocation techniques described earlier (page 187). These initial allocations are reflected in the column "Adjusted Balance." The process then begins a sequential allocation of support center costs to other cost centers. In this example, the Building Account is the first to be allocated. Its costs are allocated to two other support centers, director's office and housekeeping, and five final cost centers (Programs 600, 620, 640, 650 and 660). The Building Account is then closed. The Equipment Account is allocated next, followed by administration, housekeeping, dietary, and pharmacy. A good example of how a support center's costs can change as other support centers allocate costs to it is the housekeeping cost center, whose initial allocation of $13,347 was increased to $19,869 by allocations from building, equipment, and administration. After the allocation of the last support center (pharmacy), all support costs have been attributed to the six final cost centers.

TABLE 3

STEP-DOWN TECHNIQUE

Cost-Finding Worksheet Using Step-Down Method
of Cost-Allocation for Support and Facilities Expense Only
1st Half FY-1972-73

| Support Units: | Adjusted Balance | Building | Equipment | Subtotal | Admin. | House-keeping | Dietary | Pharmacy | Total |
|---|---|---|---|---|---|---|---|---|---|
| Facilities: | | | | | | | | | |
| Building | $ 10,484 | $10,484 | | | | | | | |
| Equipment | $ 5,067 | | $ 5,067 | | | | | | |
| Administrative: | | | | | | | | | |
| Director's Office | $ 25,354 | $ 944 | $ 456 | $ 26,754 | | | | | |
| Other | $ 43,538 | $ --- | $ --- | $ 43,538 | $90,942 | | | | |
| Allocated to Administration | $ 20,650 | $ --- | $ --- | $ 20,650 | | | | | |
| General Services: | | | | | | | | | |
| Housekeeping | $ 13,347 | $ 105 | $ 51 | $ 13,503 | $ 6,366 | $19,869 | | | |
| Dietary | $ 28,164 | $ --- | $ --- | $ 28,164 | $ --- | $ --- | $28,164 | | |
| Pharmacy | $ 1,538 | $ --- | $ --- | $ 1,538 | $ --- | $ --- | $ --- | $ 1,538 | |
| Unit Activities: | | | | | | | | | |
| Program 600 | $127,171 | $ 4,508 | $ 2,179 | $133,858 | $31,830 | $ 9,537 | $28,164 | $ 1,538 | $204,927 |
| Program 620 | 3,078 | 1,992 | 963 | 6,033 | 28,192 | 2,980 | --- | --- | 37,205 |
| Program 640 | 4,229 | 2,306 | 1,115 | 7,650 | 14,551 | 4,967 | --- | --- | 27,168 |
| Program 650 | 3,029 | 105 | 51 | 3,185 | 2,728 | 1,392 | --- | --- | 7,305 |
| Program 660 | 3,050 | 524 | 252 | 3,826 | 7,275 | 993 | --- | --- | 12,094 |
| Program 690 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total | $288,699 | $10,484 | $ 5,067 | $288,699 | $90,942 | $19,869 | $28,164 | $ 1,538 | $288,699 |

Source: Sorensen, James E., and Phipps, David W. Cost-Finding and Rate-Setting for Community Mental Health Centers, NIMH Methodology Reports, Chapter 5.

What is the primary source of information about this technique?

- Sorensen, J.E., and Phipps, D.W. Cost-finding and Rate-setting for Community Mental Health Centers. DHEW Publication No. HSM 72-9138. Washington, D.C.: U.S. Government Printing Office, 1972.

### 2. A Final Word on Allocation Techniques

In most cases, the major cost in a cost system is the original allocation of individual charges to cost centers and the accumulation and verification of data in the system. The determination of final costs by an allocation method is a relatively small part of the overall cost of cost-finding in a CMHC. However, this final step is the key to program evaluation using cost data.

Choosing among the four allocation methods should ideally occur using data on the relative costs and accuracy of each. One would expect that the more accurate a technique is, the more expensive it would be to use. Unfortunately, we are not able to provide data on the absolute costs of the four techniques mentioned. An estimate of the relative accuracy of the techniques is available.[1]

Simultaneous equations is the most precise cost-finding method available. Sorensen and Phipps' data suggest that relatively large errors in support center costs will occur using any other technique, while relatively smaller errors will occur in final cost center costs using other techniques.

## D. TECHNIQUES FOR DETERMINING UNIT COSTS OF CMHC SERVICES

After the application of any of the techniques from Section C has been completed (either direct allocation, step-down, double distribution, or simultaneous equations), all CMHC support costs will have been allocated to final (service-producing) cost centers. When professional salary and fringe benefit expense for each final cost center are added to the allocated support costs, total final costs will have been determined. It is then possible to determine costs per unit of service in the CMHC.

These techniques only require a simple process of division if one knows the number of units of service provided, and the line-item (professional,

[1] Sorensen, J.E., and Phipps, D.W. Cost-finding and Rate-setting for Community Mental Health Centers, Chapter 3. DHEW Publication No. HSM 72-9138. Washington, D.C.: U.S. Government Printing Office, 1972.

clerical, expense, etc.) or total costs of the final cost center. Cost per inpatient visit, per outpatient visit, per inpatient hour, per emergency contact, etc., can be calculated in total, or for each line item, such as expense per inpatient visit, etc. The only requirement for the calculation of cost per unit of service is that "unit of service" be defined. In general, units of service in CMHCs have been defined in two ways, either by professional service time (hour of service) or by encounter (outpatient visit, inpatient day, etc.). It is possible to use time as the basis for calculation of one service element and encounter for another service element. The calculation of cost per unit of service is always the same: divide total costs by total units of service to determine costs per unit of service.

The indices most commonly used for evaluation purposes are total cost per encounter and total cost per hour of professional service:

(1) Total cost per encounter (or transaction) -- Total expenses for a given final cost center are divided by number of transactions to give a cost per transaction, as in the following example:[2]

| SERVICE | TOTAL EXPENSES | MEASURE: TYPE OF TRANSACTION | NUMBER OF TRANSACTIONS | COST PER TRANSACTION |
|---|---|---|---|---|
| Inpatient | $489,207 | # patient days (days = 12 midnight census) | 9,784 | $50 |
| Partial Hospitalization | $120,373 | # patient days visit (day = 9am-4pm) | 6,019 | $20 |
| Emergency | $ 53,737 | # emergencies | 2,687 | $20 |
| Outpatient | $195,834 | # visits | 19,584 | $10 |
| Consultation & Education | $ 32,349 | # presentations &/or consultations | 1,294 | $25 |

(2) Total cost per hour of professional service -- Total expenses for a given final cost center are divided by number of hours of professional service to give total cost per professional hour of service.

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[2] Sorensen, J.E., and Phipps, D.W. Cost-finding and Rate-setting for Community Mental Health Centers, page 4-18. DHEW Publication No. HSM 72-9138. Washington, D.C.: U.S. Government Printing Office, 1972.

## E. TECHNIQUES TO DETERMINE COSTS PER EPISODE OF CARE

The term "episode of care" has been used in various ways in the community mental health center context. As used here, an episode of care in the community mental health center is the totality of care received by a client for a specific problem from initial intake at the CMHC to the conclusion of treatment (whether the problem is resolved, or the client ceases to come to the CMHC, or the client begins to receive services elsewhere than the CMHC). Such an episode can be termed a *Center episode of care*, and is a client-oriented definition.[3] Any care rendered to the client for a different problem is part of a different episode of care. Critical to this definition is the requirement that only care provided within the CMHC be considered part of the CMHC episode of care. While care provided for the same problem before intake at the CMHC or after termination of care at the CMHC is also logically part of the same Center episode of care, it is not logical to consider costs of non-CMHC services in the calculation of costs per Center episode of care at the CMHC. Within the CMHC, multiple services can be part of a single Center episode of care. For example, clients may receive both inpatient and outpatient services for the same problem. Both services are included in the same Center episode of care.

Episodes of care can be described in terms of single units of care, multiple units of care in a single service, or an aggregation of units of care provided in multiple CMHC services. The cost of each individual episode of care can be calculated in a straightforward manner, once costs of the various units of care are known. Since each episode of care is made up of one or more units of care within the CMHC, the cost of all units of care in the episode can be added together to determine the total cost of the episode of care. Total costs for all episodes of care can be divided by total number of episodes of care to determine the average cost of an episode of care.

Costs per Center episode of care can be used as a surrogate for mix of services provided in the Center episode of care. If a CMHC is able to transfer clients from inpatient to outpatient services earlier or more readily over time, or uses services more efficiently in ameliorating client problems, cost per Center episode of care should reflect such conditions either in decreases over time or in slower increases than predicted.

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[3] In the NIMH Biometry Inventory, episode of care has referred to the total care provided to a client within a single CMHC service element. For example, if a client were first admitted as an emergency, then transferred to inpatient facilities, then treated for five weeks on an outpatient basis, all for the same problem, these services would comprise three separate episodes of care. Even the definition given in the text is constrained by the "boundaries" of the total CMHC service program. The definition given in this note, however, is still more constrained, and may furthermore be used in a way that can further confound the difficulties involved in enumerating the client population in a single, unduplicated count.

One key difficulty in calculating costs per episode of care is that a change in a client's problem statement may often indicate a new understanding of the client's problem or problem complex by the CMHC's staff, rather than the emergence of a new client problem. CMHC information specialists and program evaluators will need to attempt to account for such changes in understanding, but the client's situation is a single episode of care, rather than a new episode.

## F. SUGGESTIONS ON PROGRAM EVALUATION APPLICATIONS

Every CMHC should have available to it the NIMH profile package, including the cost norms generated from the biometry inventory data. These norms, plus published information on the cost of care provided by different classes of professionals,[4,5] represent good bases for initial comparisons with an individual Center's service unit costs. To be sure, conclusive judgments about efficiency cannot be drawn from such comparisons, any more than from changes in costs through time (mentioned at the beginning of this chapter). But comparisons can at least generate hunches about what causes one's own CMHC to appear at one cost level rather than another, and can lead also to credible clarification on where the CMHC's money goes. This detail is likely to be of direct use to the Center director in defending the budget of the CMHC. If the evaluator has developed a reasonably clear idea of the questions facing the Center director, or the administrator, he will obviously be better prepared to make reasonable choices among the many elements of cost, and several kinds of available comparisons (earlier time vs. the present, this CMHC vs. national norms, this CMHC and particular other service providers). The evaluator may be able to help CMHC management to sharpen decisions on budget strategy (1) by his ability to discuss the credibility and availability of cost information and (2) by what he has learned from evaluation of citizen opinions and attitudes or from evaluation by citizens. This manual offers several approaches to citizen evaluation in Chapter 11.

Comparisons with individual CMHCs nearby can become extremely useful management tools, if conducted in the context of a managerial seminar. The program evaluator would want to encourage such a meeting among management staff of two or more only if he felt quite certain about his own cost figures and could discuss in detail their basis. The work of the seminar would be an analysis of the costs: why they are at particular levels, and how they may be influenced by management action. As a direct use of program data to provide assistance to Center management, this approach depends for its success on several notable qualities: (1) mutual curiosity by program directors about how things are managed in the several CMHCs; (2) preparation by the program evaluators and Center administrators to assure that some

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[4] Sharfstein, Steven S., M.D., and Nafziger, J. Calvin, M.D. Community Care: Costs and Benefits for a Chronic Patient. Hospital and Community Psychiatry, March 1976, p. 170.

[5] Karon, Bertram P., and Vandenbos, Gary R. Cost/Benefit Analysis: Psychologist Versus Psychiatrist for Schizophrenics. Professional Psychology, February 1976, p. 107.

differences worth discussing are in fact brought to the surface by the data; (3) skilled seminar leadership to keep the discussion from turning merely into defensiveness and competition; (4) actual sharing of views on what can be done to manage service delivery programs and whether cost reductions are within reach; and (5) willingness and desire of managers (Center director, program directors, chiefs of services) to fashion and implement specific recommendations. Perhaps the easiest and most effective way to organize a cost analysis and management seminar is through intermediaries: mental health specialists at NIMH regional level or from state-level, regional or other evaluation task forces, etc. CMHC management may respond better to a seminar sanctioned and planned by such intermediaries.

When patient outcomes, Center priorities, service strategies or service-by-service comparisons of costs are factored into the program evaluator's cost analyses, then program evaluation begins to be extremely serious about obtaining really accurate cost data. For internal comparisons, cost changes over time become useful indicators. Whether they have absolute accuracy is important to know but not necessary to the utility of the comparisons, where the initial question is, "Have costs risen or fallen, and by how much?" For internal management purposes, answers to questions about direction and extent of change may be the most important signals they can get, and in many if not most CMHCs, the program evaluator can take a hand in obtaining these kinds of figures for management to use. However, when comparisons are to be made between CMHCs, or between programs or services of an individual CMHC, accurate cost figures must first be attained. Considerable additional material on the use of cost figures in cost outcome studies appears in the chapter after next, Cost Outcome and Cost Effectiveness Analysis.

Developing cost figures and program comparisons that embody cost figures is more than a matter of accounting and measurements technique, though it may be better not to attempt until adequate conventions, procedures, and a usable data base begin to be available, through the MIS and management decision. Beyond the accounting technicalities lie the arts of management, of political process, and of interpersonal skill. It is not necessarily in the immediate interest of high-cost CMHC programs to let their costs be verified; it is asking too much of human nature to expect that every program or service director will encourage close study of his costs or other aspects of his performance. It is also unlikely that the program evaluator will receive absolute support and protection from CMHC management, if trouble erupts over the gathering of cost figures or the presentation of cost comparisons. Though managers may feel the need to know, they are also aware that the knowledge will probably add only marginally to what was already strongly suspected; hence is worth only a limited amount of conflict. The picture changes when those who desire the information are outside the CMHC. Then CMHC management, program or service directors, and program evaluator may all share a common interest in preparing a careful response. In either case, however, the program evaluator is burdened with the responsibility--and equipped with the opportunity--of helping to create a constructive perspective on cost figures and their utilization.

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Smith, T.S., and Sorensen, J.E. (Eds.). Integrated Management Information Systems for Community Mental Health Centers. DHEW Publication No. ADM 75-165. NIMH, 1974.

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Sorensen, J.E. Uniform Cost Accounting in Long-term Care. Denver, Colorado: College of Business Administration, University of Denver.

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A primary resource in the field. Discusses concepts of cost-finding, techniques for allocating costs, rate-setting. Many examples. Source for further information on direct allocation, step-down, double distribution, and simultaneous equation techniques.

# CHAPTER 7: IMPACT: CLIENT-ORIENTED OUTCOME AND COMMUNITY INDICES

## A. INTRODUCTION

As the demand for comprehensive program evaluation in CMHCs increases, more emphasis is being placed on the importance of each program's accountability for the delivery of effective treatment services. Client outcome evaluation techniques are the primary tools available for assessing the effectiveness of treatment services, and their basic purpose is to measure the impact of treatment services on the problems and lives of the clients who receive the treatment. The basic questions that these techniques attempt to answer are: (1) Did the treatment help the client? (2) In what ways did the treatment help? (3) How much did the treatment help the client? The answers to these questions are especially useful for program evaluation if they then also provide guidance on answers to two other questions: (4) Does the program help more clients than improve spontaneously? (5) What type(s) of program help(s) more clients, and in what ways?

A variety of client outcome evaluation techniques have been developed over the years, and they differ from each other in two basic ways. The first area of difference involves the criteria for measuring the outcome of treatment. There are basically five types of criteria in use: (1) pre-post, single, global ratings of the client's "overall level of functioning;" (2) pre-post, more comprehensive, multiple ratings of the client's "symptoms;" (3) pre-post, multiple ratings of the client's "personal, social and community adjustment;" (4) post-treatment measurements of progress toward the "attainment of specific goals," as formulated by the client with an independent evaluator or with the client's therapist; and (5) post-treatment measurements of the client's "satisfaction" with his treatment.

The second major area of difference involves the vantage point from which the assessment of client outcome is made, and there are four basic vantage points to choose from: (1) the client; (2) the therapist; (3) an independent judge; and (4) other relevant people in the client's life, such as family members or close friends.

We have included five types of client outcome evaluation techniques in this chapter, which cover all the basic areas of difference discussed above. Furthermore, they are the techniques which appear to have the best track record of all those we considered, in terms of their methodological reliability and validity, their capacity to detect changes in client status, and their cost of administration. All are relatively broad in their application and may not be well-adapted to more specialized programs, such as children's services. The five basic sets of techniques covered in the chapter are:

(1) The Global Assessment Scale: A measure of the client's overall level of functioning from the vantage point of the therapist.

(2) The SCL-90 Symptom Checklist: A measure of the client's symptoms from the vantage point of the client himself.

(3) The Katz Adjustment Scale; the Personal Adjustment and Role Skills Scale; the Adams County Mental Health Center C.O.C.E. Adult Interview; and the Denver Community Mental Health Questionnaire: These four techniques measure the client's personal, social and community adjustment from a variety of vantage points.

(4) Goal Attainment Scaling: A measure of the attainment of specific treatment goals, from the vantage points of the client and the therapist, or of the client and an independent evaluator.

(5) Client Satisfaction Questionnaires: A measure of the client's satisfaction with the outcome and clinical and nonclinical processes of treatment.[1]

While all of these techniques are available to CMHCs, many Centers have yet to undertake client outcome evaluation studies. Client outcome evaluation--rightly or wrongly--has too often been deferred to an advanced stage in program evaluation capability. Indeed, outcome evaluation is easier if monitoring of Center service "processes," including studies of patterns of service utilization, are in place, because they provide a demographic context in which to make valid samples for outcome comparison. Client outcome studies tend to be quite costly and require fairly sophisticated techniques or unusual program conditions to yield information relevant to improving programs. It is important also to distinguish between the use of client outcome techniques for treatment research and their use in program evaluation. Treatment research is an attempt to gain reliable, valid knowledge about the comparative effectiveness of different treatments in dealing with various mental health problems, and the conclusions that are drawn from it are intended to be generalizable to more than one program or setting. Consequently, treatment research requires a great deal of scientific rigor in the design and implementation of the client outcome studies undertaken. Program evaluation, on the other hand, is an aspect of program management, and its purpose is to inform program decisions and improve the effectiveness of the specific program being evaluated.[2] The need for assuring replicability across programs reduces the priority of formal tests of scientific rigor, but does not relax the basic need to assure validity and reliability of data and due care in interpretation. There is benefit to clinicians and managers in obtaining descriptive data which will increase awareness and stimulate better-informed reflection about the effectiveness of services. Anything less than credible information will not serve this purpose.

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[1] Techniques for measuring indirect services are presented in Chapter 9.

[2] Hargreaves, William A. Recent Developments in Outcome Evaluation in Mental Health Programs. Discussant remarks delivered at American Psychological Association Symposium, Chicago, Illinois, August 30, 1975.

## 1. Uses of Client Outcome Evaluation

A Center's decision about which client outcome evaluation techniques to implement will depend largely on the intended use of the evaluation results. Therefore, we will briefly discuss the basic uses that can be made of client outcome evaluation. In a 1975 article,[3] Hargreaves, Attkisson and Ochberg identify three needs of program management which may motivate evaluative activities including client outcome studies: (1) the ongoing monitoring of program quality to comply with the law; (2) demonstration of program effectiveness to outsiders, including funding sources, advisory boards, county and local governments, third-party payors, citizens' groups, etc.; and (3) making program modifications aimed at program improvement.

CMHCs increasingly face three major program outcome or effectiveness issues as a result of accumulating evidence regarding outcomes of certain psychiatric treatments. The first involves inpatient care: Is hospitalization, with its attendant high cost, really necessary in the proportion of cases and in the durations as is currently the practice, or can partial or outpatient care provide equivalent results? Second, can group treatment processes, with their lower cost, lesser vulnerability to "no-shows," and greater availability factor, generate as good results as individual therapy? Third, can the often lengthy course of treatment (both inpatient and outpatient) be successfully reduced, with no concomitant loss in terms of outcome or improvement? While these issues also fall naturally into the chapter on cost-outcome and cost-effectiveness (page 249), they are mentioned here as key issues which will affect the basic decision of a Center to move into outcome evaluation studies of great significance to the program. The issues are also controversial enough to demand careful attention to the entire process of planning such an effort, and particularly to the choice of a technique for assessing outcome as described in this chapter. Only good decisions made at this early point of outcome evaluation planning and fully incorporating clinical views will allow a Center to move into the obviously important area of costs versus outcome with reasonable chance of generating worthwhile results.

In order to carry its burden of interpretation successfully, an outcome measure must obviously possess the characteristics of reliability and validity, as discussed in this manual. In addition, however, it must be reasonably relevant to the issues at hand--for example, sensitive to suicidal and aggressive behaviors when used to study inpatient care versus other modalities. It must also be ultimately believable both by clinical staff who are involved in the treatment programs being studied and by the

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[3] Hargreaves, William A.; Attkisson, Clifford C.; and Ochberg, Frank M. Outcome Studies in Mental Health Program Evaluation. In: Hargreaves, W.A.; Attkisson, C.C.; Siegel, L.M.; McIntyre, M.H.; and Sorensen, J.E. (Eds.). Resource Materials for Community Mental Health Program Evaluation: Volume IV -- Evaluating the Effectiveness of Services. NTIS Evaluation Study Reports Accession Number PB-249-046. Springfield, Virginia: National Technical Information Service, 1975.

budgetary and lay authorities who will be reviewing programs and making or shaping the final program in financial terms. The more serious the clinical problem being studied, and the most costly its treatment, the more stringently the proposed outcome measure(s) must be examined with respect to fundamental quality and believability. To short-change the outcome evaluation effort in this regard is to risk wasting the entire effort when it comes to utilization of the results.

It must be obvious that "program evaluation" without outcome evaluation is a contradiction in terms.

## 2. Issues to Consider in the Performance of Client Outcome Evaluation

There are a number of general issues that program evaluators will need to consider in the course of deciding which client outcome techniques to use in a particular client outcome study. Most of these issues are discussed specifically in the description of each technique, so they will be discussed only briefly in this introduction.

(1) Selection of Appropriate Outcome Measurement Criteria: As already indicated, the outcome techniques presented focus on different criteria for the measurement of outcome. The evaluator must decide which criteria are most appropriate for the purpose of the outcome study being planned. If the outcome study is concerned with the extent to which schizophrenic clients are able to function in the community after leaving the Center's inpatient program, then one of the techniques measuring personal, social, and/or community adjustment might be most appropriate. If the study is concerned with how minority clients feel about the treatment they receive at the Center, then a Client Satisfaction Questionnaire is probably most appropriate. Or, if the Center wishes to obtain a basic measurement of client outcome for all clients seen in the Center, then the simple, inexpensive Global Assessment Scale may be the best technique.

(2) Selection of the Appropriate Vantage Point for Assessing Client Outcome: As already mentioned, there are four vantage points from which client outcome assessments can be made. Many or most researchers in client outcome research agree that multiple vantage points produce optimum validity of results. However, the extra costs involved in obtaining client outcome assessments from several vantage points for the same client may be prohibitive. Consequently, Centers may have to select the technique(s) which assess client outcome from the most relevant single vantage point to save money. On the other hand, if costs allow in a time-limited outcome study on a sample of clients, two or three outcome techniques may be utilized to get more than a single perspective on the outcome. For example, the relatively elaborate "adjustment" techniques which assess outcome from the vantage point of "other relevant people" in the client's life could be supplemented by the less elaborate Global Assessment Scale and a short Client Satisfaction Questionnaire in order to add the vantage points of the "therapist" and the "client." Various options for combining different

techniques and multiple vantage points in the same client outcome study are discussed at length in an SRI report on Mental Health Outcome Models.[4]

(3) Routine Monitoring Versus Time-Limited Studies with Sampling: As already mentioned, most of the client outcome techniques are too complex and costly to administer on a routine monitoring basis. The Global Assessment Scale and the brief versions of the Client Satisfaction Questionnaire are the most amenable to routine use, but the others are not. Time-limited studies using samples of clients must, therefore, be designed well to answer well-formulated evaluative questions which are worth the investment in the study.

(4) Positive Bias: Client outcome studies run the risk of eliciting responses which reflect a positive bias. This is particularly true for the Client Satisfaction Questionnaire due to client reluctance to criticize the person or program on whom they have been dependent and from whom future services may be sought. Furthermore, dissatisfied clients frequently do not respond to questionnaires while satisfied clients do. Provisions for minimizing positive bias must be formulated by the program evaluator. Possibilities include: probing for dependency by specific questions addressed to all clients (and adjusting total results accordingly), convening clients for a group interview in depth, the results being used to counter any bias suspected for the entire client sample, or making a subselection of clients whose responses are judged to reflect a minimum of bias and letting their views on program outcome either adjust or substitute for the views of the larger body.

(5) Confidentiality Assurances and Informed Consent: Confidentiality assurances and informed consent are important to the protection of clients' rights of privacy and to minimize the positive bias discussed above. In order for the Center to obtain client participation in the studies, as well as honest answers to the questions that are asked, clients must be thoroughly assured that the answers they give will be kept confidential and perhaps even anonymous.

(6) Costs and Risks of Follow-up of Clients after Termination: The costs of doing follow-up assessments of client outcome after termination of treatment by the Center can be high compared to outcome assessments made during treatment. Furthermore, the difficulties of making contact with clients after termination or in obtaining cooperation in terms of their consenting to an interview or filling out a questionnaire may bias the results of follow-up studies. For example, if only 50% of clients from whom follow-up data were sought actually respond, the results of the study in question would be highly unreliable. Therefore, arrangements

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[4] Stephen, Mae; Prentice, Robert; Lotridge, Jean; Hargreaves, William; Ciarlo, James; and Attkisson, Clifford. Mental Health Treatment Outcome Models. Menlo Park, California: Stanford Research Institute, June 1975.

for follow-up after termination should be made with the client before he or she terminates, if possible, and to the greatest extent possible should be made in the context of normal planning for aftercase, or assurances to the client that Center services will, of course, be available to him in the future should the need arise.

(7) The Use of "Gain" Scores Versus "Change" Scores for Analyzing Results of Outcome Studies: There has been much discussion recently of the validity of using change scores to evaluate the results of client outcome studies. The arguments against them are based primarily on the idea that the quantity of change possible in a client outcome rating score will be influenced by the level of the initial score. For example, if a client's initial score on the Global Assessment Scale is 80 out of a possible 100, then the maximum possible gain that he can achieve in his score is 20 points. The client whose initial score is 10, on the other hand, can show a maximum gain of 90. For this reason, a number of people have suggested the use of "gain" scores for the analysis of changes in a client's outcome scale over time. Simply defined, the "gain" score is simply the "change" score adjusted for the level of the initial score by regression analysis which is beyond the scope of this manual. "Gain" score is a more reliable measure of change in outcome studies over time. More thorough discussion of this issue can be found in an article by Cronbach and Furby.[5]

## B. A TECHNIQUE FOR MEASURING CHANGES IN CLIENTS' OVERALL FUNCTIONING OVER TIME: THE GLOBAL ASSESSMENT SCALE

### What is the technique?

The Global Assessment Scale is a technique for rating the overall functioning of a client on a single scale depicting steps on a continuum from psychological or psychiatric illness to health. Overall functioning is rated by the clinician for a specified time period prior to the rating (usually one week). The scale itself is divided into ten equal intervals (1-10, 11-20, etc.) and the characteristics of each 10-point interval are defined. The scale is not linked to psychiatric diagnostic nomenclature, and it focuses on behaviorally observable events and circumstance. Ratings are made independent of notions about client prognosis. The instructions specify that the ratings pertain only to the client's overall functioning during the past week or ten days. The instructions for using this rating are presented as Exhibit 1 (page 207).

[5] Cronback, L.J., and Furby, L. How Should We Measure "Change"--or Should We? Psychological Bulletin, 74:68-80, 1970.

EXHIBIT 1

GLOBAL ASSESSMENT SCALE (GAS)

(Robert L. Spitzer, M.D.; Miriam Gibbon, M.S.W.; Jean Endicott, Ph.D.)

Rate the subject's lowest level of functioning in the last week by selecting the lowest range which describes his functioning on a hypothetical continuum of mental health-illness. For example, a subject whose "behavior is considerably influenced by delusions" (range 21-30) should be given a rating in that range even though he has "major impairment in several areas" (range 31-40). Use intermediary levels when appropriate (e.g., 35, 58, 63). Rate actual functioning independent of whether or not subject is receiving and may be helped by medication or some other form of treatment.

100 | 91 No symptoms, superior functioning in a wide range of activities, life's problems never seem to get out of hand, is sought out by others because of his warmth and integrity.

90 | 81 Transient symptoms may occur, but good functioning in all areas, interested and involved in a wide range of activities, socially effective, generally satisfied with life, "everyday" worries that only occasionally get out of hand.

80 | 71 Minimal symptoms may be present but no more than slight impairment in functioning, varying degrees of "everyday" worries and problems that sometimes get out of hand.

70 | 61 Some mild symptoms (e.g., depressive mood and mild insomnia) or some difficulty in several areas of functioning, but generally functioning pretty well, has some meaningful interpersonal relationships and most untrained people would not consider him "sick."

60 | 51 Moderate symptoms or generally functioning with some difficulty (e.g., few friends and flat affect, depressed mood, and pathological self-doubt, euphoric mood and pressure of speech, moderately severe antisocial behavior).

50 | 41 Any serious symptomatology or impairment in functioning that most clinicians would think obviously requires treatment or attention (e.g., suicidal preoccupation or gesture, severe obsessional rituals, frequent anxiety attacks, serious antisocial behavior, compulsive drinking).

40 | 31 Major impairment in several areas, such as work, family relations, judgment, thinking, or mood (e.g., depressed woman avoids friends, neglects family, unable to do housework), or some impairment in reality or communication (e.g., speech is at times obscure, illogical, or irrelevant), or single suicide attempt.

30 | 21 Unable to function in almost all areas (e.g., stays in bed all day), or behavior is considerably influenced by either delusions or hallucinations, or serious impairment in communication (e.g., sometimes incoherent or unresponsive) or judgment (e.g., acts grossly inappropriately).

20 | 11 Needs some supervision to prevent hurting self or others, or to maintain minimal personal hygiene (e.g., repeated suicide attempts, frequently violent, manic excitement, smears feces), or gross impairment in communication (e.g., largely incoherent or mute).

10 | 1 Needs constant supervision for several days to prevent hurting self or others, or makes no attempt to maintain minimal personal hygiene.

When should the technique be used and what are its limitations?

The Global Assessment Scale can be used to make general, overall assessments of the impact of services on clients and to make very general comparisons of the overall effects of different services or modes of therapy. Because it is such an easily accomplished, inexpensive, non-time-consuming technique, it can be used on a continuous basis with all Center clients, in all Center programs. However, the Global Assessment Scale provides only one measure of overall functioning. It provides only generalized information about chosen aspects of the client's symptoms and social functioning, and therefore it has more limited "validity" than multidimensional rating scales. On the other hand, in studies of treatment efficacy, single global ratings of overall client functioning have proved to be relatively more sensitive to differential treatment effects than measures of more specific dimensions of psychopathology. Furthermore, tests of the "reliability" of the Global Assessment Scale have shown it to be as reliable as multidimensional measurement scales.[6] The Global Assessment Scale has primarily been used with adults and in its existing form, at least, is inapplicable to children. Its simplicity, its sensitivity, the ease with which it can be completed by clinicians, the ease with which the results can be tabulated and analyzed, and its extremely low cost make it a basic outcome measurement technique for all clients, which can be used by Centers at all levels of evaluation capability and MIS capability.

How do you implement the technique?

The first step in implementing the technique involves gaining the clinician's cooperation in actually making ratings on a regular basis. The simplicity of the rating, its clinical relevance, and the fact that it takes less than a minute for a clinician to arrive at a rating after meeting with a client make it one of the easier techniques to ask a clinician to use. If its categories do not correspond to the clinical objectives of treatment, the treatment model in use must vary rather dramatically from all those that are intended to help clients to cope better with the conditions of human existence. Clinicians tend to accept the Global Assessment Scale and the treatment outcome values it embodies. The nonclinical evaluator who encounters resistance from particular clinicians, on grounds that the Global Assessment Scale purports to measure something different from the objectives of the treatment they offer, should pursue the question persistently. At the very least, the discussion should lead to major clarification of treatment objectives, and perhaps of the objectives of the Center itself. But the evaluator's intention is to enlist clinical cooperation, not to engage in debate. Solid basis for cooperation should be found in the reasons that outcome evaluation of appropriate kinds helps clients, clinicians, Center management, local funding sources, and taxpayers.

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[6] Waskow, Irene E., and Parloff, Morris B. (Eds.). Psychotherapy Change Measures. Rockville, Maryland: NIMH, 1975.

The second step is to include space for the Global Assessment Scale ratings on the Client Intake-Admission Form, the Transfer Form, and the Discontinuation Form or their equivalents. Centers that wish to rate their clients' overall functioning on a more frequent basis during the course of treatment can include space for the assessment score on the "direct service ticket," if they use it.

The third step consists of clinicians actually making the ratings. In making a rating, the clinician first selects the lowest 10-point interval which describes the client's functioning during the preceding week. In order to determine the scale point within the 10-point interval, the defining characteristics of the two adjacent intervals are examined to determine whether the subject is closer to one or the other. Because the rating is for overall functioning during a specific time period (e.g., the week prior to the rating), it is important that the clinician confine the rating to actual functioning and symptoms during that time period, and not be influenced by considerations of prognosis, previous analysis, presumptions about the underlying disorder, etc. Assuring that this precaution is taken may require general reminders to the clinical raters at appropriate staff or training meetings from time to time. Where clinicians seem to have difficulty in establishing consistent or common approaches, it may help to discuss the matter with service element or program directors, whose monitoring of the ratings may in some cases be required in order to achieve an approach to rating that is reasonably similar, generally understood, and also consistent with the purposes of the Global Assessment Scale. Where two or more clinicians are equally aware of the behavior and progress of a group of clients, feedback and comparison of their ratings of the same clients can, of course, also lead to better ratings.

The fourth step consists of tabulating and analyzing the results of the ratings. Results can be analyzed very roughly in terms of the simple "changes" in an individual's ratings over time. However, this type of analysis does not take into consideration the level of the client's initial Global Assessment Scale score, which affects significantly the amount of change that is possible as a result of treatment. Therefore, a more valid measure of progress is what is known as the "gain score," earlier mentioned on page 206. Gain scores for individual clients can be calculated over various periods of time from the point of initial contact to the termination of treatment, and subsequently to one or more follow-up points (e.g., 30 to 90 days after termination of treatment). The gain scores of individual clients can be used for their clinical management significance; to compare judgments of progress by therapist, clients and important others; to test and compare the efficacy of particular treatment modalities when used successively with the same client; or to provide input toward a decision to continue or discontinue treatment. But it is for its program evaluation significance that the technique is described here. The gain scores of various groupings of clients can be compared over time to measure the comparative outcomes of different services and therapy modes, to compare the outcomes of different demographic subgroups of clients, or to compare the amount of gain achieved per dollar expended (see next chapter).

The fifth step involves determining the action implications of conclusions that can be drawn from analysis of the Global Assessment Scale. Examples include:

- A comparison of gain scores for two groups of clients with similar demographics, diagnoses, and treatment approaches but with different durations (e.g., two months versus six months) might reveal no appreciable differences in gains. The action implication of this comparison might be to stimulate clinicians to think about bringing treatment to a close earlier rather than later, or to develop criteria for selecting only some clients for continued treatment.

- A comparison of Global Assessment Scale gain scores for two client groups with similar demographics and diagnoses who received different forms of treatment (e.g., group therapy versus individual therapy) might reveal a significant difference in the gain scores. If the gain scores of the group receiving group therapy were greater than those receiving individual therapy (presumably at higher cost), then the action implication might be to emphasize the use of group therapy for that type of client and/or diagnosis in the future.

- An analysis of the characteristics, diagnoses, and treatment approaches for all clients who showed little or no gain in score as a result of treatment at the Center might help the Center to identify types of clients and problems for which available treatment is failing to help. This could lead to an examination of the reasons behind these failures and ultimately to trying out other types of treatment for these clients.

## What is the level of effort required?

It takes little time and money to use global assessment. It takes about one minute for a clinician to make the actual rating. Therefore, it would take 67 hours of clinician staff time to rate 1,000 clients at an average of four ratings per client. If clinician staff time can be estimated at an average cost of $15 per hour, then the cost would be $1,000, or $1 per intake and 25¢ per rating. The marginal data-handling costs can virtually be eliminated by including space for the Global Assessment Scale score on the Intake and Discontinuation Forms. Clerical tabulation of the scores on a periodic basis is also minimal. This estimate assumes cooperation on the part of clinical staff members. Cooperation may need to be won by the evaluator and it may require follow-up to ensure its continuation. These efforts constitute additional costs, and should be included.

## What are the primary sources of information about this technique?

An example of the Global Assessment Scale itself is included as Exhibit 1 (page 207). The primary source description of the Global Assessment Scale

and its usage, as well as reports of validity and reliability tests, can be found in the following unpublished article:

- Endicott, Jean; Spitzer, Robert; Fleiss, Joseph; and Cohen, Jacob. The Global Assessment Scale: A Procedure for Measuring Overall Severity of Psychiatric Disturbance. Unpublished manuscript, March 1975. Copies available upon request from New York State Psychiatric Institute, 722 West 168th Street, New York, New York 10032 (Dr. Endicott).

A briefer summary description of the technique is available in:

- Hargreaves, William A.; Attkisson, C. Clifford; Siegel, Larry; McIntyre, Marguerite H.; and Sorensen, James E. (Eds.). Resource Materials for Community Mental Health Program Evaluation: Volume IV -- Evaluating the Effectiveness of Services. NTIS Evaluation Study Reports Accession Number PB-249-046. Springfield, Virginia: National Technical Information Service, 1975.

## C. A TECHNIQUE FOR MEASURING CHANGES IN CLIENTS' ASSESSMENT OF THEIR OWN SYMPTOMS: A SYMPTOM CHECKLIST (THE SCL-90)

### What is the technique?

A symptom checklist (SCL) is a self-report form. The SCL-90 consists of 90 items covering common complaints (symptoms) of psychiatric outpatients. The client assesses his or her symptoms, rating how much each "complaint" has bothered him/her over some specified period of time (usually over the past week) on a five-point scale as follows: not at all = 0; a little bit = 1; moderately = 2; quite a bit = 3; and extremely = 4. SCL-90 is a simple form with easy-to-understand statements of "complaint," all of which can be rated by a reasonably literate and attentive client in 15-20 minutes. The items and their ratings can be scored in five different ways to assess the nature and extent of a client's symptoms or complaints (these scoring methods will be described later). Changes in clients' symptoms can be assessed by having the client repeat the checklist several times (e.g., at the beginning of treatment, at chosen points during treatment, at the termination of treatment, and possibly at a point after the termination of treatment). A sample of the SCL-90 Checklist follows as Exhibit 2.

### When should the technique be used and what are its limitations?

This technique is appropriate to evaluate the impact of treatment services on clients. It has proven to be particularly appropriate and useful for adult outpatient clients. Because it is easy to understand, easy for clients to fill out, and easy to score either by hand (in a matter of minutes) or by machine (e.g., via optical scanning), it can be used by

EXHIBIT 2

# SCL-90

NAME: _____

LOCATION: _____ DATE: _____

RATER: _____ TECH: _____ S. NO. _____

REMARKS: _____

DO NOT MARK IN THE SHADED AREA BELOW

| | 0 | 1 | 2 | 3 | 4 | | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PATIENT | 0 | 1 | 2 | 3 | 4 | | 5 | 6 | 7 | 8 | 9 |
| | 0 | 1 | 2 | 3 | 4 | | 5 | 6 | 7 | 8 | 9 |
| VISIT | 0 | 1 | 2 | 3 | 4 | | 5 | 6 | 7 | 8 | 9 |
| | 0 | 1 | 2 | 3 | 4 | | 5 | 6 | 7 | 8 | 9 |
| RATER | 0 | 1 | 2 | 3 | 4 | | 5 | 6 | 7 | 8 | 9 |
| | 0 | 1 | 2 | 3 | 4 | | 5 | 6 | 7 | 8 | 9 |
| P. NO. | | | | | | | | | | | |

INSTRUCTIONS

Below is a list of problems and complaints that people sometimes have. Please read each one carefully. After you have done so, please fill in one of the numbered spaces to the right that best describes HOW MUCH THAT PROBLEM HAS BOTHERED OR DISTRESSED YOU DURING THE PAST INCLUDING TODAY. Mark only one numbered space for each problem and do not skip any items. Make your marks carefully using a No. 2 pencil. DO NOT USE A BALLPOINT PEN. If you change your mind, erase your first mark completely. Please do not make any extra marks on the sheet. Please read the example below before beginning.

EXAMPLE

| HOW MUCH WERE YOU BOTHERED BY: | NOT AT ALL | A LITTLE BIT | MODERATELY | QUITE A BIT | EXTREMELY |
|---|---|---|---|---|---|
| 1. Backaches | 0 | ~~1~~ | 2 | 3 | 4 |

| HOW MUCH WERE YOU BOTHERED BY: | NOT AT ALL | A LITTLE BIT | MODERATELY | QUITE A BIT | EXTREMELY |
|---|---|---|---|---|---|
| 1. Headaches | 0 | 1 | 2 | 3 | 4 |
| 2. Nervousness or shakiness inside | 0 | 1 | 2 | 3 | 4 |
| 3. Unwanted thoughts, words, or ideas that won't leave your mind | 0 | 1 | 2 | 3 | 4 |
| 4. Faintness or dizziness | 0 | 1 | 2 | 3 | 4 |
| 5. Loss of sexual interest or pleasure | 0 | 1 | 2 | 3 | 4 |
| 6. Feeling critical of others | 0 | 1 | 2 | 3 | 4 |
| 7. The idea that someone else can control your thoughts | 0 | 1 | 2 | 3 | 4 |
| 8. Feeling others are to blame for most of your troubles | 0 | 1 | 2 | 3 | 4 |
| 9. Trouble remembering things | 0 | 1 | 2 | 3 | 4 |
| 10. Worried about sloppiness or carelessness | 0 | 1 | 2 | 3 | 4 |
| 11. Feeling easily annoyed or irritated | 0 | 1 | 2 | 3 | 4 |
| 12. Pains in heart or chest | 0 | 1 | 2 | 3 | 4 |
| 13. Feeling afraid in open spaces or on the streets | 0 | 1 | 2 | 3 | 4 |
| 14. Feeling low in energy or slowed down | 0 | 1 | 2 | 3 | 4 |
| 15. Thoughts of ending your life | 0 | 1 | 2 | 3 | 4 |
| 16. Hearing voices that other people do not hear | 0 | 1 | 2 | 3 | 4 |
| 17. Trembling | 0 | 1 | 2 | 3 | 4 |
| 18. Feeling that most people cannot be trusted | 0 | 1 | 2 | 3 | 4 |

| HOW MUCH WERE YOU BOTHERED BY: | NOT AT ALL | A LITTLE BIT | MODERATELY | QUITE A BIT | EXTREMELY |
|---|---|---|---|---|---|
| 19. Poor appetite | 0 | 1 | 2 | 3 | 4 |
| 20. Crying easily | 0 | 1 | 2 | 3 | 4 |
| 21. Feeling shy or uneasy with the opposite sex | 0 | 1 | 2 | 3 | 4 |
| 22. Feeling of being trapped or caught | 0 | 1 | 2 | 3 | 4 |
| 23. Suddenly scared for no reason | 0 | 1 | 2 | 3 | 4 |
| 24. Temper outbursts that you could not control | 0 | 1 | 2 | 3 | 4 |
| 25. Feeling afraid to go out of your house alone | 0 | 1 | 2 | 3 | 4 |
| 26. Blaming yourself for things | 0 | 1 | 2 | 3 | 4 |
| 27. Pains in lower back | 0 | 1 | 2 | 3 | 4 |
| 28. Feeling blocked in getting things done | 0 | 1 | 2 | 3 | 4 |
| 29. Feeling lonely | 0 | 1 | 2 | 3 | 4 |
| 30. Feeling blue | 0 | 1 | 2 | 3 | 4 |
| 31. Worrying too much about things | 0 | 1 | 2 | 3 | 4 |
| 32. Feeling no interest in things | 0 | 1 | 2 | 3 | 4 |
| 33. Feeling fearful | 0 | 1 | 2 | 3 | 4 |
| 34. Your feelings being easily hurt | 0 | 1 | 2 | 3 | 4 |
| 35. Other people being aware of your private thoughts | 0 | 1 | 2 | 3 | 4 |
| 36. Feeling others do not understand you or are unsympathetic | 0 | 1 | 2 | 3 | 4 |
| 37. Feeling that people are unfriendly or dislike you | 0 | 1 | 2 | 3 | 4 |
| 38. Having to do things very slowly to insure correctness | 0 | 1 | 2 | 3 | 4 |
| 39. Heart pounding or racing | 0 | 1 | 2 | 3 | 4 |
| 40. Nausea or upset stomach | 0 | 1 | 2 | 3 | 4 |

PLEASE CONTINUE ON THE FOLLOWING PAGE

EXHIBIT 2 (Continued)

# SCL-90

NAME: _____

LOCATION _____ DATE: _____

DO NOT MARK IN THE SHADED AREA BELOW

PATIENT
VISIT
RATER
NO.

| HOW MUCH WERE YOU BOTHERED BY | NOT AT ALL | A LITTLE BIT | MODERATELY | QUITE A BIT | EXTREMELY |
|---|---|---|---|---|---|
| 41. Feeling inferior to others | 0 | 1 | 2 | 3 | 4 |
| 42. Soreness of your muscles | 0 | 1 | 2 | 3 | 4 |
| 43. Feeling that you are watched or talked about by others | 0 | 1 | 2 | 3 | 4 |
| 44. Trouble falling asleep | 0 | 1 | 2 | 3 | 4 |
| 45. Having to check and double-check what you do | 0 | 1 | 2 | 3 | 4 |
| 46. Difficulty making decisions | 0 | 1 | 2 | 3 | 4 |
| 47. Feeling afraid to travel on buses, subways, or trains | 0 | 1 | 2 | 3 | 4 |
| 48. Trouble getting your breath | 0 | 1 | 2 | 3 | 4 |
| 49. Hot or cold spells | 0 | 1 | 2 | 3 | 4 |
| 50. Having to avoid certain things, places, or activities because they frighten you | 0 | 1 | 2 | 3 | 4 |
| 51. Your mind going blank | 0 | 1 | 2 | 3 | 4 |
| 52. Numbness or tingling in parts of your body | 0 | 1 | 2 | 3 | 4 |
| 53. A lump in your throat | 0 | 1 | 2 | 3 | 4 |
| 54. Feeling hopeless about the future | 0 | 1 | 2 | 3 | 4 |
| 55. Trouble concentrating | 0 | 1 | 2 | 3 | 4 |
| 56. Feeling weak in parts of your body | 0 | 1 | 2 | 3 | 4 |
| 57. Feeling tense or keyed up | 0 | 1 | 2 | 3 | 4 |
| 58. Heavy feelings in your arms or legs | 0 | 1 | 2 | 3 | 4 |
| 59. Thoughts of death or dying | 0 | 1 | 2 | 3 | 4 |
| 60. Overeating | 0 | 1 | 2 | 3 | 4 |
| 61. Feeling uneasy when people are watching or talking about you | 0 | 1 | 2 | 3 | 4 |
| 62. Having thoughts that are not your own | 0 | 1 | 2 | 3 | 4 |
| 63. Having urges to beat, injure, or harm someone | 0 | 1 | 2 | 3 | 4 |
| 64. Awakening in the early morning | 0 | 1 | 2 | 3 | 4 |
| 65. Having to repeat the same actions such as touching, counting, washing | 0 | 1 | 2 | 3 | 4 |
| 66. Sleep that is restless or disturbed | 0 | 1 | 2 | 3 | 4 |
| 67. Having urges to break or smash things | 0 | 1 | 2 | 3 | 4 |
| 68. Having ideas or beliefs that others do not share | 0 | 1 | 2 | 3 | 4 |
| 69. Feeling very self-conscious with others | 0 | 1 | 2 | 3 | 4 |
| 70. Feeling uneasy in crowds, such as shopping or at a movie | 0 | 1 | 2 | 3 | 4 |
| 71. Feeling everything is an effort | 0 | 1 | 2 | 3 | 4 |
| 72. Spells of terror or panic | 0 | 1 | 2 | 3 | 4 |
| 73. Feeling uncomfortable about eating or drinking in public | 0 | 1 | 2 | 3 | 4 |
| 74. Getting into frequent arguments | 0 | 1 | 2 | 3 | 4 |
| 75. Feeling nervous when you are left alone | 0 | 1 | 2 | 3 | 4 |
| 76. Others not giving you proper credit for your achievements | 0 | 1 | 2 | 3 | 4 |
| 77. Feeling lonely even when you are with people | 0 | 1 | 2 | 3 | 4 |
| 78. Feeling so restless you couldn't sit still | 0 | 1 | 2 | 3 | 4 |
| 79. Feelings of worthlessness | 0 | 1 | 2 | 3 | 4 |
| 80. Feeling that familiar things are strange or unreal | 0 | 1 | 2 | 3 | 4 |
| 81. Shouting or throwing things | 0 | 1 | 2 | 3 | 4 |
| 82. Feeling afraid you will faint in public | 0 | 1 | 2 | 3 | 4 |
| 83. Feeling that people will take advantage of you if you let them | 0 | 1 | 2 | 3 | 4 |
| 84. Having thoughts about sex that bother you a lot | 0 | 1 | 2 | 3 | 4 |
| 85. The idea that you should be punished for your sins | 0 | 1 | 2 | 3 | 4 |
| 86. Feeling pushed to get things done | 0 | 1 | 2 | 3 | 4 |
| 87. The idea that something serious is wrong with your body | 0 | 1 | 2 | 3 | 4 |
| 88. Never feeling close to another person | 0 | 1 | 2 | 3 | 4 |
| 89. Feelings of guilt | 0 | 1 | 2 | 3 | 4 |
| 90. The idea that something is wrong with your mind | 0 | 1 | 2 | 3 | 4 |

Source: Hargreaves, W.A. et al, Resource Materials for Community Mental Health Program Evaluation: Volume IV—Evaluating the Effectiveness of Services, pp. 25-26

Centers at all levels of MIS development. Because it takes so little time to administer the checklist and to score it, it is possible for Centers to use it on a routine basis with all clients. It is probably most effective when used in samples to explore the symptomatology and progress of particular client groups (e.g., demographic subgroups or the clients of a particular service element). Additionally, the checklist has been used extensively in psychiatric research and has established its validity as a measure of the severity of symptomatic impairment. One limitation is its focus on intrapersonal functioning expressed as statements of thought or feelings. It includes no measures of interpersonal or social adjustment. Furthermore, the checklist only measures a standard set of symptoms or complaints. It does not provide for, or enable, the client to indicate what special symptom(s) caused him to seek treatment in the first place. Nor does it enable the patient to register particularly unusual or unique symptoms which are not covered by the standard 90 "complaints" included in the checilist.

Finally, there are issues of bias to take into consideration. For one thing, not everyone will answer the questions; or they may have reasons to warp the results: applicants for service will present a "bad" picture to assure admission, and a "good" picture to get release later.

How do you implement the technique?

The first step is to decide on the sample of clients whose symptoms are to be measured and the points in time at which the measurements are to be made (e.g., at beginning of treatment, after the fourth visit, at termination of treatment, two months after termination of treatment, etc.). At this stage, obviously, the real questions are "why": Why these clients rather than those? Why check progress after four visits rather than six? Why use the client checklist rather than global assessment (preceding technique discussed in this chapter)?

The second step is to arrange for the clients to actually fill out the checklist. Administration can be done by the clinician, but is probably more appropriately and efficiently handled by a nonclinical evaluative researcher (e.g., graduate students, volunteers, paid evaluation staff, etc.). It is best to have the client fill out the form during a visit to the Center in order to assure its completion and avoid the costs of following up on checklists that are not completed or returned.

The third step is to score the completed checklists. As mentioned earlier, there are five basic scores that can be derived from the checklist:

(1) Total number of complaints--calculated by simply adding up the number of items on which the client indicated a rating anywhere from 1 to 4.

(2) Total weighted score--obtained by summing the weights for each of the 90 symptoms on the checklist (not at all = 0, a little bit = 1, moderately = 2, quite a bit = 3, extremely = 4).

(3) Total intensity score--obtained by dividing the total weighted score by the total number of complaints.

(4) Symptom cluster scores--obtained by summing the weights for the individual symptoms in each of the four following clinical clusters: anxiety, depression, anger-hostility, and obsessive-compulsive-phobic.

(5) Factor scores--obtained by factor analysis of patient self-ratings for the following five factors: somatization, fear-anxiety, neurotic feelings, performance difficulty, and depression.

The fourth step is to analyze the scores. Like other client outcome instruments, SCL-90 can be used both in the management of individual cases and in program management. Its results through time can aid the clinician in the diagnostic process, in guiding him toward or away from particular therapeutic modalities, and in the basic decision whether to continue treatment. Program evaluation, however, implies systematic use of the checklist with a number of clients, to compare therapies, programs, or chosen subgroups of clients and from the results of the comparison to obtain guidance on program (1) continuation, (2) modification, or (3) utilization for some groups of clients but not others. One approach toward program evaluation is to compare the various scores produced by an individual client over time: How did the client's scores change from the beginning of treatment to the end of treatment, etc.? How in the aggregate did comparable clients do with treatment X versus treatment Y, or with U amount of treatment compared with V amount of treatment? A second approach is to examine and compare the symptoms reported by particular client groups (e.g., demographic subgroups or service element subgroups). These comparisons can be done in terms of each assessment of the client's symptoms (e.g., symptoms reported at the beginning of treatment) and in terms of changes in those symptoms over time. Is there a difference in treatment outcome from group to group, as measured by SCL-90? These various analyses can provide information which will help to answer the following kinds of evaluative questions: (1) What impact did the services provided to a particular client have on the symptoms experienced by that client? (2) What are the differences in the symptoms presented by various demographic subgroups coming to the Center for help? What is the implication for the programmatic offerings of the Center? (3) What are the differences in symptoms presented by clients coming to the various service elements of the Center (e.g., outpatient versus partial care versus inpatient, etc.)? Are these differences appropriate? Are the program offerings consistent with differences in symptoms? (4) How do different treatment plans compare to each other in terms of their impact on clients with similar initial symptom profiles or on clients with similar demographic profiles?

The SCL-90 has been subjected to psychometric analysis in studies cited in the accompanying references which have shown it to be sensitive to changes in symptoms resulting from both somatic and nonsomatic treatment approaches, including changes over a short period of time. Other studies have shown it

to be sensitive to racial and class differences in symptomatology. Finally, both cluster and factor analyses have provided good evidence of construct and factor validity.

What is the level of effort required?

The SCL-90 Symptom Checklist requires approximately 20 minutes to administer with a client and approximately ten minutes to score by hand. The administration and scoring can both be done by nonclinical staff. Therefore, a sample of 500 clients filling out the checklist once would take 250 nonclinical staff hours and 167 client hours. If clients fill it out twice, it will require 500 staff hours, etc. The evaluator's time would go into the design and selection of samples, the analysis of scores for various client groupings over time, and the feedback of conclusions and recommendations to various Center management and clinical staff. This might involve about 15 days of the evaluator's time for a sample of 500 clients, if the analysis is done exhaustively, and the interest of management and clinical staff is considerable.

What are the primary sources of information about this technique?

The SCL-90 Symptom Checklist is the most recent version of symptom checklists developed at Johns Hopkins University by several evaluation researchers. Sources for more information about the checklist and its applications include the following:

- Derogatis, L.R.; Lipman, R.S.; and Covi, L. SCL-90: An Outpatient Psychiatric Rating Scale (preliminary report). Psychopharmacology Bulletin, 9:13-28, 1973.

- Derogatis, L.R.; Lipman, R.S.; Rickels, K.; Uhlerhuth, E.H.; and Covi, L. The Hopkins Symptom Checklist (HSCL): A Self-Report Symptom Inventory. Behavioral Science, 19:1-15, 1974.

## D. TECHNIQUES FOR MEASURING CHANGES IN CLIENT'S PERSONAL, SOCIAL AND COMMUNITY ADJUSTMENT: (1) KATZ ADJUSTMENT SCALE, (2) PERSONAL ADJUSTMENT AND ROLE SKILLS SCALE, (3) ADAMS COUNTY MENTAL HEALTH CENTER C.O.C.E. ADULT INTERVIEW, AND (4) DENVER COMMUNITY MENTAL HEALTH QUESTIONNAIRE

What are the techniques?

The techniques listed above assess the outcome of treatment for CMHC clients by measuring and comparing the client's personal, social and community adjustment prior to treatment with his or her adjustment at later points either during or after treatment. These areas of adjustment can be measured through questionnaires by mail or in structured personal interviews with the

client himself and/or with the client's relatives. The most thorough assessments of client outcome are made by administering the techniques at the beginning of treatment, and at fixed intervals following the initiation of treatment, regardless of whether the treatment continues or not. Although the four techniques share the same basic measurement objectives, they differ in the details of their content, format, and implementation procedures and costs.

The Katz Adjustment Scale (KAS) is the most widely used of the adjustment scales. It consists of five scales containing a total of 205 items. Part 1 measures personal symptoms. Part 2 measures the performance of social roles, while Part 3 measures the informant's "expectations" about the client's social role performance. Similarly, Part 4 measures the performance of leisure time activities, while Part 5 measures the informant's "expectations" about these activities. The KAS focuses upon very specific and clearly stated items of observed behavior, and the informant is asked to rate the frequency of each behavior item on a four-point scale. The KAS is most widely used as an "other informant" report in which one or more relatives rate the client's adjustment. A "self-report" version has recently been designed, in which the client rates himself, but its effectiveness and reliability is less proven than the "other informant" version. Because of its length, the KAS is generally filled out in personal interviews conducted by a trained interviewer (social worker or graduate student). Finally, the KAS was not designed specifically for use in CMHCs. It has been most widely utilized in outcome studies of patients in the inpatient and outpatient programs of long-term psychiatric hospitals.

The Personal Adjustment and Role Skills Scale (PARS) contains approximately 40 items. Separate versions exist for males and females. Items measure both "personal adjustment" symptoms and "role skills" (social adjustment). The PARS is used exclusively as an other informant report instrument. There are no versions in which the subject can rate his own adjustment. Perhaps what most distinguishes the PARS as a useful technique is the fact that it is the only well-studied outcome scale which seems to be workable as a mail-out questionnaire. Its primary author, R. B. Ellsworth, and his colleagues have been able to obtain a 92% return rate in routine use of the scale by following up the first mailing with a second mailing and a telephone call when necessary.

The Adams County Mental Health Center C.O.C.E. Adult Interview contains a total of 206 items covering the following areas of adjustment: social roles (work, school, household tasks, child care, volunteer work); social relationships; leisure time activities; personal feelings and thoughts; alcohol and drug use; and police contact. In addition, it includes questions related to the client's contact with other mental health services as well as questions related to the client's "satisfaction" with service and treatment received at the CMHC. The technique is strictly a self-report technique, and is administered through a structured personal interview. It was designed specifically for use in the Adams County CMHC, but the authors designed it to be generalizable to other Centers, though its validity and reliability are not established in the literature searched through 1975.

The Denver Community Mental Health Questionnaire consists of a total of 71 items; 42 items focus on personal and social adjustment, 22 focus on contact with other human service agencies, and five focus on client satisfaction with CMHC services. The areas of adjustment that are touched upon are the same as those in the Adams County Interview. This questionnaire was also designed specifically for use in a CMHC, primarily to follow up on clients after termination from the CMHC. It is both a self-report and an other informant technique and is administered through structured personal interviews, usually in the home of the client or the other informant.

When should the techniques be used and what are their limitations?

Because they are lengthy and rather expensive to administer and analyze, they should be used in well-designed, time-limited studies rather than on a routine basis with all Center clients. The KAS and the PARS are the most widely utilized of the four techniques and have demonstrated reliability and validity. They do not, however, include measures of client satisfaction. The KAS and PARS focus on personal and social adjustment as measured by "other informants" or by the client himself. An advantage of the Adams County and Denver techniques is their inclusion of "client satisfaction" questions which are not included in either the KAS or the PARS. The potential user of these techniques should also be aware that these various measures do not necessarily correlate. A client reported as "well-adjusted" by his relatives may not feel "satisfied" with the outcome of his treatment. A client who does feel "satisfied" may not appear well-adjusted.

Even though the PARS is reported to be workable as a mail-out questionnaire, all of these techniques are subject to the problems of soliciting information of a sensitive nature through the mail, or even over the phone. Experience indicates that the most representative return rate and the most reliable responses are obtained through in-person interviews, which obviously increases the cost of administering the techniques.

In summary, the design and implementation of any of these adjustment outcome techniques requires a significant resource availability above and beyond the Center's MIS; skills in the design of a fairly wide range of data analysis procedures; and ability to complete the study in a time period short enough to make the outcome study of benefit to the management and decision-making process of the Center.

How do you implement the techniques?

The first step in implementing these techniques is selecting which of the four measurement instruments to use. This involves a decision about whether to assess client adjustment on the basis of "other informant reports" (the KAS and PARS) or on "self-reports" (the Adams County Interview and Denver Questionnaire). It also involves a decision about the nature and comprehensiveness of the information desired. It involves a decision about whether to solicit information via personal interview or through the mail. Furthermore, the decision will be affected by the costs of administering the various

alternatives and by the evaluative question to which an answer is sought. For all these reasons, there must be consultation with clinical staff to get their cooperation.

The second step is to decide on how often and when to make the assessment. This decision will depend, of course, on the specific purpose, or goal, of the special study and on the realistic timeliness and relevance to the Center's management and planning process. If this general mode of evaluation is to be used, clients and/or their relatives should all be assessed at the beginning of treatment in order to establish a benchmark for later comparisons, but it is up to the Center evaluator or administrator how many additional assessment to make. The basic choice is usually whether to make an assessment at termination of treatment, at some interval after termination of treatment (e.g., 90 days), or both. The primary issues that are relevant to this determination include:

- The difficulties involved in locating clients after they have terminated treatment and in arranging a personal interview, a telephone interview, or the return of a questionnaire. Follow-up after termination of treatment can be difficult and costly, and former clients sometimes cannot be located.

- The Center's desire to determine the durability of treatment outcomes; a client's personal and social adjustment may either improve or deteriorate over time after he or she terminates treatment.

The third step is to decide on a procedure for selecting incoming clients for inclusion in the study based upon sampling principles, as well as what part of the Center's client population is to be sampled (e.g., the total Center population, the inpatient population only, etc.). Both cost and purpose are factors to be considered in assessing how high a confidence level to strive for (size of sample and numbers in cells).

The fourth step involves administering the instruments to the sample that is selected. In the case of the KAS or the PARS, this includes obtaining the names and addresses of relatives to be polled and then either sending out questionnaires by mail or arranging for a personal interview. In the case of the Adams County Interview or the Denver Questionnaire, it will mean arranging a time to interview the client sometime close to intake, as well as setting up post-termination interviews on whatever basis is planned.

The issue of confidentiality and informed consent must also be dealt with at this point. Clients must give prior informed consent if the Center intends to interview them in nontreatment-related interviews, particularly when the interviews occur after the termination of treatment. Ideally, this consent should be obtained at the point of the client's initial entry into the Center, and it must be noncoercive. Elements of noncoerced informed consent are: explanation of the study, its purpose, and its possible benefits for the client (and risks if any are known); sympathetic attempts to

surface any questions the client has about the study and its relationship to his treatment program; and frank assurance that the availability of treatment is not dependent upon willingness to participate in the study. If there are refusals of consent, this may bias the sample and so require locating other clients to participate. Thus, it is obvious that the need to obtain informed consent may create a significant increment in cost and difficulty.

The fifth step is to administer the instruments at the scheduled times that were decided upon in step 2.

The sixth step is to follow up on all questionnaires that are not returned or on any personal interviews which for one reason or another do not get completed. This is the point at which special attention must be paid to maintaining the representativeness of the sample.

The seventh step is to score the completed questionnaires. The basic analytic procedure for all of these techniques involves "cluster analysis" in which the responses to a series of related items are combined to produce a single rating for that "cluster" of items. Each cluster deals with a particular dimension of personal or social adjustment (e.g., belligerence, depression, friendship skills, etc.). More detailed descriptions of the statistical procedures used can be found in the source materials referenced on these four techniques. Basically, however, the point lies in comparing the scale scores to determine the changes over time. This will provide some indication of the impact which the Center's treatment services have had upon the client's personal and social adjustment. However, statistical comparisons of change scores must make adjustment for the fact that initial scores will be at varying levels (the "gain" issue mentioned in both of the preceding sections of this chapter on outcome assessment techniques). As an additional form of analytic comparison, the Center can develop a "community standard" or norm of personal and social adjustment against which to compare the client's rating scores. This was done by the Denver General Hospital CMHC simply by scoring a randomly selected and interviewed sample of the entire Denver population to produce a so-called "normal" group against which client scores were compared.

Please recognize that the above description of the process is basically oversimplified. Analysis of the results of any of these four studies is a matter requiring good capabilities in conducting and analyzing surveys. Centers that decide to undertake any of these client outcome evaluation techniques would be wise to consult with specialists in the design and analysis of these types of studies.

The eighth step is to evaluate the results of these analyses to determine action implications for the Center. Examples of possible action implications are as follows:

- If analysis of data derived from any of these adjustment scales for a sample of Center clients indicates poor adjustment within

the family setting as a continuing problem, Center management could decide to place more emphasis on family therapy for similar clients in the future.

- For individual clients, analysis of the client's adjustment profile can help clinicians to determine areas of adjustment in which the client needs help. The clinician can then explore the reasons for poor adjustment in these areas with the client.

- Discovery and detailed examination of areas of adjustment which emerge as consistently problematic for Center clients will help Center management identify areas in which particular types of new services or enhanced services are needed.

- Examination of the results of adjustment scales administered at some point in time after termination of treatment (e.g., 60 days) will help Center management determine the durability of their treatment outcomes. If follow-up studies indicate that former clients are regressing substantially after the termination of treatment, procedures for more effective follow-up work can be initiated.

What is the level of effort required?

The level of staff effort required to use these techniques is considerable. The experience of the Denver General Hospital CMHC indicated that three full-time interviewers, a supervisor, and one fourth of the time of a secretary were needed to complete 1,000 personal interviews at the clients' homes over a year-long period. A modest amount of computer time was used for sample construction and data analysis. Translated into dollars, this represented a yearly cost of approximately $35,000. The main cost is obviously in the interviews, and completed interviews take about two hours apiece because of call-backs required, travel time, and the need to create at least a minimal rapport between the interviewer and those who are providing the information. It may be feasible to cut costs by using a simpler questionnaire (perhaps suitable for mailing or telephone) for all but one of the contacts, though the design issues of this approach should not be slighted. Using a simpler pre-measure and one full-scale interview may keep interview/data-gathering costs to around $40 per client. The major variable is the cost of interviewing, which commercially will cost in the vicinity of $15 per hour. However, there are several ways to cut interview costs. Sophisticated and well-educated volunteers can be readily trained to be excellent interviewers, if selected also by (1) their interest in the subject matter and the Center; (2) emotional stability, empathy, reasonably outgoing personality, and sufficient emotional energy to ask probing questions without suffering; (3) basic awareness that there are methodologic niceties to observe in interviewing which profoundly influence the results (and require awareness and observance of the "rules"). College and graduate students, secretarial staff, and community groups may also include many basically qualified persons who can be specifically trained

in minimal time (a day or so), and who may be willing to do the work at lesser cost than commercial rates, and for whom the lower monetary payment does not constitute exploitation. (They may want real-life experience in "social research;" or they may want a role with respect to the Center; or they may want to develop, retain or regain contact with the client community for legitimate reasons.) Of course, there are risks with any such attempt at cost reduction: (1) Those who work at lower cost may be significantly less competent and may produce less useful results; (2) those who must do relatively routine interviewing work in order to make ends meet--but who are real specialists in analysis or study design--may withhold higher-level skills because of their having been supplanted from the routine interviewing.

What are the primary sources of information about these techniques?

Examples of the Katz Adjustment Scale, the Personal Adjustment and Role Skills Scale, and the Denver Community Mental Health Questionnaire can be found in:

- Hargreaves, W.A.; Attkisson, C.C.; Siegel, L.M.; McIntyre, M.H.; and Sorensen, J.E. (Eds.). Resource Materials for Community Mental Health Program Evaluation: Volume IV -- Evaluating the Effectiveness of Services, Chapter 2 (pp. 13-124) and Chapter 4 (pp. 132-135). NTIS Evaluation Study Reports Accession Number PB-249-046. Springfield, Virginia: National Technical Information Service, 1975.

More detailed descriptions of the four techniques are also available as follows:

- Katz Adjustment Scale --
  Katz, M.M., and Lyerly, S.B. Methods for Measuring Adjustment and Social Behavior in the Community: Rationale, Description, Discriminative Validity, and Scale Development. Psychological Reports, 13:505-535, 1963.

- Personal Adjustment and Role Skills Scale --
  Ellsworth, R.B. Consumer Feedback in Measuring the Effectiveness of Mental Health Programs. In: Guttentag, M., and Struening, E.L. (Eds.). Handbook of Evaluation Research. Beverly Hills, California: Sage Publications, 1975.

- Adams County Mental Health Center C.O.C.E. Adult Interview --
  Appendix 1A: C.O.C.E. Adult Interview for Development and Testing of a Cost-Effectiveness Methodology for CMHCs. NTIS Evaluation Study Reports Accession Number PB-246-678. Springfield, Virginia: National Technical Information Service, 1975.

- Denver Community Mental Health Questionnaire --
  Ciarlo, J.A., and Reihman, J. The Denver Community Mental Health Questionnaire: Development of a Multidimensional Program Evaluation Instrument. Unpublished paper, 1974. Available from the Mental Health Systems Evaluation Project, 70 West Sixth Avenue, Denver, Colorado 80204.

## E. GOAL ATTAINMENT SCALING: A TECHNIQUE FOR ASSESSING RELATIVE ATTAINMENT OF INDIVIDUALIZED CLIENT GOALS[7]

### What is the technique?

Goal Attainment Scaling is an evaluation technique that determines treatment outcome by assessing achievement of specific, individualized client goals. The technique was developed by Kiresuk and Sherman at Hennepin County Mental Health Service in Minneapolis, Minnesota. Goal attainment is measured on a grid-shaped form called a Goal Attainment Follow-up Guide. (See Exhibit 3.) Such a form consists of a succession of scales, each of which represent a series of possible outcomes related to a major area of client need. The content of the scales is tailored to each client. Evaluation of treatment through the use of a Goal Attainment Follow-up Guide involves determining the level of outcome on each scale and combining the outcomes on all scales through the calculation of a Goal Attainment Score.

Although over 100 human service organizations currently use Goal Attainment Scaling, each has modified the technique somewhat and it is expected that subsequent users will also find it desirable to make alterations. Consequently, this presentation is intended only as a general outline as to how the technique may be used.

### When should the technique be used and what are its limitations?

Two stages are involved in the use of Goal Attainment Scaling to evaluate individual treatment outcomes. The initial stage is construction of a Goal Attainment Follow-up Guide, a process that has three elements: (1) identification of the general areas in which the goals of treatment fall, (2) assignment of weights to each of these areas according to their relative importance, and (3) formation of a five-point[8] scale of possible outcomes in each area. Construction of a Goal Attainment Follow-up Guide usually takes place at intake, or during the early stages of treatment, and is most often a negotiation between the client and a clinician (either an

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[7] Sander H. Lund, Assistant Director of the Program Evaluation Resource Center, prepared this description of Goal Attainment Scaling. We are indepted to him and the Kiresuk Group for their generous assistance.

[8] Not all authorities agree with use of five-point scales. See page 254 in Chapter 8 following. Where the five levels are carefully negotiated, and in fact are chosen to indicate significantly different levels of achievement, and where those who determine the levels that differentiate points on the scale are also going to judge the extent of achievement, some of the motivational, decisional and cognitive issues surrounding the use of five-point scales seem to be less significant.

EXHIBIT 3

(Source: Hargreaves, W.A. et al., Resource Materials for Community Mental Health Program Evaluation: Volume IV--Evaluating the Effectiveness of Services, p. 128)

Level at Intake: ✓

Level at Follow-up: *

SAMPLE CLINICAL GUIDE: CRISIS INTERVENTION CENTER

Level at Intake: 29.4

Goal Attainment Score (Level at Follow-up): 62.2

Goal Attainment Change Score: +32.8

*PROGRAM EVALUATION PROJECT*

# GOAL ATTAINMENT FOLLOW-UP GUIDE

| *Check whether or not the scale has been mutually negotiated between patient and CIC interviewer.* *SCALE ATTAINMENT LEVELS* | *SCALE HEADINGS AND SCALE WEIGHTS* Yes X No ___ | Yes ___ No X | Yes ___ No X | Yes X No ___ | Yes X No ___ |
|---|---|---|---|---|---|
| | *SCALE 1: Education* ($w_1$=20) | *SCALE 2: Suicide* ($w_2$=30) | *SCALE 3: Manipulation* ($w_3$=25) | *SCALE 4: Drug Abuse* ($w_4$=30) | *SCALE 5: Dependency on CIC* ($w_5$=10) |
| *a. most unfavorable treatment outcome thought likely* (-2) | *Patient has made no attempt to enroll in high school.* ✓ | *Patient has committed suicide.* | *Patient makes rounds of community service agencies demanding medication, and refuses other forms of treatment.* ✓ | *Patient reports addiction to "hard narcotics" (heroin, morphine).* | *Patient has contacted CIC by telephone or in person at least seven times since his first visit.* |
| *b. less than expected success with treatment* (-1) | *Patient has enrolled in high school, but at time of follow-up has dropped out.* | *Patient has acted on at least one suicidal impulse since her first contact with the CIC, but has not succeeded.* ✓ | *Patient no longer visits CIC with demands for medication but continues with other community agencies and still refuses other forms of treatment.* | *Patient has used "hard narcotics," but is not addicted, and/or uses hallucinogens (LSD, Pot) more than four times a month.* ✓ | *Patient has contacted CIC 5-6 times since intake.* ✓ |
| *c. expected level of treatment success* (0) | *Patient has enrolled, and is in school at follow-up, but is attending class sporadically (misses an average of more than a third of her classes during a week).* | *Patient reports she has had at least four suicidal impulses since her first contact with the CIC but has not acted on any of them.* | *Patient no longer attempts to manipulate for drugs at community service agencies, but will not accept another form of treatment.* | *Patient has not used "hard narcotics" during follow-up period, and uses hallucinogens between 1-4 times a month.* * | *Patient has contacted CIC 3-4 times since intake.* |
| *d. more than expected success with treatment* (+1) | *Patient has enrolled, is in school at follow-up, and is attending classes consistently, but has no vocational goals.* * | * | *Patient accepts non-medication treatment at some community agency.* * | *Patient uses hallucinogens less than once a month.* | |
| *e. best anticipated success with treatment* (+2) | *Patient has enrolled, is in school at follow-up, is attending classes consistently, and has some vocational goal.* | *Patient reports she has had no suicidal impulses since her first contact with the CIC.* | *Patient accepts non-medication treatment, and by own report shows signs of improvement.* | *At time of follow-up, patient is not using any illegal drugs.* | *Patient has not contacted CIC since intake.* * |

independent intake worker or the client's therapist). In some settings, however, a clinician completes the Follow-up Guide without client input and in other settings a programmed instruction version of the technique allows clients to fill out a Follow-up Guide.

(1) Identification of Goal Areas: The first step in constructing a Goal Attainment Follow-up Guide is to identify the major areas in which treatment is expected to have an impact. At this point, it is not essential to have a specific goal in mind. However, the content of the area must be directly related to a client's needs. Typical goal-areas in mental health settings include: alcohol, depression, education, interpersonal relationships, suicide and work problems. Once a goal-area has been identified, it is recorded in the title section above a scale on the client's Goal Attainment Follow-up Guide.

(2) Weighting the Goal Areas: The second element in developing a Goal Attainment Follow-up Guide is assigning a number to each goal-area to indicate its importance in comparison with other goal-areas toward which the client is preparing to work. These numbers are used in the calculation of the summary Goal Attainment Score. They weight the outcomes on the individual scales. Thus, the final score reflects the relative value of the results achieved. For example, if "drug abuse" seems two times as important as "family relationships" in the case of a particular client, the drug abuse goal-area might be accorded a weight of "2" and the family relationship goal-area a weight of "1". Thus, when the summary Goal Attainment Score is computed for the client, the outcome in the drug abuse goal-area would have about twice as much influence on the final score as the outcome in the family relationship goal-area. It should be emphasized that it is the comparative, not the absolute, value of the weights that is important. If drug abuse had been weighted "10" and family relationships "5", the final score would be the same. If all goals are equally important, they should all be assigned the same weight (usually "1").

(3) Formation of Scale of Possible Outcomes: The third step in making up a Goal Attainment Follow-up Guide is to specify five levels of possible outcome in relation to each goal-area. These outcomes should be progressive. The lowest is "most unfavorable outcome thought likely." Next is "less than expected success." The third is the middle term, "expected level of success." The top levels are "more than expected success," and "best anticipated success." Actual content chosen for each level should be specific, observable and realistic. Statements of potential outcome constitute these contents. They are tailored to the needs, capabilities and aspirations of the client in question. For example, the scale labeled "drug abuse" in Exhibit 3 specifies a range of outcomes from "addiction to hard narcotics" to "no use of illegal drugs." "Use of hallucinogens between 1-4 times a month" was chosen as the expected outcome. This progression was created with a particular client in mind. The outcome statements are specific (so expectations are clear), observable (so there is little confusion as to the level of outcome that actually occurs), and realistic (so the scale is meaningful to the client's particular situation.)

Once a scale has been constructed, a check is placed in the cell which best describes the client at the time the Follow-up Guide was constructed.

The second stage in the use of Goal Attainment Scaling to evaluate individual treatment outcomes is follow-up. This stage has two elements: (1) scoring the Follow-up Guide (i.e., determining which outcome level best describes the client at the time of follow-up), and (2) using the weighted scores on all scales to generate a summary Goal Attainment Score. Follow-up generally occurs at a fixed interval after the outset of treatment, and typically consists of an interview with the client regarding satisfaction with treatment as well as regarding attainment of goals. Follow-up interviews may be in-person or by telephone. Follow-up interviewers are typically clinicians: either the client's therapist or an independent follow-up worker. For economy, however, some agencies use paraprofessionals or students as follow-up workers.

(4) Scoring a Goal Attainment Follow-up Guide: Scoring requires determining that level on each scale which best describes the client at the time of follow-up and placing an "X" in the appropriate cell. Each scale may be scored at only one level; however, if an outcome appears to be between two cells, it is permissible to place the "X" on the line between them. The two outermost lines which form the boundaries of the scale may not be marked. From a scored Follow-up Guide it is possible to calculate two measures of treatment efficacy: (1) a summary Goal Attainment Score, and (2) a Goal Attainment Change Score.

(5) Summary Goal Attainment Score: A summary Goal Attainment Score is a statistic generated by transforming the scores on the individual scales of a Goal Attainment Follow-up Guide into a single numerical value. Such a value is a global index of the degree to which expectations have been met. The recommended means of obtaining a Goal Attainment Score is a formula derived by Sherman and reported by Kiresuk and Sherman (1968). Use of this formula produces a statistic that is essentially an average of attainment on all scales, corrected for the number of scales, the "weight" (relative importance) of the scales, and the intercorrelation of the scales. The major advantage accruing from the use of the Kiresuk-Sherman formula is increased efficiency (i.e., a given level of precision can be attained with fewer observations). The major disadvantage is that the hand calculation is somewhat burdensome. (See Exhibit 2.) If the Kiresuk-Sherman procedure is employed, a summary Goal Attainment Score of 50.00 indicates that a client has, on the average, exactly attained the "expected level of success" on his goals; a score of more than 50.00 indicates that expectations have not been met. Goal Attainment Scores typically form a normal distribution, with a mean of about 50.00 and a standard deviation of about 10.00.

Calculation aids for the Kiresuk-Sherman formula are available from the Program Evaluation Resource Center (Minneapolis, Minnesota). However, some users of Gail Attainment Scaling prefer to compute an outcome score based

upon a simple average of attainment. (See formula below.) In this case,

$$\bar{x} = \sum_{i=1}^{n} x_i / n$$

computation of an outcome score involves adding the scores on the various levels of attainment together ("Most Unfavorable Outcome" = -2; "Less Than Expected Outcome" -1; "Expected Outcome" = 0; "More Than Expected Outcome" = +1; "Most Favorable Outcome" = +2), and dividing by the total number of scales. Although it is not essential to the computation, many users multiply the resulting value by 10 (to increase the "spread" of scores) and add it to 50.00 (so that the scores have an intuitively meaningful midpoint). Note that this procedure does not provide for weighting of scales. To incorporate the weighting factors, the more complex Goal Attainment Formula is:

$$T = 50 + \frac{10 \Sigma w_i x_i}{\sqrt{(1-p)\Sigma w_i^2 + p(\Sigma w_i)^2}}$$

The Goal Attainment Score is calculated as follows:

10 times (weight of scale 1 times the score for scale 1 + weight of scale 2 times the score for scale 2 + ...out to as many items as there are scales.)

$$50 + \frac{\text{10 times (weight of scale 1 times the score for scale 1 + weight of scale 2 times the score for scale 2 + ...out to as many items as there are scales.)}}{\sqrt{\begin{array}{l}\text{.7 times (weight of scale 1 squared + weight of scale 2 squared + ...out to as many items as there are scales)} \\ \text{+.3 times (all of the weights added together) squared.}\end{array}}}$$

Using the weights and raw scores from Exhibit 1 to demonstrate (for example, the weight of scale 1 = 20 and the score of scale 1 = +1, the weight of scale 2 = 30 and the score of scale 2 = +1, and so on). Placing the numbers into the formula for calculating the Goal Attainment Score, results in the following calculation:

$$50 + \frac{10\ ((20\text{x}1) + (30\text{x}1) + (25\text{x}1) + (30\text{x}0) + (10\text{x}2))}{\sqrt{\begin{array}{l}.7\ (20^2 + 30^2 + 25^2 + 30^2 + 10^2) \\ +.3\ (20 + 30 + 25 + 30 + 10)^2\end{array}}}$$

After the numbers have been substituted into the equation, those operations enclosed in parentheses are performed first. The next step would then appear as follows:

$$50 + \frac{10\ (20 + 30 + 25 + 0 + 20}{\sqrt{.7\ (400 + 200 + 625 + 900 + 100) + .3\ (115)^2}}$$

OR

$$50 + \frac{950}{\sqrt{6015}} \quad \text{OR} \quad 50 + \frac{950}{77.56} \quad \text{OR} \quad 50 + 12.2$$

Which gives the overall Goal Attainment Score of 62.2

(6) Goal Attainment Change Score: A Goal Attainment Change Score indicates how much difference there is between a client's status before and after treatment. The score is determined by subtracting the summary Goal Attainment Score calculated at the time the Follow-up Guide was constructed from the score calculated at the time of follow-up. A negative score indicates retrogression; a score near zero indicates little or no change; a positive score indicates progress. A ten-point change indicates that a client has moved about one Goal Attainment level as set up on the Guide.

Obviously, the choice of levels is unique to the situation of each client, and in the most exacting sense, the numbers generated on any two Follow-up Guides are accordingly non-comparable. But if the rules for designing the Guide are strictly followed, achieving a score of 50 will require substantial and significant change on the clients' part. The consistency with which this result is achieved is measured by the distribution of the scores. Furthermore, the distribution among a number of clients at least suggests the realism with which the goals were set. But the relative efficacy of different kinds of treatment may not be demonstrated by Goal Attainment Scaling, even if there is a difference among therapies. If the therapist is able to evaluate his past experience with the planned therapy accurately, and inject an appropriate judgment of that experience into the goal-setting negotiation, he will be able to achieve expectations frequently--especially where his client really wants to do so, as well. Minimum utility of the technique for program evaluation always includes being able to show in how many cases treatment goals were actually set, in how many cases they were met within a prescribed time, and in how many cases they were met eventually. A particular center can establish any requirements it chooses for defining the "distance" between levels of attainment and in requiring that the goals be obviously important to

improved ability of the client to function in his daily life. Therefore, it can be arranged that a gain of one level in the Follow-up Guide actually means something rather similar to a gain of one level, for example, in the Global Assessment Scale, if the clinical and evaluation staffs agree to do so. Actually tying the goal-setting process to other measurement devices in this fashion may or may not be required, depending on the clinical evaluation and administrative purposes to be served. For example, if therapists were to come to think of Goal Attainment Scaling as a means for evaluating their performance because the technique had been imposed on them rather than willingly adopted by them, it might be necessary to strive for some independent or generally-agreed meanings in the definitions of scale levels to make the technique useful for either clinical purposes of program evaluation. (It would certainly also be essential to cope with the clinicians' "report card" reaction.) The basic point to be made is that Goal Attainment Scaling has special qualities because of being explicitly incorporated into the clinical process. It is not a research or evaluation device laid in the surface of the clinical process. It attempts to recognize that which is unique in the individual case, and accordingly leaves the evaluator with special problems of generalizing from a number of cases in ways that serve the same purposes of program evaluation that other techniques do. The evaluator who can take time to do so can, of course, systematically obtain valuable information about program results from the Follow-up Guides, such as: (1) types of problems chosen for work and their relative frequency; (2) types of problems on which particular therapists (or all therapists) seem to make most or least progress; (3) nature of problems worked on relative to particular social problems of the catchment area (e.g., probable effect of program's work on employability of Center clients). Goal-Attainment Scaling almost insures a consistent kind of self-evaluation by therapist and client; it focuses both therapist and client on precisely what they are trying to do together; these are, in many cases, very important attributes that the program evaluator should recognize.[9]

What is the level of effort required?

Experience indicates that it takes about 20 minutes to construct a Goal Attainment Follow-up Guide (i.e., identify the goal areas, select weights, and scale predicted outcomes). It takes approximately another 40 minutes to complete a follow-up interview, score the scales and calculate the Goal Attainment Scores. If the user wants to perform treatment comparisons, the costs will vary according to the design, method, sample size, type of analysis and questions to be answered.

[9]Note added by Arthur D. Little, Inc.

Goal Attainment Scaling is a useful evaluation technique for any agency wishing to emphasize attainment of individualized client goals as a means of determining treatment outcome. The technique is relatively time-consuming, compared with standardized measures such as MMPI and various self-rating scales, however, and requires meaningful cooperation from clinical staff since they are the ones responsible for construction of the Goal Attainment Follow-up Guides. This constraint is modified when Goal Attainment Scales are developed through a self-administered form. Goal Attainment Scaling seems most useful when it becomes part of the treatment process. In fact, there is evidence that the actual setting of goals by clients helps the therapeutic process.

What are the primary sources of information about this technique?

Program Evaluation Resource Center, 501 Park Avenue South, Minneapolis, Minnesota, 55415, provides a rich variety of materials related to Goal Attainment Scaling. Published sources of information regarding the technique include:

- Kiresuk, Thomas J., and Sherman, Robert E. Goal Attainment Scaling: A General Method for Evaluating Comprehensive Community Mental Health Programs. Community Mental Health Journal, 4:443-453, 1968.

- Kiresuk, Thomas J. Goal Attainment Scaling at a County Mental Health Service. Evaluation, 1:12-18, 1973.

- Kiresuk, Thomas J., and Lund, Sander H. Process and Outcome Measurement Using Goal Attainment Scaling. In: Zusman, Jack, and Wurster, Cecil R. (Eds.). Program Evaluation: Alcohol, Drug Abuse, and Mental Health Services. Lexington, Massachusetts: Lexington Books, 1975.

The "ATGON" system serves some of the same purposes, which some users have found faster and easier to administer. Interested readers are referred to:

- Wilson, N.C., and Mumpower, J.L. Automated Evaluation of Goal Attainment Ratings. Hospital and Community Psychiatry, 26:163-164, 1975.

## F. CLIENT SATISFACTION QUESTIONNAIRE

Client satisfaction with the process and results of treatment has been an increasing preoccupation of many evaluators, especially since the new wave of citizen participation and consumerism in the late 1960s and early 1970s. When client satisfaction is known, it tells the evaluator something about the acceptability of the services being evaluated; but the specifics of client satisfaction also offer a useful measure of treatment outcome, which is why the subject is included in this chapter.

What is the technique?

Instruments for measuring clients' satisfaction with the treatment they receive at mental health centers reflect the increasing belief that client self-assessments of what is happening to him or her are as important as assessments made by significant others (e.g., therapists, researchers, relatives, etc.). The Client Satisfaction Questionnaire is a technique used to solicit client responses to various clinical and/or nonclinical aspects of their experience with the CMHC. The clinical aspects can include the client's satisfaction with the treatment he received and with the therapist who provided it, as well as the client's own assessment of the outcome of the therapy. "Nonclinical" issues usually include accessibility and referral source; client awareness of the Center; transportation to the Center; financial accessibility; staff courtesy, friendliness and responsiveness at time of first contact; lag time between first contact and first appointment; physical characteristics of the Center, etc. These are really all aspects of acceptability, accessibility or availability, and should be associated with other process measures of the same qualities. Demographic information on each client can also be collected, but it tends to weaken assurances of anonymity and confidentiality, which are important to successful implementation of the technique.

Many devices for assessing client satisfaction have been tried. They range from exhaustive questionnaires of great complexity to classic Greek-style voting (by leaving a color-coded poker chip in a box near the exit of the Center after each visit, the color selected indicating the degree of satisfaction with the visit). Several are summarized here, to provide a choice that responds to an appropriate local balance between time (and cost) on the one hand and amount of information gathered on the other. The evaluator will be well advised to adapt what he chooses to his own purposes: imaginative adaptation can greatly reduce costs and minimize inconvenience. Standard nonclinical front pages, for example, might be equally adaptable to different questionnaires (e.g., for children, adults, or drug treatment). Color-coding can be used to automatically identify categories (such as relative number of sessions of therapy at the time of questioning; or initial, in-progress, or follow-up; or a corner cut off each page of the questionnaire to code for different service elements).[10] Volunteers can be trained to administer some of the more complex questionnaires.

When should the technique be used and what are its limitations?

The simpler client satisfaction questionnaires can be used routinely with all Center clients. More complicated instruments are used on an episodic basis with samples of particular subgroups of the Center's client population (e.g., to determine the accessibility and acceptability of Center services to the Black population of the catchment area, or to determine client

[10] Devices used in the Peninsula Hospital CMHC.

satisfaction with a particular mode of service, such as inpatient care). If used with a representative sample of all Center clients, it will help to achieve compliance with the sections of the regulations covering financial, social and psychological accessibility of Center services and acceptability of services.

Brief versions of the client satisfaction questionnaire will produce only basic indications of client satisfaction and will not provide in-depth feedback about how the Center's services helped, or failed to help, the client with the problem(s) that brought him or her to the Center.

A more important limitation of the questionnaire is its tendency to provide a biased, positive response, particularly when administered through the mail. Dissatisfied clients tend to respond less than satisfied clients. Furthermore, clients who do respond may not indicate dissatisfaction even if they feel it. In order to encourage clients to give honest answers, it is important to assure them that their answers will be strictly confidential or, in some cases, anonymous.

Client satisfaction questionnaires are simple enough to be administered by secretarial or clerical staff members or by volunteers, without professional education. Regardless of the type of staff member who administers the questionnaire, staff training will be necessary in order to avoid the tendency toward positive bias. The questionnaire can be administered either by mail, by phone, or at the Center itself. However, when administered by mail the response rate will probably be lower, with the consequence that the positive bias will probably be greater.

How do you implement the technique?

The first step in administering the questionnaire is to decide what population of clients to sample. The sample could be representative of Center clientele, or a particular service unit population, or a particular demographic client group. Knowledge of sampling methods or strategies is required to pick the number and actual names of clients to be polled. Appropriate steps to achieve a valid representative sample are very important.

If the questionnaire is regularly administered to all clients of the Center, then the selection of a sample will be made at the point of processing to single out subgroups, if any are to be studied. If a brief questionnaire is going to be used routinely with Center clients, it can be administered after three to five interviews for outpatients and periodically thereafter if the client stays in treatment longer; at the point of exit for inpatients and residential client populations, as well as intermittently while in an inpatient or residential facility; and at every outcome follow-up study.

The second step is the actual administration of the questionnaire: the process of getting it filled out by the clients. This step can be carried out by clerical or secretarial staff members or by volunteers. The assurance

of confidentiality to potential respondents will be very important. Confidentiality can be even further assured by making the questionnaire responses anonymous. If the target population for the study consists of former clients of the Center, the questionnaire can be either mailed or administered by phone. If it includes clients who are still in contact with the Center, the questionnaire can be given to them by a receptionist or an intake staff member. Criteria for questionnaire distribution at the Center will need to be determined by the evaluator (e.g., all outpatient clients on their fifth visit to the Center), and are related to statistical requirements, administrative convenience, and what the evaluation is intended to accomplish. For certain studies, the Center will need to gather client characteristics and demographic information in order to assess if satisfaction is different among subpopulations of interest, such as ethnicity, socioeconomic status, level of psychopathology, present and past types of service received, etc. The greatest amount of work in administering the questionnaire will probably be in following up on those clients who fail to return the questionnaire within a specified period of time. Letters must be sent or phone calls made, again by clerical or secretarial staff, to obtain a reasonable return rate. If the questionnaire responses are to be anonymous, there will obviously be problems in follow-up; therefore, a guarantee of confidentiality without the added assurance of anonymity may be preferable. Consult your source book on survey techniques to decide whether and how to test for differences between those who return the questionnaire immediately and those who require urging, and what the significance may be.

The third step is the processing of the responses on questionnaires that are returned. Manual tabulation is possible for short questionnaires but very time-consuming for long ones. Computer processing is desirable for long questionnaires, and if the Center does not have its own computer processing capability it may want to subcontract the processing.

## What is the level of effort required?

The level of staff effort required to administer the questionnaire on an episodic basis and then process the results is small. The primary variables affecting level of staff effort will be the size of the sample and the amount of follow-up required to ensure an adequate return rate of the questionnaire. Approximate levels of staff effort associated with each task are estimated below for a 200-person sample:

| | Tasks | Staff Members Performing Tasks | Mandays |
|---|---|---|---|
| 1. | Decide on client population to be sampled | Evaluator<br>Center manager(s) | 1<br>1 |
| 2. | Define sampling process and customize questionnaire design | Evaluator | 1 |
| 3. | Select sample from client records | Clerical/secretarial | 1 |

| | Tasks | Staff Members Performing Tasks | Mandays |
|---|---|---|---|
| 4a. | Mail questionnaires | Clerical/secretarial | 1 |
| | or | | |
| 4b. | Administer questionnaires by telephone | Clerical/secretarial | 8 |
| | or | | |
| 4c. | Administer questionnaires in person at the Center | Clerical/secretarial | 5 |
| 5. | Follow up on questionnaires not returned | Clerical/secretarial | 2 |
| 6a. | Keypunch results of questionnaires and run tabulations of results | Clerical | 3 |
| | or | | |
| 6b. | Tabulate questionnaire results manually | Clerical | 5 |
| 7. | Evaluate results of tabulations | Evaluator | 2 |
| 8. | Meeting to discuss action duplications of evaluative conclusions | Evaluator<br>Center management & senior clinicians | 1<br>1-10 |

Assuming that an average manday cost for Center managers is $150, for evaluators $100, and for clerical staff $50, the total staff costs would be approximately as follows:

| | | | |
|---|---|---|---|
| Center managers | = 1 day | = | $600 |
| Evaluators | = 5 days | = | $500 |
| Clerical/secretarial | = 7-16 days | = | $350-800 |
| | | | $1,450-$1,900 |

An estimate of other associated costs including postage, printing of questionnaires and computer processing costs would be roughly $500. Therefore, the total cost of carrying out a 200-person sample client satisfaction survey would be approximately $2,000-$2,500. If these costs seem too high for the results produced, the CMHC could reduce them by using volunteer staff in place of paid clerical/secretarial staff. If volunteers were used in place of clerical/secretarial staff in Tasks 3, 4, 5 and 6b, the saving would range from $450 to $800.

What are the primary sources of information about this technique?

The following six examples of client satisfaction instruments provide a sense of the variations in content and format for this type of instrument. Copies of the instruments can be obtained by writing to the addressees listed.

(1) Salt Lake CMHC Consumer Satisfaction Inventory:

Salt Lake Community Mental Health Center
807 East South Temple
Salt Lake City, Utah 84102
Ask for: Research and Evaluation Report No. 1: A Study of Consumer Reaction to Services

This instrument can be used as the basis for a mail questionnaire, a telephone interview, or a personal interview. It contains 41 questions covering the following areas: client demographics, accessibility issues and experience in first contact with Center, satisfaction with therapy received, self-assessment of changes resulting from therapy, reasons for termination of treatment, and general probes about satisfaction with Center. Most questions have precoded answers but a few are open-ended. In terms of clarity and comprehensiveness, this seems to be the best of the six instruments summarized here.

(2) Client Satisfaction Questionnaire (preliminary version):

Daniel Larsen, C. Clifford Attkisson, and William A. Hargreaves
Langley Porter Institute
University of California
San Francisco, California 94143

This instrument is similar in length to the first one: it has 31 "satisfaction" questions, ten demographic questions, and five questions about history of contact with the Center. The latter two types of questions are optional and are included on a separate page called "Supplementary Information." This questionnaire is less comprehensive than the Salt Lake instrument in that it focuses almost entirely on the clinical aspects of satisfaction. There are very few questions dealing with the nonclinical aspects of accessibility. The clinical questions are also more impressionistic in tone than the Salt Lake questions, and there are several repetitions of questions, with slight variations, presumably to ensure consistency or reliability of response.

(3) Denver Community Mental Health Questionnaire (selected questions):

James Ciarlo, Shie-Fang Lin, Douglas Bigelow and Marilyn Biggerstaff
Denver General Hospital Mental Health Center
70 West 6th Avenue
Denver, Colorado 80204

or

Hargreaves, W.A.; Attkisson, C.C.; Siegel, L.M.; McIntyre, M.H.; and Sorensen, J.E. (Eds.). Resource Materials for Community Mental Health Program Evaluation: Volume IV — Evaluating the Effectiveness of Services, pp. 77-82. NTIS Evaluation Study Reports Accession Number PB-249-046. Springfield, Virginia: National Technical Information Service, 1975.

This particular instrument covers much more than client satisfaction, and is a good example of how client satisfaction data can be collected in the context of a broader data-gathering effort. The questionnaire also includes questions about client symptoms, family and social relationships, alcohol and drug usage, and contact with the law and with other service agencies. The client satisfaction section is limited to six questions at the end of the questionnaire, which has a total of 71 questions. The six questions basically cover satisfaction with treatment received and do not touch on issues of accessibility. The six questions are listed below without their precoded answers:

- When you came to the clinic, did the admissions person make you feel comfortable?
- Did you get the kind of services you wanted?
- Were you satisfied with the services you received?
- Do you feel differently about your problem now?
- Was this due to the services you received at the Center?
- If you were to seek help again, would you come back to the Center?

(4) Hennepin County CMHC "Tell-It-Like-It-Was" Questionnaire:

Harvey Tillman, ACSW
Mental Health-Mental Rehabilitation Area Program
Hennepin County
527 Park Avenue
Minneapolis, Minnesota 55415

This is another good, short client satisfaction questionnaire with nine questions focusing on overall satisfaction with the Center, satisfaction with treatment by both clinical and nonclinical staff, and a self-assessment of changes resulting from treatment. The questionnaire is included in Exhibit 4 (page 238), as an example of a complete, short client satisfaction instrument.

(5) High Plains Comprehensive CMHC "Chip Project":

Tiffany, Donald; Robinson, Anabee; and Cohen, Julius. Evaluation of Outpatient Therapy: The Chip Project. Hays, Kansas: High Plains Comprehensive CMHC.

This is an interesting variation on the questionnaire format for soliciting client satisfaction feedback for outpatient therapy services. It consists of a very simple and direct assessment of treatment effectiveness: after each therapy session, outpatients are asked to indicate whether they considered the therapy session to be helpful in slowing the problems which brought them to the Center, not helpful with those problems, or whether they were undecided about the helpfulness at that time. "Voting" with

poker chips, the procedure used, ensures anonymity and confidentiality. Ordinary poker chips of different colors are given the following meanings: (a) red chip = helpful; (b) white chip = undecided about session; (c) blue chip = session not helpful. Therapists give each client three chips (one of each color) at the end of each session. On leaving the Center, the client places the chip corresponding to his feelings about the session in a "ballot box" by the main door of the Center. The other two "nonvoting" chips are placed in another box. This procedure makes it virtually impossible for Center staff to observe how patients voted. The client satisfaction feedback from this procedure is obviously very rough; it is vulnerable to client misunderstanding of instructions; but it does ensure anonymity and it is very simple to implement.

(6) A Client Satisfaction Telephone Questionnaire for a Telephone Crisis Center:

Preston, John; Schoenfeld, Lawrence S.; and Adams, Russell L. Evaluating the Effectiveness of a Telephone Crisis Center from the Consumer's Viewpoint. Hospital and Community Psychiatry, 26(11):719-720, 1975.

This article describes a seven-item questionnaire that was given over the telephone to all callers to a 24-hour telephone crisis center who agreed to undergo the questionnaire at the conclusion of their telephone consulting. It provides a rough evaluation of the effectiveness and responsiveness of the telephone crisis counseling center. It is very susceptible to strong positive bias, since the questionnaire is administered immediately thereafter by the same person who provided the counseling. Some of this bias was balanced by follow-up calls made one week after the first call, in which the same questions were asked again--and could be asked by another person.

EXHIBIT 4

TELL-IT-LIKE-IT-WAS
AT

SAMPLE COPY
FOR
DIRECT INTERVENTION

*For each question listed below, please circle the appropriate answer.*

A. *How do you feel about the location of this agency in getting there for services?*

1) *very unsatisfied*
2) *not satisfied*
3) *no particular feelings one way or the other*
4) *satisfactory*
5) *very satisfactory*

*If you have circled #1 or #2 please make comments here.*

_____

_____

B. *How were you personally treated by the receptionists and clerks?*

1) *very unsatisfactorily*
2) *not satisfactorily*
3) *no particular feelings one way or the other*
4) *satisfactorily*
5) *very satisfactorily*

*If you have circled #1 or #2 please make comments here.*

_____

_____

C. *How do you feel about the length of time before our agency dealt with your particular situation/problem(s) after you first contacted? (Be sure you consider the urgency of your concerns)*

1) *very unsatified*
2) *not satisfied*
3) *no particular feelings one way or the other*
4) *satisfied*
5) *very satisfied*

EXHIBIT 4 (Cont.)

*If you have circled #1 or #2 please make comments here.*

_____

_____

D. *How do you feel your situation/problem(s) has changed since you have become involved with this agency?*

1) *become much worse*
2) *become somewhat worse*
3) *better in some ways but worse in others*
4) *become somewhat better*
5) *become much better*

*If you have circled #1 or #2 please make comments here.*

_____

_____

E. *How do you feel about the helpfulness of the primary staff who dealt with your situation/problem(s)?*

1) *very satisfied*
2) *not satisfied*
3) *no particular feelings one way or the other*
4) *satisfied*
5) *very satisfied*

*If you have circled #1 or #2 please make comments here.*

_____

_____

F. *If a friend asked, would you recommend the services of this agency?*

1) *never recommend*
2) *hardly ever recommend*
3) *usually recommend*
4) *almost always recommend*
5) *always recommend*

*If you have circled #1 or #2 please make comments below.*

_____

_____

# CONTINUED

3 OF 5

EXHIBIT 4 (Cont.)

*G. If needed, would you come back or contact us again?*

*1) never come back or contact*
*2) hardly ever come back or contact*
*3) usually come back or contact*
*4) almost always come back or contact*
*5) always come back or contact*

*If you have circled #1 or #2 please make comments below.*

_____

_____

*H. In general, what do you think of the overall service that you received?*

*1) very unsatisfied*
*2) not satisfied*
*3) no particular feelings one way or the other*
*4) satisfied*
*5) very satisfied*

*If you have circled #1 or #2 please make comments below.*

_____

_____

*I. Who filled out this questionnaire?*

*1) male consumer*
*2) female consumer*
*3) male & female consumers (couple)*
*4) parent of consumer*
*5) other than parents of consumer*

## G. COMMUNITY INDICES

### 1. Designing Community Impact Studies

Community impact studies are sometimes regarded as difficult, complex and expensive. But they can be relatively economical if forethought is given to their design and implementation. The issue is whether or not a CMHC can discern where inexpensive impact measures apply and can creatively figure out ways to gather appropriate data without expending overly large amounts of resource. Below we suggest several points which the program evaluator should observe, which are prerequisite to successful impact studies:

- Know the community and how it operates. The program evaluator must have mastered the demographic information, social area data, community problem analyses, and the relationships among local human service agencies and their individual relationships to the Center.

- Know the patterns of use of CMHC services. The evaluator must be cognizant of the patterns of use of Center services among specific client groups, target populations, areas of the community served, referral sources, referral dispositions, C&E activities and where in the community these are provided.

- Develop plausible hunches about the impact of the program being evaluated. These hunches are like hypotheses in that they are to be tested in a process of information-gathering and analysis. But the issues to be tested are not confined to the statistical probability that the program has had some effect. Program evaluation asks what effect, to what end, to what extent and at what cost? But it may content itself if the answers are only comparisons of different programs, or of the condition with and without programmed intervention.

- Look for potential impact areas. Knowledge about the population and CMHC services helps to guide the evaluator toward discerning where CMHC services are most likely to have visible, measurable or otherwise demonstrable impact. The hunches or hypotheses suggest what that impact may be, though it is conceivable that the CMHC could be having enormous impact in an area where it was not possible to measure or ascertain feasibly the kind of impact being achieved. The evaluator must bring to bear the available skills and experience to discern areas where impact can easily be shown to have occurred, whether small or great in the larger scheme of things.

- Define plausible measures of impact. The next step is to isolate and define the kinds of measures that can be collected among the chosen (impacted) population in order to determine whether or not the hypothesis or hunch is a good one.

- Collect data on the measures described over time.

- Analyze data to derive suggestions for program improvement,
- Reassess and define potential impact areas and plausible hypotheses.

Because the above description of a process for designing impact studies may sound a bit general, we have attempted below to indicate six illustrative, potential areas of CMHC impact in communities and catchment areas. Creative thinking by program evaluators should reveal other potential areas or more specific measures and definitions of areas of CMHC impact.

## 2. Potential Areas of CMHC Impact

### a. Changes in Community Agencies and Institutions

Such changes can be ascertained in at least three ways:

(1) Changes in the network of referrals by community agencies to the CMHC. An increase in the number of referrals may represent a positive impact of the Center on attitudes toward mental health services among community agencies, or it may be a sign of "dumping" of clients onto the CMHC. Interpretation of the appropriateness of referrals is, of course, needed for evaluation. Another aspect would be the willingness of community agencies to accept community mental health center referrals: an increase in their willingness to accept such referrals could indicate broader understanding and acceptance of mental health-related issues and clients, as well as increased capacity on the part of that agency to deal with deviant clients. It should again be apparent that finding the right interpretation is very important. This will require involving others from their community and other agencies to determine what seems most reasonable. Alternative explanations should then be tested by identifying other facts which would tell which interpretation was correct.

(2) A second kind of change in community institutions could be manifested in changes in institutional planning, and collaborative management that goes beyond mutual referral: explicit, shared treatment planning or joint case planning related to clients; increased consensus among agencies about priority client and target groups in the community; explicit development, sharing and use of information systems in a way that places several agencies under continuum of care; administration actions such as training programs planned and carried out together. Changes of these kinds can be demonstrated in before and after comparisons which are often possible to document only if the evaluator designs his work before the action program begins (prospective design). Since many of the realistic indicators are detailed reflections of changes in how agencies interact with each other, no individual agency may have had any reason to compile the precise facts that would constitute a base line, or even to identify what they are or what it might mean for them to change. Accordingly, program planning, evaluation planning, the action stages and evaluation processes are all required to be carried out in close communication. The evaluator, for example, must almost

become a part of the program team. To identify measures and indicators, to assure that appropriate data are gathered, and to feed back results to program and agency participants as an aspect of ongoing program management requires sensitive awareness and imaginative response on the part of the evaluator. Desirable outcomes are often not at all clearly specified at the beginning of consultative and/or administrative projects. Measures and methods to collect information are not necessarily obvious, let alone normally considered to offer the means for assessing outcomes. Impact possibilities may be defined differently by various participants, but more often are not really described at all, unless the evaluator is there and either takes the trouble to do so or stimulates others to do so.

(3) A third possibility for measuring changes in community institutions is changes in the nature of the services available from community agencies, or an increase in mental health-related services, either directly available at the agency itself or available through referral networks to other agencies. Change might be expressed by addition of a staff member (with mental health qualifications) to a community agency, or it could take the form of measurably increased availability of mental health services stimulated or trained through the C&E activities. Such changes are often very obvious, but it is not always easy to demonstrate a connection between them and the activities of one or more of the CMHC's programs, though prior statements of intention do help a great deal, and testimonials or a simple survey of knowledgeable people in agency staffs may provide adequate proof.

### b. Changes in Admission and Discharge Rates at the Local State Hospital

Since one of the goals of the Community Mental Health Centers Program was to replace custodial, distant state hospital care with comprehensive community care, one appropriate measure of impact of a community mental health center may be changes in admission and discharge rates, patterns, or circumstances surrounding admissions and discharges at the local state hospital. This is a complicated matter, most easily reduced to measurable realities if appropriate program leaders in the CMHC and in the hospital are willing to discuss with the evaluator and each other what they are attempting and what valid measures will be. The situation is one in which any tendency to shift behavior in order to accommodate to the measure may be particularly tragic. If, for example, one program objective is to stop using the state hospital as a nursing home for poor people, to be measured by the number of elderly indigents admitted, one should obviously also be concerned about what happens to the elderly indigents who are no longer considered admissible. It is not always true that chosen evaluation measures will turn out to be more potent in changing institutional behavior than the program itself--and when it is, the real changes may not be desirable.

Changes in gross numbers in rate of admission or discharge may often be invalid indicators, because rates are affected by more powerful factors. Resident rates have been declining since 1955 nationwide due to a variety of factors. The rates must be evaluated in context, preferably with

comparisons of similar situations, and plausible explanations of reasons for rising or falling rates must be sought. The actual impact of the Center on the rate must also be examined in some detail. It is one thing to say that state hospital admissions have decreased since the Center opened, and another to relate that decrease to specific practices such as the provision of aftercare and medical services by the Center to formally discharged state hospital patients who, because they now receive such services, no longer need be continually readmitted to the state hospital. The latter analysis has important programmatic implications as well as leaving open for further analysis the question of whether state hospital first admissions have increased or decreased since the opening of the Center. Nevertheless, many measures may be highly revealing in appropriate circumstances: percent of admissions evaluated and referred by the Center; percent of former hospital patients receiving aftercare; distributions of presenting symptoms (or of diagnosis) before and after CMHC involvement with the hospital began; number and percent of hospital patients between 18 and 65 discharged last year and currently employed compared with preceding year; comparison of hospital readmission rates between comparable groups of those who accepted CMHC aftercare and those who did not; differential trends in such categories as "on the rolls but absent from the hospital" and "now or within the last six months in a chronic care program of the CMHC;" percent and number of persons known to both the hospital and the CMHC (especially among subcategories such as the violently acting-out, actively hallucinating, severe depression, severe withdrawal, etc.). In short, impact on state hospitals may be as narrow as "impact on how people with serious behavioral or emotional problems are treated in this community" to impact on the gross number institutionalized. The narrower measures are both more believable and more closely related to what the CMHC programs actually undertake to do.[11,12]

Additional work is needed on how to determine <u>inappropriate</u> utilization. One way would be through utilization review, but in Willowbrook this was insufficient: there was need for a special study of who needs to stay there. Another measure is the referral pattern from courts to Centers as opposed to state hospitals, and changes as time passes.

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[11] Dyck, George. The Effect of a Community Mental Health Center upon State Hospital Utilization. <u>American Journal of Psychiatry</u>, 131(4):453-456, 1974. Explains marked decrease in state hospital utilization over 12-year period due to nine factors. Key factor is aftercare for released patients, which mitigates against state hospital readmission.

[12] Wolford, Jack A.; Hitchcock, John; Ellison, David L.; Sonis, Anne C.; and Smith, Fred. The Effect on State Hospital Utilization of a Community Mental Health/Mental Retardation Center. <u>American Journal of Psychiatry</u>, 129(2):116-120, 1972. Provides a basic research design for comparing matched census tracts of a catchmented (CMHC-served) and noncatchmented (without CMHC) area to arrive at differential rates of state hospital admissions.

### c. Effects of Training and Consultation Activities

Impact evaluation in this area is closely related to the evaluation of C&E services in general, and is discussed more fully in Chapter 9. However, positive community effects of training and consultation activities can be manifested in several ways: policy changes in agencies that have participated in C&E activities, including new target population groups or administrative procedures with respect to such groups, or formalized referral patterns to the CMHC; an increase in the potential audience desiring mental health-related training experience as ascertained through informal surveys on the part of the Center; or an increase in the numbers of people potentially capable of receiving mental health services in terms of sheer numbers of providing professionals who have gone through CMHC-sponsored training programs.

### d. "Important Others" (Collaterals) as Experiencers and Intermediaries of Impact

Potential impact of CMHC services can also sometimes be demonstrated in terms of the effect of CMHC services on the family, relatives or friends of clients. At its most basic level, this would involve a simple count of the number of these so-called collaterals who have been involved in one way or another in the therapy of the primary client. If one of the program objectives were to increase the fraction of collaterals taking part in the therapy of the patient by active participation in groups, this kind of participation is readily recorded and tabulated by person, by number of visits, or by amount of time. At a more complex level, analysis of the kinds of collaterals involved is possible--e.g., family members, co-workers, fellow neighborhood or community residents. The underlying assumption here is that involvement of collaterals leads to increased tolerance for deviance or improved awareness of mental health services and problems. Direct measurement of attitude change or interpersonal skills of collaterals is also possible as a special case of community attitude changes. Such possibilities of impact could be tested through attitudinal surveys of collaterals to measure changes in attitudes toward mental health services and in the people who seek them. If one of the educational programs of the Center were to be to educate the community by educating collaterals, community-wide impact might even be measured. The number of collaterals present during various kinds of service events can often be monitored quite routinely through the CMHC's information system.

### e. Attitudinal Changes in the Community at Large

Changes in attitudes of the community can arise in several ways. These can be ascertained in order to demonstrate positive impact of the CMHC on the community. One measure is changes in attitudes toward mental health services themselves. These changes could be manifested in the increased willingness to accept the presence of a halfway house in the neighborhood (by measuring the length and intensity of actual battles, or by comparing

answers in successive surveys), or simple knowledge about the CMHC, how services can be obtained there, and what the nature of those services is. Another kind of attitudinal change in the community can be found in the attitude toward mentally ill people themselves, as manifested in increased tolerance and understanding of mental illness and willingness to tolerate a marginal amount of deviancy in the community. These changes in attitudes toward mental health services and toward mentally ill people can be ascertained through surveys of defined groups, possibly using volunteers as interviewers. These groups to be surveyed could be structured in terms of ethnicity, socioeconomic status, professional status, residential location, life phase or deviance identification. Content analysis of newspaper articles and letters to the editor can also produce useful findings, and evidence of what attitudes are changing and what are not.

### f. Targeted Program Impact on Leadership Groups

Specially targeted programs often respond to community needs, defined more or less specifically by ad hoc citizen groups, inter-agency committees, regularly organized bodies that monitor a range of social programs, or even by newspaper investigations. One measure of program impact is the extent to which program creation, functioning or results satisfy those who pressed for creation of the program in the first place. Drugs, alcohol, juvenile delinquency, problems of the elderly, single parent families, and child abuse are examples of such targeted programs.

The judgement of advocates and advocacy groups does not often represent a complete evaluation, but certainly represents the impact of the program on one important segment of the community: those who shape the effective definition of social and mental health problems. If there are other groups that differed in their definition of the problem or the means to solve it, the impact of the program on them should also be investigated.

This subject has importance beyond its immediate aims. One basic reason why community impact is hard to measure is that there are few community standards against which to measure impact. When the assessment of program impact on a leadership group is undertaken, steps should also be taken to ascertain the expectations of that particular leadership group for what would constitute constructive (and attainable) impact. The process of assessing impact on (ideologically or otherwise) diverse leadership groups can thus become an explicit portion of an evaluation strategy to arrive at common standards, even if they turn out to be propositions like the following (which are not necessarily consistent with each other):

- The community expectation for the drug treatment program is that it provide a clear chance for addicted persons to break the drug habit and develop for themselves a lifestyle, new associations, and a psychological orientation capable of sustaining themselves without drugs. The impact desired of the drug treatment program is that it make such a chance truly and demonstrably available and accessible to anyone who wants it, and that it create in and for the local drug subculture a clear awareness of a

dependable, credible, acceptable route to a life without drugs for anyone who will make the necessary effort.

- Community impact desired of the drug treatment program is that it be in touch with at least 50% of the hard drug users who live in the catchment area, or spend more time in the catchment area than anywhere else. Being "in touch" requires either active, regular involvement in one of the established treatment programs offered within the drug treatment program or a face-to-face or telephone contact with a street worker at least once a week.

- Desired impact on the community consists of convincing the majority of present or past drug users that the drug treatment program can provide useful help to any drug user who wants to be helped and is willing to negotiate what turns out to be a reasonable treatment plan with program management.

- The consensually desired impact of the drug treatment program is that it cause the police, the churches, and the schools to cease acting on the belief that anyone using drugs X, Y or Z is hopelessly lost to society and should be related to only as an abject failure, a moral dropout, and beyond help or the possibility of alternatives.

Having helped achieve a reasonable degree of consensus on what would constitute impact, the evaluator then may measure the extent to which the defined impact objective(s) of the program are reached. Accomplishment under each of the illustrative hypothetical propositions about a drug treatment program is potentially measurable, some by attitudinal studies, some by both behavioral and attitudinal changes subject to plausible quantification.

### g. Overall Impact

Overall impact can be indicated by expressing the views of various interested groups on a similar scale (clients, providers, community leaders, et al.), assigning weights to each of the groups that reflect a considered judgment of the importance of that group's views, and combining into a weighted average. The same procedure repeated in the same way over time might reveal significant trends. (While there has been some discussion of this approach by Broskowski and his associates, we have found no case in which it has actually been systematically used.)

Ultimate impact of a program on the incidence or number who become long-run victims of a particular problem is not possible to calculate, because of the problems of multiple causation and multiple problems in one client.

The six general potential areas of community impact are, as we have said, only illustrative. To ascertain impact of the Center in any area might require special data collection. Many of the available techniques can be found under other headings in this manual, particular those related to

needs assessment and outcome evaluation. Some information, such as referral patterns to the Center and the acceptance of CMHC referrals, can be ascertained from existing Center records.

The Center should choose a potential area for measurement of impact in terms of its own needs for information, the resources available for studies, and the relative sophistication of its current data-gathering and measurement activities. The situation may lead to making some essentially arbitrary choices, so great are the uncertainties about the value and validity of impact evaluation at present. But the potential pay-offs for a credible demonstration of positive impact are also great. We predict that well-managed CMHCs will be making frequent, individually inexpensive forays into impact evaluation partly to show that they are trying, but more in order to clarify what aspects of community life they are really trying to impact, and then to learn to measure the extent of impact.

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# CHAPTER 8: COST-OUTCOME AND COST-EFFECTIVENESS ANALYSIS

## A. INTRODUCTION

Cost and "benefit" comparisons have long been made, with varying degrees of explicitness, under diverse circumstances. Any householder makes prospective cost-effectiveness estimates when comparison-shopping, to answer basic questions: Which of two comparable products is least costly? Which of two products of equal cost is preferable? Major capital acquisitions proposed for the public sector, such as weapons systems, dams, irrigation systems and highway developments, have occasionally been the subjects of elaborate cost and effectiveness studies. Twenty years of formal attempts to develop the methodology and nearly a decade in human services fields have been required to get us well started. Cost-outcome and cost-effectiveness analysis remain relatively undeveloped techniques for program evaluation centered in the mental health field.[1] While cost-outcome and cost-effectiveness techniques have not yet been widely applied, there is a growing body of literature on the theory and application of these two interrelated techniques. Cost-outcome analysis is a technique measuring the resources consumed (in dollar terms) in the programmed services and relating that level of effort to changes (or lack of change) in client condition or other planned outcome. The technique attempts to tie cost and client outcome data together in a way that permits the program to describe the relationship between resource expenditures and client outcome. Cost-outcome analysis is usually performed within a single program, but can be used across programs. Cost-outcome analyses for different programs provide the data that are used in cost-effectiveness analysis.

Cost-effectiveness analysis critically compares results of cost-outcome analyses to identify the most productive programs, treatment modalities, or treatment techniques. The key requirement for conducting cost-effectiveness analysis is that the cost-outcome analyses on which it is based relate to programs which were applied to similar populations. As long as programs draw their clientele from similar populations, it is possible to compare their relative productivity (cost-outcome). Typical questions that might be asked in cost-effectiveness analysis are:

(1) For a given cost, which program produced the better client outcomes?

(2) Which program consumed fewer resources to attain a given level of client outcome?

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[1] The authors relied heavily on relatively new materials developed by Frederick Newman, Special Consultant for Mental Health and Medical Services, Commonwealth of Pennsylvania, and James Sorensen, University of Denver. We wish to acknowledge the seminal nature of their work in this area of program evaluation for CMHCs. The articulation of the evaluative concept and much of the work of the late '50's and early '60's was done by the Rand Corporation.

In other words, the decision criteria usually applied in cost-effectiveness analysis based on the comparison of programs are minimization of cost per stated outcome or maximization of client outcome per given cost. Still more exacting comparisons of program costs and benefits have also been proposed. Cost-benefit analysis in its most rigorous uses is a method that involves the calculation of all costs and all benefits associated with a single program. Such costs and benefits include directly observable costs and benefits (such as client outcomes) as well as a myriad of indirect social costs and social benefits. Cost-benefit analysis is a complex methodology, usually expensive and time-consuming. It includes explicit estimates of social value, in part quantified. Cost-outcome analysis is more insular in nature, relating to direct measurable resource costs and individual client outcomes only. It can be exceedingly useful in facilitating better resource allocation decisions within a CMHC without any of the methodological headaches that more complex cost-benefit analysis would engender.

It is important to recognize that both costs and outcomes can be studied independently. Indeed, Chapter 6 of this manual addresses cost analysis techniques for CMHCs while Chapter 7 describes methods of studying CMHC impact on client mental health status (outcome). In their own ways, each of these types of independent analysis is a legitimate form of program evaluation in CMHCs. Cost analysis can help CMHC managers answer basic questions about resource use, budgeting, rate-setting, and comparative cost of programs. Outcome studies are useful to answer questions about program impact. (Does the program contribute to better client mental health status? How much?) Outcome studies help also to determine if a certain program approach is more effective than other approaches for the various subgroups of clients. Cost analysis and outcome studies are justifiable as independent program evaluation techniques. The synthesis of the two in cost-outcome analyses and subsequent comparisons of cost-outcome analyses (cost-effectiveness analysis) provides a more comprehensive basis for choosing between competing programs and alternative uses of resources.

Let us emphasize that choosing between programs from cost or outcome data alone is not generally advisable. Cost comparison among programs does not deal with relative effectiveness of programs; it merely permits statements about relative costs. Similarly, client outcome data by itself is inadequate to make fundamental decisions about program implementation unless resource inputs required to produce such client outcomes are known. Both costs and outcome when taken alone represent inadequate criteria on which to base a choice among alternative programs. When the two factors are combined in cost-outcome analysis and subsequent cost-effectiveness analysis, resource allocation decisions can be made more wisely.

Simplicity, economy and utility are the keys to actionable cost-outcome and cost-effectiveness analysis. These techniques need to be relatively straightforward so that CMHCs can learn them quickly and implement them with minimum difficulty. They need to be economical so that they are themselves cost-effective expenditure of resources. Finally, their utility in

providing data for resource allocation decisions within the CMHC must be apparent. Our presentation of these techniques in this chapter of the manual is an attempt to demonstrate that combining the analysis of costs and of program outcomes can meet these criteria.

There are a few key points that should be stressed about these methods. One is that they emphasize program impact, not the resources or processes of client care. Second, they can be applied broadly or narrowly--with a single CMHC, across CMHCs, or by comparing CMHCs to other delivery settings. But it is essential to cost-*effectiveness* analysis that target populations within which alternative programs are to be studied be comparable. If the target groups are dissimilar, statements about alleged relative cost or productivity of the programs will not furnish a valid basis for choosing between programs. Dissimilar target populations obviously constitute uncontrolled and unspecified variation, the extent and impact of which cannot be determined by the cost-effectiveness study itself. It is also important to realize that these techniques deal with cost-effectiveness and not cost-benefit. Note, furthermore, that outcomes observed in the process of any of the cost and outcome analyses are merely observed changes in client functioning concurrent with treatment, but not necessarily proven to be caused by the treatment. Only where special observations link process and outcome can causal impact be safely asserted.

In addition, a series of operational precautions and generalizations should be kept in mind:

(1) Assumptions, definitions and criteria for cost allocations, judgment of treatment outcomes and selection of clients for comparison should be clearly stated and as deliberately simple as time and available brainpower will allow. Without effective clarification of the inputs and the framework to be used, study results will be vulnerable to avoidable attack, and may also be ambiguous and indeterminate.

(2) Cost-effectiveness studies are among the more methodologically abstract and sophisticated projects likely to be presented by a program evaluator to a diverse audience of users (professional, managerial and laymen). Because of the remoteness of some of the audience from sampling, scaling and tests of significance, it is particularly important to bring the audience a series of explanatory discussions before and during the study in which the potential users give their consent, a step at a time, to the methods chosen, the comparisons made, and the results claimed. (See Chapter 2, The Evaluation Project Cycle, pages 22-55.) Otherwise, the evaluator may be left after the project is complete, trying to prove that his conclusions were not merely predetermiend by the artful selection of assumptions, or that his basic comparison was valid.

(3) The comparison of treatment modalities, service elements, programs or outcomes should make <u>management</u> sense. Cost-effectiveness is a management tool. The comparisons presented in a cost-effectiveness study should be between alternatives actually or potentially facing Center managers:

group therapy vs. one-to-one therapy; residential alcohol treatment program for young adult alcohol abusers vs. outpatient counseling; activity therapy plus drug maintenance aftercare program vs. drug maintenance alone.

(4) Appropriate comparisons are grounded so firmly in clinical understanding and clinical issues that the process and results of a good cost-effectiveness study will be as valid, interesting and useful to clinicians as to managers. Be sure to involve the clinicians early and often in each such study, and be sure that the clinicians see and agree with the significance of proposed studies. Cost-effectiveness studies must become valuable for improvement of clinical programs to reach their potential.

## B. METHOD

We need to develop methods which will help the client and clinician more clearly identify how they are going to put together their respective resources to solve the client's set of problems. To do this properly, the clinical staff needs to be able to evaluate (have feedback on) the possible relationships among various patterns of clinical efforts, the relative costs of these efforts and client outcomes.

The clinical process is an evolving process and the clinicians should find methods of relating their efforts and applications of available resources to client outcomes. The unit of service costs procedures discussed in Chapter 6 permit drawing the direct relationship between clinical efforts and costs. The design of <u>any</u> cost outcome method must be ultimately reducible to clinical questions which can be asked by the individual clinician--e.g., for my (or our) caseload over the last year, relative to the overall clinic's or catchment area's, what were the cost-outcome results for type A clients vs. type B clients, or for service pattern X vs. service pattern Y?

Stated another way, any costing procedure or cost-outcome or cost-effectiveness procedure which cannot be readily translated back to clinical or administrative decision processes is missing the mark; the cost-outcome and cost-effectiveness methods we describe below <u>can</u> be tied both to program decisions and to resource allocation.

There are six sequential steps in the preparation of cost-outcome analysis and subsequent cost-effectiveness studies:

(1) Identify the objectives (e.g., treatment goals) to be achieved. These suggest information needed and decisions to be made.

(2) Identify treatment programs, modalities, or techniques to be compared from which necessary information will be drawn.

(3) Determine the costs of each program on a unit basis (e.g., by client). (Specific costs for each "unit" in each program are necessary. Aggregate costs are second-choice for these techniques since they preclude the examination of individual client data which is so crucial to the analysis.)

(4) Determine the outcome of intervention on the target group in each program by measurement of pre- and post-intervention mental health status and comparison of the two measurements.

(5) Combine cost and outcome information for each program in a matrix for analysis of individual program data.

(6) Compare cost-outcome matrices for multiple programs to perform cost-effective analysis.

Each step will be described below.

• Step 1: Identify objectives or treatment goals to be achieved for target groups (clients, families, or community). This step enables appropriate outcome measurements to be determined later. In most programs improvement of client mental health status will be the principal objective and a function-dysfunction scale or other mental health status scale can be used.

• Step 2: Indicate the treatment programs, modalities or techniques to be studied. One obvious prerequisite to cost-effectiveness analysis is knowing which programs need to be compared for resource allocation decisions. This step merely suggests that the comparison groups be explicitly defined before proceeding forward.

• Step 3: Determine the costs of each program on an individual client basis. Specific costs for each client for the time period of the study are required for cost-outcome analysis. Such costs can be identified by the application of the cost-finding techniques described in Chapter 6. A simple table listing each client who has received care under the program being studied and the cost of each client's care should be constructed for use throughout the analyses.

• Step 4: Determine the outcome of intervention on the target group by measurement of pre- and post-intervention mental health status and comparison of the measurements. For appropriate samples, program impact on client functioning or mental health status needs to be measured. The most appropriate way to conduct these measurements is by comparing client mental health status or social functioning prior to the program with the client's mental health status or social functioning at the end of the study period. This is typically done through the use of an outcome or function scale that can be applied to each client. Much work has already been done in the mental health field on development of mental health status scales and social function scales. Some of this work has been reported in Chapter 7 on client outcome analysis. A questionnaire is typically used, the results of which are then transformed into a single numerical measurement of mental health status or social function. These scales are commonly referred to as function-dysfunction scales. Once the evaluator has in hand data on client mental health status or social function at the start and end of the study period, it is possible to construct a matrix of client movement in mental health status over the study time period.

Table 1 presents the basic structure of such a table. It should be noted that this table is constructed around a nine-point function-dysfunction scale.[2] Most scales used in evaluating mental health programs should involve 8-10 different measurement points representing 8-10 levels of client social functioning or mental health status. Generally, scales are divided into two broad areas of client description--dysfunctional and functional. By looking at Table 1 (page 255), it can be seen that there are four types of clients which can be described: (1) clients who began dysfunctional and remained dysfunctional (upper left quadrant); (2) clients who began dysfunctional and became functional (upper right quadrant); (3) clients who began functional and ended dysfunctional (lower left quadrant); and (4) clients who began functional and remained functional (lower right quadrant). This broad way of looking at a two-time-period outcome table merely requires that the measure of each client's progress be placed in the cell appropriate to his beginning and ending numerical score on the functional-dysfunctional scale.

In reality, the interpretation of the table should be more complex than is allowed by the simple four-category approach which we have used. What needs to be looked at for the most accurate results are precise movements between numerical scores. For example, a client who began at level 2 and ended at level 3 has actually had his mental health status improved, yet he would be counted as a dysfunctional client who remained dysfunctional under the four-category method of interpretation. Alternatively, a client who began at level 7 and ended at level 6 would actually have regressed, although he would have been counted as a functional client who remained functional. More refined measurements of client outcome are suggested by three relative categories: (1) clients who have undergone regression (mental health status has worsened); (2) clients who have maintained their mental health status; and (3) clients whose mental health status has improved. The outcome matrix in Figure 1 (page 256) suggests these three categories of clients. All clients whose functional level at the end of the study period is lower than it was at the beginning of the study period can be identified by their placement in the regression cells. Those clients whose mental health status has remained precisely the same will be found in those cells which lie along the upper-left to the lower-right diagonal. Finally, clients whose mental health status has improved will be discovered in the improved cells in the

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[2] For explanation of the preference for scales with more than five subdivisions as a way to force more explicit decisions and choices, see J. Nunnally, Psychometric Theory, McGraw Hill, 1967, Chapters 13 and 14. See Smith, Francis J., and Newman, Frederick L. Relating Intended Mental Health Services to Actual Services, Outcomes and Costs. Paper presented to Association of Mental Health Administrators, Washington, D.C., September 25, 1975. Dr. Newman now advocates use of scales of at least seven or eight subdivisions, though the original Smith and Newman reference used fewer subdivisions.

TABLE 1

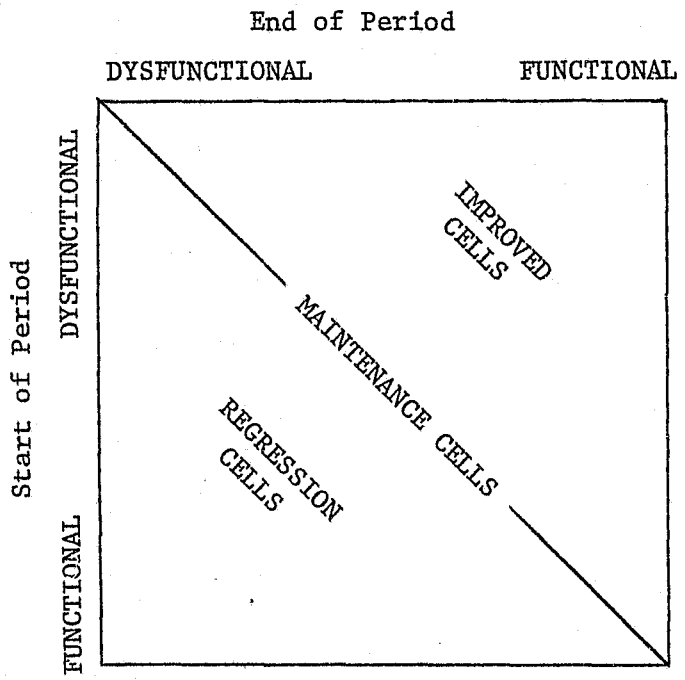
End of Time Period

(e.g., Month, Quarter, Year)

| | | DYSFUNCTIONAL | | | | | FUNCTIONAL | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| DYSFUNCTIONAL | 1 | | | | | | | | | | |
| | 2 | | | | | | | | | | |
| | 3 | | | | | | | | | | |
| | 4 | | | | | | | | | | |
| | 5 | | | | | | | | | | |
| FUNCTIONAL | 6 | | | | | | | | | | |
| | 7 | | | | | | | | | | |
| | 8 | | | | | | | | | | |
| | 9 | | | | | | | | | | |
| TOTAL | | | | | | | | | | | |

Source: Adapted from Smith and Newman, reference cited in footnote 2.

FIGURE 1




Source: Newman, Frederick L., and Sorensen, James E. Using Client Cost-Outcome Data in Program Analysis and Management: Programmed Instruction Exercises. Draft, December 1975.

table. Looking at clients in terms of improvement, maintenance, or regression pays attention to the overriding concern that change in client mental health status or social functioning is the most important variable to measure.

Other types of scales besides the function-dysfunctional scales for client outcome can be used in cost-outcome studies. Whatever scale or measure is used, it will be necessary to measure pre-study and post-study values for clients and come to some final measure of change during the course of program intervention. It is the extent of change, combined with cost data, that produces the data and cost-outcome studies that can be used for resource allocation decisions.[3]

• Step 5: Combine cost and outcome information for each program in a matrix for individual program analysis. The ultimate product of the separate collection of cost and outcome data on mental health programs is a cost-outcome matrix combining the two sets of data. A sample hypothetical cost-outcome matrix is presented in Table 2 (page 258). The sample table presents outcome data using a nine-point level-of-functioning scale. Clients are categorized by their level of functioning at the beginning of three months of group therapy sessions and their level of functioning at the end of the sessions. Each entry in a cell of the table includes the total cost of treating the clients in that cell, the total number of clients in the cell, and the average cost of treating each client in the cell. All told, 100 clients were seen for a total expenditure of $85,000. The grand total of costs and patients is shown in the cell in the upper-left corner ($85,000, 100 patients, an average cost ("x") of $850). Tested functioning levels of before treatment are shown for all 100 patients in the cells along the left side of the page. The same patients are regrouped as tested at the end of the three month treatment period, and the results are shown in cells at levels 1, 4 and 5 along the top of the page. The table shows three categories: regressed, maintained and improved. Ten patients regressed from level 5 to level 4 at a total cost of $11,000. Sixty patients were maintained at a total cost of $55,000 (levels shown within the shaded cells). Thirty patients improved, the cost being $19,000. Five moved from level 3 to level 4; 25 moved from level 4 to level 5.

The program's net effect, then, was to produce improvement in 30 clients at a total cost of $85,000, or $850 per improved client. A slightly more abstract interpretation recognizes that it is not number of improved clients that should be measured, but net number of levels of function gained (or

[3]The meticulous program evaluator will also consider whether so-called "retest effects" are in evidence in such multiple measurement studies. The methodology of measuring retest effects is beyond the scope of this manual. The reader is referred to Windle, Charles, Test-Retest Effect on Personality Questionnaires, Educational and Psychological Measurement, 14 (4): 617-633, 1954; and Windle, Charles, Further Studies of Test-Retest Effect on Personality Questionnaires, Educational and Psychological Measurement, 15 (3): 246-253, 1955.

TABLE 2

COST OUTCOME MATRIX*

TARGET GROUP: MH Adults, Ages 45-64

| | | | ENDING LEVEL OF FUNCTIONING AS OF MARCH 31st | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | TOTALS $85,000 N=100 X=$850 | END | $40,000 20 $2,000 | | | $30,000 50 $ 600 | $15,000 30 $ 500 | | | | |
| | START | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| STARTING LEVEL OF FUNCTIONING AS OF JANUARY 1st | $40,000 20 $2,000 | 1 | | | | | | | | | |
| | | 2 | | | | | | | | | |
| | $ 5,000 5 $1,000 | 3 | | | | $5,000 5 $1,000 | | | | | |
| | $28,000 60 $ 446 | 4 | | | | | $14,000 25 $ 560 | | | | |
| | $12,000 15 $ 800 | 5 | | | | $11,000 10 $1,100 | | | | | |
| | | 6 | | | | | | | | | |
| | | 7 | | | | | | | | | |
| | | 8 | | | | | | | | | |
| | | 9 | | | | | | | | | |

Sample Cost Outcome Matrix of 100 MH clients, Ages 45-64. N=100; Total Costs=$85,000; Average Costs=$850.

- Shaded Cells = *Maintained* Level Over Period
- Cells Above Shading = *Improved* Level of Functioning
- Cells Below Shading = *Regressed* Level of Functioning

*Newman, Frederick L., Burwell, Barbara A., Underhill, William, and Deegan, Elizabeth. Summary Description of a Client Oriented Cost Outcome System of Program Analysis, July, 1976. Address Dr. Newman for reprints at Eastern Pennsylvania Psychiatric Institute, Henry Avenue and Abbottsford Road, Philadelphia, Pennsylvania 19129.

lost). In this case, ten clients regressed a total of 10 levels of function, and 30 clients improved a total of 30 levels of function. A gain of 20 levels of function was the program's net effect, for an approximate cost of $4,250 per level of function gained. It would be more literally meaningful to use this interpretation in instances in which the clinicians, evaluators (and clients) were agreed that the "distance" between adjacent levels of functioning were equal. Even without this assurance, if the same instruments and criteria are used for different programs being compared, the comparison should be reasonably valid if the levels of initial functioning and the amounts of change are similar in the alternative programs.

The more information we have about characteristics which distinguish clients, the more useful the cost-outcome data can become. For example, suppose we know that levels 3, 4 and 5 clients who participated in this group therapy program could be divided into two groups: those who had been hospitalized and those who had not. We could then construct a cost-outcome table for each of these hypothetical groups, as shown in Tables 3 and 4 (page 260).

Table 3 portrays 25 clients who had been hospitalized prior to enrollment in the current program. Of these 25 clients, ten regressed a total of ten levels of function; 10 maintained their level of function; and five improved a total of five levels of function. The program's net effect on these clients was five regressed clients, or five levels of function lost. Cost per improved client was thus $3,400, and cost per level of function lost or loss in levels (5) happened to equal gross gain in levels (5).

Table 4 shows the effects of the current group therapy program on clients who had not previously been hospitalized. From this table, we see that no clients regressed and no levels of function were lost; 30 maintained their level of function; and 30 improved a total of 30 levels of function. The program's net effect on these clients was thus 30 improved clients and 30 levels of function gained. Cost per improved client was $408 and the same per level of function gained.

Assuming that the two client groups are similar with respect to basic population characteristics,[4] cost-outcome data from Tables 3 and 4 thus seem to show that the most effective use of the CMHC's resources in the example is to apply the program to clients not previously involved in hospitalization. Cost per level of function gained for first-time clients was $408, while it was $3,400 for previous patients. If the CMHC were confronted with the need to limit client participation in the current program due to budget constraints, the evidence might suggest that the program not include previously hospitalized. However, other factors should also be considered. If the gains made among the previously hospitalized were at such a level as to enable previously marginally functioning persons to achieve a clearly functional level, the social value of the result might argue for some action other than

[4]Probably not a wise assumption. The evaluator would do well to specifically compare characteristics of client groups to test the validity of the comparison.

TABLE 3*

Previous Hospitalization History

| Start \ Finish | 3 | 4 | 5 |
|---|---|---|---|
| 3 | - | - | - |
| 4 | - | $4,000<br>5<br>$800 | $1,000<br>5<br>$200 |
| 5 | | $11,000<br>10<br>$1,100 | $1,000<br>5<br>$200 |

TABLE 4*

No Previous Hospitalization History

| Start \ Finish | 3 | 4 | 5 |
|---|---|---|---|
| 3 | - | $5,000<br>5<br>$1,000 | - |
| 4 | - | $10,000<br>30<br>$333 | $14,000<br>25<br>$560 |
| 5 | - | - | - |

*Adapted from Newman, Burwell, Underhill and Deegan (see source cited for Table 2, p. 258).

rigid exclusion of second-time participants. Do the data, for example, reveal anything about what characteristics identify those most likely to profit from a second sequence of group therapy sessions?

Further interpretation may also be possible. Suppose we know that some demographically matched clients in the current group therapy program had been exposed (or not) to a special counseling program just before entering the current program. We would construct two cost-outcome tables to study the effects of the special counseling program. Such data are given in Table 5 and 6 (page 262).

From Table 5, clients who participated in the special counseling program, we see that no clients regressed, 6 maintained their level of function, and 8 gained a total of 8 levels of function. Net program effects on these clients were 8 improved clients and 8 levels of function gained. Cost per level of function gained was $1188.

From Table 6, clients not participating in the special counseling program, we know that six clients regressed a total of six levels of function, and 14 gained a total of 14 levels of function. Eight levels of function was the net gain, at a cost per level of function gained of $1638.

Remember that comparison is valid because we are able to demonstrate that the two client groups were similar with respect to basic population characteristics. The cost-outcome comparisons from Tables 5 and 6 suggest that the special counseling program did appear to improve a client's likelihood of increasing his level of functioning as a result of participation in the group therapy program. Cost per level of function gained in special counseling participants was lower than for special counseling nonparticipants. Such a finding may suggest that the CMHC continue the special counseling program for clients who are scheduled to participate in the group therapy program--based on comparability of the two groups of clients in other respects, and also assuming that the special counseling program was intended or could reasonably be expected to accelerate the progress of persons later enrolled in group therapy. In practice, those who had special counseling probably constitute a group only in terms of this one characteristic. Why these clients were counseled and how the counseling experience led to (or was arbitrarily followed by) enrollment in group therapy should also be studied, if Center records include reasonably explicit treatment plans for all clients. Available information, available client insights and common sense should most emphatically be used at every step of the process of evaluating cost-effectiveness.

- Step 6: Compare cost-outcome matrices for multiple programs, techniques, or modalities in the performance of cost-effectiveness analysis. To some extent, we have already accomplished this task in some of the above comparisons of matrices. In this section, we mention a further refinement of the method and describe an overall decision table useful in cost-effectiveness analysis. Given the data used in Tables 3-6, a program

TABLE 5

Participants in Special Counseling Program

| Level of Functioning at Start of Period | Level of Functioning at End of Period: 3 | 4 | 5 |
|---|---|---|---|
| 3 | - | $1,800<br>2<br>[$900] | - |
| 4 | - | $4,000<br>4<br>[$1,000] | $3,000<br>6<br>[$500] |
| 5 | - | - | $700<br>2<br>[$350] |

TABLE 6

No Special Counseling Program

| Level of Functioning at Start of Period | Level of Functioning at End of Period: 3 | 4 | 5 |
|---|---|---|---|
| 3 | - | $800<br>1<br>[$800] | - |
| 4 | - | $3,000<br>6<br>[$500] | $3,600<br>6<br>[$600] |
| 5 | - | $5,400<br>6<br>[$900] | $300<br>1<br>[$300] |

evaluator might want to know what combination of prior group therapy, special counseling, and current group therapy was the most cost-effective. Newman and Sorensen[5] describe a mechanism for answering such a question in their program instruction exercises on using client cost-outcome data in program analysis and management. The mechanism incorporates ranking various combinations of programs by certain key criteria (number of clients improved, cost per client, etc.). This exercise is complex enough to be beyond the scope of this manual, but evaluators can be alerted by its existence to the continued development of cost-effectiveness methods and the potential value of keeping abreast of progress.

A more fundamental question to ask is how to use these comparisons of cost-outcome matrices in cost-effectiveness decisions. Figure 2 (page 265) presents a matrix of cost-effectiveness decision rules. Two programs, A and B, can be compared in cost-outcome analysis on two dimensions: the cost of A relative to B and the outcome of A relative to B. There are nine possible combinations of statements about relative effectiveness and cost of programs A and B. In seven of these situations decisions are clear:

(1) Where A is as effective as B and less costly, choose A.

(2) Where A is more effective than B and less costly, choose A.

(3) Where A is less effective than B and just as costly, choose B.

(4) Where A is as effective and as costly, the choice is immaterial.

(5) Where A is more effective and just as costly, choose A.

(6) Where A is less effective and more costly, choose B.

(7) Where A is as effective and more costly, choose B.

The table cannot give decision rules for the two most difficult decision areas where A is less effective and less costly than B and where A is more effective and more costly than B. In these two circumstances, it is necessary to know the cost per unit of outcome or the outcome per unit cost of the two programs. The rationale behind decisions based on cost-effectiveness analysis is the maximization of outcome per fixed expenditure or the minimization of expenditure per unit outcome. Explicit comparison of these quantitative measures is needed when confronted with situations

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[5] Newman, Frederick L., and Sorensen, James E. Using Client Cost-Outcome Data in Program Analysis and Management: Programmed Instruction Exercises. Draft, December 1975. See source for Table 2 (page 258) for Dr. Newman's current address.

such as are found in the upper-left or lower-right quadrants on the cost-effectiveness matrix. Furthermore, it is not clear that cost-outcome data are alone sufficient to make such decisions in these circumstances. For example, even though A is less effective and less costly, it may not meet a minimum level of effectiveness required. Similarly, where B may be more effective and more costly, it may exceed budget availability or attainable fee levels, so that its choice is essentially impossible. In these intermediate cases, cost-effectiveness studies may nevertheless be valuable. They demonstrate and to some extent validate what was probably suspected in advance: that the program alternatives are different enough in crucial aspects to be very difficult to compare in cost-effectiveness, so that other means should be sought to assist the clinical and managerial decision-makers, or program variations considered that might legitimately change one or more of the programs to make them more nearly comparable (e.g., doing something to raise the effectiveness of the less effective program, or leaving out something to reduce the cost of the more costly program, and later measuring the effects of <u>these</u> changes on the program alternative in which they were introduced. It is also possible then to make a recomparison of the cost-effectiveness of the modified program with its original [and unmodified] alternative, and thus sometimes to change an indeterminate case into one that can be determined. The effort, of course, is worthwhile only where relatively large amounts of resource are at stake.)

FIGURE 2

Cost-Effectiveness Decision Rules

| | | COST OF A RELATIVE TO B | | |
|---|---|---|---|---|
| | | A is LESS COSTLY | A is EQUALLY COSTLY | A is MORE COSTLY |
| OUTCOME OF A RELATIVE TO B | A is LESS EFFECTIVE | *1* ? | *4* CHOOSE B | *7* CHOOSE B |
| | A is EQUALLY EFFECTIVE | *2* CHOOSE A | *5* NO DIFFERENCE | *8* CHOOSE B |
| | A is MORE EFFECTIVE | *3* CHOOSE A | *6* CHOOSE A | *9* ? |

Source: Adapted from Fishman, Daniel B. Suggested Guidelines for Utilizing the 2% Evaluation Funds in the Emergent CMHC Legislation: A Cost-Effectiveness Approach. Paper presented to National Council of Community Mental Health Centers, Washington, D.C., February 23-26, 1975. Expected to be incorporated or adapted for impending NIMH publication.

## C. CONCLUSION

It may be some years before cost-effectiveness approaches are developed to the point that it is clear in advance when it is appropriate to use them, and reasonable to expect worthwhile results.[6] Happily not too much work is required to make preliminary calculations, if appropriate data are available. Since these data are useful and are generally required in some form, for other purposes, many possibilities to try the technique can be expected to present themselves. The evaluator does need to look for them; the evaluator certainly needs to work closely with program directors and senior clinicians in selecting and developing favorable opportunities. The basic value of comparisons between or among programs is great. That value justifies undertaking a certain number of cost-effectiveness studies that cannot be completed or will not lead to definitive results. It would probably be appropriate for all CMHC program evaluators, once they become reasonably well experienced and accepted by their colleagues, to make cost-

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[6] Valuable work to develop and apply the methodology can be expected from persons interested in proving particular points as scientifically as possible, but also connected to a point of view which could be a difficult one for an evaluator in a CMHC to espouse, under given circumstances. It may be inappropriate, for example, for a CMHC evaluator to propose that two modes of psychotherapy in use in the Center be compared, if one is the approach favored by the Center director and the other is supported primarily by a "dissident" but insistent therapist, even though the potential value of such a comparison might be great. Because neither side can afford to lose, the study will probably be discredited if done by the evaluator in isolation. Because two such clinicians will not necessarily collaborate in the absence of some powerful influence to make them want to do so, the study possibly cannot be made in a way that elicits necessary clinical cooperation from both "programs" (unless a major external source is pressing for such a study, or for a decision between the two therapies). Evaluators should keep their eyes on the literature for reports of studies, a series of which on a particular issue will undoubtedly greatly clarify issues of great clinical and managerial importance. For an interesting analysis (written by two psychologists) comparing the cost-effectiveness of psychologists and psychiatrists in treating schizophrenia, see Karon, Bertram P., and Vandenbos, Gary R., Cost/Benefit Analysis: Psychologist versus Psychiatrist for Schizophrenics, Professional Psychology, 7:107-111, February 1976. In this case, the investigators concluded that psychologists obtained better results with hospitalized schizophrenics and achieved these results at considerably less cost. The cost differential was related strongly to the difference in level of remuneration ($35/hour for experienced psychiatrists; $25/hour for experienced psychologists). The outcome measure used was performance on the Drasgow-Feldman Visual-Verbal Test to ascertain patient ability to think logically. Both types of therapists achieved better results more cheaply than hospitalization with medication but without psychotherapy. Other measures (e.g., "community adjustment") could conceivably result in different findings, and it is predictable that other comparisons will be made, also usefully.

effectiveness studies an explicit part of planning their own use of time and their own priorities. They should consider, and discuss with Center management and program directors, such questions as: How much effort in total could or should be devoted to cost-effectiveness investigations? What programs, therapeutic modalities, or service elements could be beneficially compared and what are the priorities for such comparisons? How can the study process be organized to include clinicians and evaluators in a collaborative venture, in which both are likely to learn things of value about the programs being compared and about methods of comparison?

## REFERENCES


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Excellent description of the development of an information system to support cost-outcome analysis, followed by an actual case study of cost-outcome analysis.

Carter, Dale E., and Newman, Frederick L. A Client-Oriented System of Mental Health Service Delivery and Program Management: A Workbook and Guide. In press as Series C, Number 12, of the Biometry Methodology Series, from NIMH.

Contains a lengthy example of cost-outcome analysis in a hypothetical case study.

Fishman, Daniel B. Development and Testing of a Cost-Effectiveness Methodology for CMHCs. NTIS Evaluation Study Reports Accession Nos. PB-246-676 (Volume I), PB-246-677 (Volume II) and PB-246-678 (Appendix 1A). Springfield, Virginia: National Technical Information Service (1975).

The theory and applications of cost-effectiveness analysis; provides detailed discussion of an information system and data collection forms used in cost-effectiveness studies.

Fishman, Daniel B. Suggested Guidelines for Utilizing the 2% Evaluation Funds in the Emergent CMHC Legislation: A Cost-Effectiveness Approach. Paper presented to the National Council of Community Mental Health Centers, Washington, D.C., February 23-26, 1975.

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Very readable exercises on cost-finding and cost-outcome analysis.

Smith, Francis J., and Newman, Frederick L. Relating Intended Mental Health Services to Actual Services, Outcomes, and Costs. Paper presented at National Meeting of the Association of Mental Health Administrators, Washington, D.C., September 1975.

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Sorensen, James E. Understanding and Using Cost-Outcome and Cost-Effectiveness in Program Management. Paper presented at the National Convention of the Association of Mental Health Administrators, Washington, D.C., 1975.

Brief overview stressing relationship between cost-outcome and cost-effectiveness analysis.

Sorensen, James E., and Newman, Frederick L. Using Cost-Outcome Analysis to Develop Cost-Effectiveness for Program Evaluation, Exercise III: Cost-Effectiveness. Unpublished manuscript.

Oriented toward statistical analysis and testing of cost-outcome data.

Yates, Brian T. Cost-Effectiveness Analysis of Psychological Treatments: Why We Should Do It and How We Might Start. Paper presented to the Mental Health Research Institute, Palo Alto, California, June 1975.

Extended discussion of the steps, advantages, and pitfalls of cost-effectiveness studies. No case studies or calculations are presented.

# CHAPTER 9: DETERMINING THE EFFECTIVENESS OF CONSULTATION AND EDUCATION ACTIVITIES

## A. INTRODUCTION

In some ways consultation and education (C&E) activities are the most unique set of services that CMHCs provide.[1] There is a developing but at the moment somewhat limited body of knowledge related to the evaluation and conduct of consultation and education activities. Part of the reason that material is limited owes to the lack of clarity with which C&E activities are often conducted. Consultation and education programs sometimes lack specified objectives, delineated recipient groups, or specified methods that would permit a thoroughgoing program evaluation. Adequate and appropriate research models and techniques that might fairly represent the complexity of such C&E programs are frequently lacking. C&E activities often are organizationally complex, have multiple goals, involve a spreading circle of persons not originally involved, and experience unanticipated consequences, both positive and negative. They are directly and quickly influenced by their own intended and unintended outputs. This further complicates the task of measuring their effectiveness.

The program evaluator must be conscious of the variety of objectives and approaches that exist within C&E, to avoid the mistaken attempt to evaluate for outcomes that are not being sought, and to keep away from undertaking to assess processes other than those actually in use in a particular consultation or training project. Consultation may be intended to accelerate an ongoing process, to inject expertise into the solution of a problem, to provide external judgment(s) by an expert, to provide clarification or a fresh approach in a stagnant or conflict-ridden situation, or to inject a mental-healthy perspective into a traditional institution. Education may be cognitive, conceptual and rational, in which cases the intention is to transfer information from a teacher to a learner in an orderly arrangement. Education may also constitute skill-building by providing guided practice or by other experiential means. It can imply attitude change, knowledge change, relationship change or other kinds of behavioral change. It may be intended to impact in the lives of persons being taught or in the lives of others, later to be influenced by those being taught in the program itself.

The approaches to C&E evaluation presented in this chapter assume basic similarity of C&E activities and other CMHC activities:

- Goal-directed, with more or less concrete specification of goals.
- Reflecting strategic thinking to a greater or lesser extent—i.e., planning that plausibly relates the means to be used to desirable

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[1] This paragraph is based on the Hennepin County Mental Health-Mental Retardation Area Program Reporting Package, provided to us by Harvey Tillman of the Hennepin County MH-MR Area Program, 527 Park Avenue, Minnepolis, Minnesota 55415.

and worthwhile ends, and does so in potentially testable ways.

- Explicit, declared relationship to improving the mental health of persons in the catchment area.

- Clinical knowledge and expertise required to be used, directly or otherwise.

What the evaluator must know in order to evaluate C&E activities is not very different from what he must know in order to evaluate direct service activities. In general, he is attempting to discover whether planned behavioral change has been brought about within a described clientele, to help determine whether the effort required was small enough to make the project worthwhile, and to assess the skill and efficiency with which the attempt was made.

C&E was always among the mandated services for CMHCs. The passage of PL 94-63 further singled them out by making categorical grants available for C&E. Program evaluation guidelines require estimates of the impact of C&E in attaining the Center's program goals and suggest that at a minimum CMHCs gather the opinions of the recipients on the results of these services, using appropriate procedures to achieve candid and accurate judgments, and making comparisons between the relative efficiency of direct and indirect services in achieving program goals. This chapter presents several alternative methods to obtain client (consultee) judgments of effectiveness, in different settings, and also summarizes how to use goal attainment scaling in evaluating C&E.

The techniques described below do point the way toward a relatively complete evaluation system for C&E. But only the "Data Base" (Section F, page 287) even aims toward an integrated system.

One simplistic conceptualization is that a C&E evaluation system should aim toward answering all four of the following questions:

(1) Who is doing what when? Answered by a staff activity data system which categorizes type of C&E activity and recipient.

(2) What do they hope to accomplish? Answered through some sort of expectations or goals assessment technique.

(3) How do they plan to get there? Answered by a statement of consultation strategies.

(4) How are they now progressing toward the goals, in relation to some form of cost assessment?

The tools presented later in this chapter assist in answering some of these questions, as indicated in the following matrix:

Parts of a Total Evaluation System
Addressed by the Instruments Presented

| Section of Chapter | Instrument or Technique | Questions Addressed (see page 270) (1) | (2) | (3) | (4) |
|---|---|---|---|---|---|
| Section B | Worksheet | x | | | |
| Section C | Expectations Form | | x | | x |
| Section D | Student Rating Scale | | x | | x |
| Section E | Goal Attainment | | x | | x |
| Section F | Data Base | x | x | x | x |

Evaluators are encouraged to experiment with some of these techniques and to work at establishing a complete approach as time, resources, priorities and the availability of appropriate tools will dictate.[2] Nothing in this chapter should inhibit the development of simple individual instruments to evaluate consumer response to workshops, seminars, or special programs on such subjects as mental health principles. Nor should a Center neglect simple, periodic soliciting of client satisfaction from all its consultees. Peninsula Hospital CMHC has reported very high rates of return on these kinds of instruments, using active follow-up.

## B. THE CONSULTATION AND EDUCATION WORKSHEET[3]

This simple reporting form is included because it clarifies the input data needed for evaluating a range of C&E activities and presents a simple method of collecting those data. As in the case of direct services, so with C&E: an essential step toward program evaluation is to assemble consistent descriptive information on which to base explicit evaluative judgments.

### What is the technique?

The Consultation and Education Worksheet is a form for identifying the recipient of consultation and education services, the services provided, the expected outcomes, and other relevant information. It provides a relatively simple means for generating data on C&E activities and expected outcomes (see Exhibit 1, page 272). Thus it prepares the way for outcome analysis, but is

[2] For much of the systematization of this chapter and a large number of particularly helpful practical suggestions, we are indebted to Pamela Gunnell of the Wyandot Mental Health Center, Inc., Eaton at 36th Avenue, Kansas City, Kansas 66103.

[3] Based on the Hennepin County Mental Health-Mental Retardation Area Program Reporting Package (see footnote 1).

EXHIBIT 1

(Source: Hennepin County Mental Health-Mental Retardation Area Program Reporting Package. See footnote 1.)

EMPLOYEE IDENTIFICATION _____

(1-4) AGENCY CODE __ __ __ __

CONSULTATION AND EDUCATION WORKSHEET

| RECIPIENT IDENTIFICATION | (5-9) DATE | (10) TYPE* | (11) NATURE 1 = MH 2 = MR 3 = BOTH | (12) KIND ** | (13) METHOD*** | (14-15) AREA **** | (16-18) TIME | (19-21) NUMBER OF RECIPIENTS INVOLVED (leave blank for #1 of "Method") | EXPECTED OUTCOME AND MISCELLANEOUS COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 1. | | | | | | | | | |
| 2. | | | | | | | | | |
| 3. | | | | | | | | | |
| 4. | | | | | | | | | |
| 5. | | | | | | | | | |
| 6. | | | | | | | | | |
| 7. | | | | | | | | | |
| 8. | | | | | | | | | |
| 9. | | | | | | | | | |
| 10. | | | | | | | | | |

* 1. Human Services Agencies or Individual Practitioners
2. Schools, Colleges, and Universities
3. Church or Religious Institutions
4. Business or Industrial Firms
5. Television, Radio Stations, Newspapers and Other Media
6. Civic or Professional Groups or Associations or Special Interest Groups
7. Individual or Family
8. Community or Neighborhood Groups
9. Law Enforcement Agencies

** 1 = Client-centered Consultation
2 = Consultee-centered Consultation
3 = Agency-centered Consultation
4 = Community-centered Consultation
5 = Community Education

*** 1 = Written
2 = Telephone
3 = On-Site (face-to-face)
4 = Off-Site (face-to-face)

**** 01. Central
02. North
03. Northeast
04. Southwest
05. Southeast
06. Northwest Suburban
07. South Suburban
08. West Suburban
09. Hennepin County
10. Outside Hennepin County

not sufficient for that purpose without later investigation of what the outcomes actually were.

The "Data Base" system described in Section F (page 287) contains one similar form (the "indirect contact form," which is accordingly not reproduced below). The Data Base system shows how to incorporate a simple information collection device like the C&E Worksheet into a more completely articulated system.

When should the technique be used and what are its limitations?

When: This technique is most usefully applied when the Center does not formally and regularly collect records on its consultation and education activities (e.g., in its MIS). Data collected on the form can be used over time to accumulate a list of primary recipients of Center C&E activities, and as an aid in developing coherent and problem-oriented programs for those recipient agencies. Additionally, the form can be used to help the Center identify or categorize the kinds of consultation it is providing. This information can be used for planning and defining C&E staff qualifications and generating training programs for community agency personnel. A sub-area code is embodied in the form to delineate subareas of the catchment area. Data then collected from the form over time can help the Center to identify locations for prospective satellites, to judge equity, and to relate particular populations and particular approaches to C&E. One easy extension of the approach is to fill out an "intake" sheet for each C&E project that parallels the client information component of the management information system,[4] and thus to make parallel or analogous information readily available for indirect as well as direct services.

Limitations: The C&E Worksheet simply collects descriptive information about the consultation without focusing on outputs or measurement of the effectiveness.

How do you implement the technique?

Before implementation, make sure that the categories suggested in the form satisfy the purposes of the data collection (e.g., annual report of CMHC, federal Biometry Inventory, state or special grant requirements).

For each consultation and education activity carried out, the consulting staff member makes a separate entry on the staff member's own individual Consultation and Education Worksheet. If during an individual intervention there are different activities carried out, one line is to be used to record each activity. The form provides for the following kinds of information notation:

---

[4]Broskowski, A.; Driscoll, J.; and Schulberg, C.A. Managing and Evaluating Indirect Services: MIPS. In: Attkisson, C.C.; Hargreaves, W.A.; Horowitz, M.J.; and Sorensen, J.E. (Eds.). Evaluation of Human Service Programs. New York: Academic Press, 1976.

- Recipient identification: Provide the name of each recipient. For matters involving confidentiality, use only the recipient's initials.

- Date: Enter month and day when the activity occurred--e.g., 11/25.

- Type of recipient: Code as listed on the bottom of the form (Exhibit 1).

- Nature of problems: State the emphasis of the C&E project by major problem area--e.g., mental health, mental retardation, or some narrower categorization that the C&E staff or the evaluator deem more appropriate.

- Kind of C&E activity: Code as indicated on the bottom of the form.

- Method: Self-explanatory, from code on the form.

- Recipient's primary target areas: Adapt and use a recipient's target code. A zip code conversion key to planning area and maps of the planning area could be developed instead.

- Actual number of recipients involving contact: This number is a total head count of individuals directly involved. It provides a crude measure of the extent of services provided. Leave this item blank if the primary method is "written materials."

- Time: Enter actual total man-minutes involved with the activity. It is suggested that any activity less than 15 minutes not be counted. Time will include preparation, travel, and all staff follow-up.

- Expected outcome: Enter a brief description of why the C&E contact was made. This is the first step in eventually systematizing expected outcomes of consultation and education interventions.

If the form is reorganized into index cards, with the same information gathered but recorded one contact per card, information retrieval for varied administrative purposes will be easier. Cards would normally be grouped by C&E recipient, and perhaps further organized into larger categories by type of consultee or geographical area. The very order of the cards would thus permit questions about location, density, and continuity of contact to be answered directly by counting the categories, or counting cards within categories.

What is the level of effort required?

Estimated resource requirements:

- Mandays: Less than five minutes per entry.

- Professional levels required: The consulting clinician.

- Elapsed time: Results can be usefully aggregated at six-month intervals.

Limitations of these estimates:

- Indeterminacy: The utility of aggregating the results of the worksheet depends on the amount and range of consultation and education activities of the Center. A sufficient experience pool should be accumulated before attempting to identify primary recipients, methods, or modes of C&E activities.

What is the primary source of information about this technique?

The Hennepin County Mental Health-Mental Retardation Area Program, 527 Park Avenue, Minneapolis, Minnesota 55415, has used this form in its mental health-mental retardation reporting packages for over a year. Its effectiveness as an evaluation and management reporting tool is currently being evaluated.

## C. OUTCOMES OF INDIRECT SERVICES IN CLIENT-CENTERED STAFF DEVELOPMENT PROGRAM CONSULTATION: ASCERTAINING CONSULTEE AND CONSULTANT EXPECTATIONS AND SPECIFYING OUTCOMES

What is the technique?

This technique is embodied in a one-page form listing a series of questions about outcomes. It provides a simple way to ascertain and clarify the general expectations of both consultant and consultee at the outset of consultation and later to determine the degree to which these expectations and other changes were realized.

When should the technique be used and what are its limitations?

When: This approach is of potential value to evaluating a very wide range of C&E activities. It can be used to facilitate a C&E activity by increasing mutual understanding, to focus the work to be undertaken, and to involve the consultee in the design and redesign of the work. The form can also be made to serve as an operational contract between the consultant and consultee, when other methods of contract negotiation and effectiveness are lacking or not formulated. It can be used also as a feedback device periodically during the course of the consultation and at its conclusion.

Use of this technique over several consultations provides background in developing a more comprehensive approach to client-centered staff development, or as a building block in developing agency-centered staff development consultation and project development.

Limitations: The form presented (Exhibit 2, page 277) is general, but can be adapted to a specific program situation. On the other hand, any particular form may turn out to be too rigid to reflect changes in expectations as the consultation progresses.

Additionally, the form may be subject to positive bias, exaggerating client satisfaction as a way of saying "thank you." Expectation-outcome comparisons beyond those that fall out of the use of this form may be necessary on a more specific level to overcome this bias.

How do you implement the technique?

This technique has three elements and one optional element:

- Initial expectations: At the outset of the consultation, consultant and consultee each separately fill out the form to specify and prioritize the expectations of each. If there are multiple consultees, each should fill out a form and a group meeting should then be held to fill out a group form. Each consultee should be made aware in advance of the initial expectations of the others.

- Consultant and consultee next negotiate feasible and shared expectations for the consultation, using a joint form to reflect their new understandings. Important discrepancies--that is, disagreements about expectations --between consultant and consultee should be noted at this time. Both parties may then decide how critical to the consultation such discrepancies are. If they are critical, it may be necessary to renegotiate or even to abort the consultation. This form will function as a contract between consultant and consultee and should indicate specific activities to be undertaken by both. The form must reflect a genuine meeting of the minds.

- At the conclusion of the consultation, each party independently fills out the form, this time reflecting whether or not progress on each of the items has been "none," "slight," "considerable," or "major."

- Parties compare their evaluations. Where discrepancies exist, discussion is pursued to arrive at a joint understanding of the degree of progress on that particular goal. Such discussion can deepen both parties' understanding of the goals promulgated and the progress obtained. The final, mutually developed form functions as an evaluation measure. Where significant disagreements about outcomes exist, a third-party consultant--possibly the Center's evaluation specialist--may be brought in to diagnose the discrepancy and to help formulate further action steps that might be taken to resolve the situation.

- Optional element: A mutually agreed-upon set of outcomes, reflecting discussion and deeper learning on the part of consultant and consultee, can be taken as the basis for contract revision, declaration of a revised set of expectations, and a new round of activity.

EXHIBIT 2

Agency _____ Date _____

Name _____

What will the eventual benefits be [what were the outcomes] of this consultation? Check the appropriate column for every statement, adding statements as you wish on the reverse side.

| | Benefits | | | |
|---|---|---|---|---|
| | None | Slight | Considerable | Major |
| 1. Increased specific knowledge in identifying classes of problems or potential problems (high risk groups). | | | | |
| 2. Increased skill in alleviating classes of problems or potential problems (high risk groups). | | | | |
| 3. Increased general knowledge of "normal" and "abnormal" patterns of behavior. | | | | |
| 4. Increased general knowledge regarding interactions of people at different life stages. | | | | |
| 5. Direct advice from consultant on presented cases. | | | | |
| 6. Assistance from consultant in finding possible solutions for presented cases. | | | | |
| 7. Ideas for programs that might be of value. | | | | |
| 8. Increased confidence in carrying out daily work. | | | | |
| 9. Better understanding of how personal behavior affects others in interactions with them. | | | | |
| 10. Recommendations by consultant based upon his interviews with problem clients. | | | | |
| 11. Assistance in referring clients for treatment. | | | | |
| 12. Other: _____ | | | | |
| 13. Other: _____ | | | | |

Source: Adapted from Montague, Ernest K., and Taylor, Elaine N. Preliminary Handbook on Procedures for Evaluating Mental Health Indirect Service Programs in Schools, p. 40. Alexandria, Virginia: Human Resources Research Organization, 1971.

N.b. This approach can be adapted to a group environment with a consultant-leader and a number of consultee-participants, either through group meetings backed up by individual consultations or strictly in groups. Group consultations may lose some of the sharpness of the more individual approaches, and group evaluations may be swayed by internal dynamics of the group that are irrelevant to the consultative process and its outcomes; but the evaluator should recognize that precision of the evaluation may need to give way to other qualities such as the (sometimes) greater potential of group consultation to result in committed behavior change among consultees.

What is the level of effort required?

Estimated resource requirements:

- Mandays: (1) Initial expectations: one half hour for n people; sharing and mutual expectations: 2 hours for n people. (2) Individual outcomes: 1 hour for n people; final mutual outcomes: 2-4 hours for n people; total activity: 6-1/2 hours x n.

- Professional levels required: The consultant, the consultee and possibly an outside third party at the conclusion of the consultation will all represent professional capabilities.

- Elapsed time: Variable.

- Other resources required: None.

Limitations of these estimates:

- Indeterminacy: The negotiations that result in the initial consultation itself will influence the amount of time needed to complete this form. When earlier negotiations have been fairly complete, resulting in a close match of consultant expectations and client expectations, the form itself will take less negotiation.

What is the primary source of information about this technique?

- Montague, E.K., and Taylor, E.N. Handbook on Procedures for Evaluating Mental Health Indirect Service Programs in Schools. Alexandria, Virginia: Human Resources Research Organization, 1971.

## D. A STUDENT RATING SCALE FOR TEACHER'S USE

What is the technique?

This technique is intended to assess the mental health skills needed in a C&E activity to a school. It consists of a rating tool for teachers to use

in identifying students with behavior problems, specifying those behaviors and rating their relative severity. The scale can be used to "measure" changes in those problem behaviors. It is therefore potentially useful for evaluating C&E activities directed toward improving teacher capability to cope with those behaviors.

When should the technique be used and what are its limitations?

When:

- On starting a C&E activity with a teacher or group of teachers, to help them and the consultants to identify the extent and types of behavior problems for which help from consultants is needed.

- During and after the consultation, to determine progress in dealing with problem behaviors. The scale indirectly measures the progress of the consultation in meeting the teacher's needs.

- The scale can be used to select groups of students with similar problem behaviors on which a treatment program can focus and to select control or comparison groups in order to study the impact of different programs.

Limitations:

- All judgments on the scale are subjective. Without considerable overlap among raters or independent knowledge of the persons being rated, it is difficult to determine inter-rater reliability. If the consultant, too, observes the teacher's class, noting previously identified problem children and independently rating their behavioral problems, an improved basis for assessing inter-rater reliability can be developed. (At least the criteria for inclusion can be thus compared among raters, even though criteria for exclusion remain invisible and thus uncompared, unless a sample of children judged to be without serious problems is also rated by the consultant.)

- If the scale is applied by teachers or those involved in treatment, there is a built-in bias to show progress. To reduce this bias, fresh forms can be used in making the "after" rating, so that the previous rating is at least not visible to the rater.

- This instrument is applicable only to one particular approach to school consultation. Furthermore, the subjective rating process on which it is based is subject to criticism because labeling itself is believed by many social scientists to be harmful (especially those working with adolescents in trouble with the law). The label is thought to bias the behavior of persons aware of the label in a self-fulfilling way. The program evaluator would do well to avoid forcing this form and the process it implies on school consultants who are either inexperienced or do not like the form, the labeling process, or the relationships implied between teachers and their students. But the form can certainly serve as a stimulus to devising a more highly

tailored evaluation approach to any particular mental health consultation in which the function of the consultant is to enhance the capabilities of teachers or other "community caretakers" whose actions can significantly influence the mental health of those they work with.

How do you implement the technique?

This technique has five elements:

- Familiarize teachers with the terminology on the form through discussion and examples.

- Teachers fill out the form, checking responses under number 1 for all students with problem behaviors. (See Exhibit 3, page 281.) Depending upon the number of students for whom problem behaviors are noted, a second sorting may be required to identify students with the widest range and most severe patterns of problem behaviors. It may also be useful to develop a separate roster of students rated as having none of these problems.

- The classified list of types and degrees of problem behaviors is used as the basis for consultation with each teacher.

- When progress reports or final outcomes are desired, teachers again rate students on their original problem behaviors (number 2) on a fresh form and identify new ones as these appear.

- Results of these ratings are compared with earlier ratings to measure progress and specify further activities by the consultant. Examples:

  -- More specific help for particular teachers on particular types, more frequent and more severe problems.

  -- Consultant intervention with a student.

  -- Formation of a special focus group for students with especially problematic behaviors.

What is the level of effort required?

Estimated resource requirements:

- Mandays:

  (1) Familiarization: 2-hour meeting for consultant and classroom teachers.

  (2) Initial problem identification: 3 hours for each teacher.

  (3) Second rating: 2 hours for the classroom teacher.

  (4) Interpretation, comparison of earlier and later ratings, and other program evaluation analysis: 40 hours of the evaluator's time per consulting project (one consultant, 10-15 classroom teachers, one school year).

# EXHIBIT 3

## Teacher Rating on Students

*(For indicating special problems of your students)*

1. First rating: For those students with problems that concern you, place an X in column 1 in the appropriate categories, indicating the degree by the position of your X. Do not make entries for those children who are not of special concern.

2. Second rating (later in the year): At that time, use column 2, indicating your judgment of the *current* position of the children *previously* rated. Also add any other children, not previously rated, who have developed problems of concern to you since the first rating.

| Student Name | Teacher's Degree of Concern | Classroom Habits | | | | | | Patterns of Interaction | | | | | | | | | | | | Academic Performance Below Potential | | In general, do you feel this student has improved on the problems of original concern? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Obtrusive | | | | | | Unobtrusive | | | | | | | | |
| | | Attending | | Following Directions | | Persistence | | Rebellious | | Disruptive | | Bizarre Behavior | | Withdrawn | | Over-dependent | | Isolated | | | | |
| | | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | |
| | No Concern | | | | | | | | | | | | | | | | | | | | | Yes ____ |
| | Slight | | | | | | | | | | | | | | | | | | | | | |
| | Moderate | | | | | | | | | | | | | | | | | | | | | No ____ |
| | Great | | | | | | | | | | | | | | | | | | | | | |
| | No Concern | | | | | | | | | | | | | | | | | | | | | Yes ____ |
| | Slight | | | | | | | | | | | | | | | | | | | | | |
| | Moderate | | | | | | | | | | | | | | | | | | | | | No ____ |
| | Great | | | | | | | | | | | | | | | | | | | | | |
| | No Concern | | | | | | | | | | | | | | | | | | | | | Yes ____ |
| | Slight | | | | | | | | | | | | | | | | | | | | | |
| | Moderate | | | | | | | | | | | | | | | | | | | | | No ____ |
| | Great | | | | | | | | | | | | | | | | | | | | | |
| | No Concern | | | | | | | | | | | | | | | | | | | | | Yes ____ |
| | Slight | | | | | | | | | | | | | | | | | | | | | |
| | Moderate | | | | | | | | | | | | | | | | | | | | | No ____ |
| | Great | | | | | | | | | | | | | | | | | | | | | |
| | No Concern | | | | | | | | | | | | | | | | | | | | | Yes ____ |
| | Slight | | | | | | | | | | | | | | | | | | | | | |
| | Moderate | | | | | | | | | | | | | | | | | | | | | No ____ |
| | Great | | | | | | | | | | | | | | | | | | | | | |

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- Professional levels required: Consultant, teachers and program evaluator.

- Elapsed time: Minimum of several months.

- Other resources required: None.

Limitations of these estimates:

- Adapting the form to a particular situation may require considerable developmental effort.

What are the primary sources of information about this technique?

- Bry, Brenna H., and George, Frances. The Effect of Evaluating a Drug Abuse Prevention Program: Program Improvement through Information Feedback. Paper submitted for publication. Monmouth County, New Jersey: Monmouth County Narcotics Council.

  A fairly controlled research design for evaluating effectiveness of a primary prevention program, including subject selection, random assignment to treatment and control groups, measures of attainment, and evaluation and reformulation of second-year program.

- Taylor, Elaine N.; Vineberg, Robert; and Goffard, S. James. Procedures for Surveying School Problems: Some Individual, Group and System Indicators. Alexandria, Virginia: Human Resources Research Organization, 1974.

  This approach includes instruments for assessing the behavior (diagnosing) of school systems. Although their purpose is to assist the consultant and not the evaluator in his work, use of these forms on a before and after basis could enable an evaluation to be made. In any event, the evaluator interested in developing an integrated approach to C&E activities will gain some practical awareness of instrument-guided needs assessment for C&E from this document and other reports on the same project.

## E. THE USE OF GOAL ATTAINMENT SCALING TO EVALUATE CONSULTATION AND EDUCATION SERVICES

What is the technique?

Developed originally as a method to evaluate direct services, Goal Attainment Scaling is a technique that determines outcome by assessing achievement of specific, individualized goals. However, the technique is also relevant to evaluation of indirect services including progress toward process goals, intermediate goals and outcome goals. Any number of individuals or groups of people may be involved in the process of defining and scaling the goals

of a program and assessing progress toward their achievement. Negotiation of goals in itself tends to be a beneficial process. It helps focus explicit attention on the mission of the program, helps develop consensus toward its objectives, and can serve to inhibit over-commitment and over-promising on the part of the consultant.

Goal attainment scaling has been employed in a variety of ways to evaluate consultation/education services: to assess the impact of conferences and training programs; to establish the direction and boundaries of a consultant's involvement with a program; to specify desired areas of improvement on the part of the consultee; to identify areas in which disappointed expectations require a guide for subsequent changes. Formation of explicit goals helps to crystallize expectations and can help an organization to appropriately constrain and contain its outside activities.

Goal attainment scaling has been used to evaluate many kinds of indirect services: teenage drop-in centers, parent communication centers, and hot-line services as well as many other services that fall more neatly within the traditional boundaries of consultation and education.

How do you implement the technique?

There are five stages involved in the use of goal attainment scaling to evaluate indirect services:

(1) Statement of Goals. Goals of a consultation/education program should be established collaboratively (or otherwise) by the consultant and consultee. Goals may be stated in terms of process (e.g., "attendance at seminars," "development of curriculum") or outcome (e.g., "improvement in clinical skills," "reduction in inappropriate referrals"), but should be clear, concise and realistic. Global platitudes are of little value. A time frame during which attainment will be assessed should be agreed upon before the goals are finalized. Some questions that may be helpful in establishing goals are:

- What changes are desired in the consultee or in the consultee's client situation: Changes in attitudes? The development of new skills? Changes in the behavior of the consultee's clients?
- What skills will be required in order to produce those changes in behavioral terms?
- What will be required to facilitate those changes in the consultee or client organization?

(2) Rating of Goals. Once established, each goal should be rated collaboratively by the consultant and consultee according to the form below. Numbers should be recorded in the blanks for each goal according to the following scale: 1--strongly agree; 2--agree; 3--neutral; 4--disagree; and 5--strongly disagree. Whether to include this step in the consultation or in the evaluation is a potential issue, if careful account of time utilization is important.

| | Goal 1 Rating | Goal 2 Rating | Goal 3 Rating | Goal N Rating |
|---|---|---|---|---|
| 1. The goal statement is clear. | _____ | _____ | _____ | _____ |
| 2. There will be resources available to accomplish this goal. | _____ | _____ | _____ | _____ |
| 3. There is time to accomplish this goal. | _____ | _____ | _____ | _____ |
| 4. Attainment of this goal is worthwhile. | _____ | _____ | _____ | _____ |
| 5. It is possible to attain this goal. | _____ | _____ | _____ | _____ |
| 6. The goal statement is measurable. | _____ | _____ | _____ | _____ |
| 7. The consultee is enthusiastic about the goal. | _____ | _____ | _____ | _____ |

The ratings for each goal are summed, and if the total for any goal falls below a predetermined level (for example, "25") or if any single rating is "2" or less, it should be eliminated or reexamined.

(3) Weighting Goals. Since some goals are more important than others, it is desirable that the goals surviving the rating process be weighted to indicate their comparative value. Any system of numbers may be used to weight the goals. Simplicity suggests a range of 1 to 5, but scales of 7 to 10 subdivisions force finer distinctions. "One" designates the least important goals and "5" designates the most important. The function of these numbers is to weight the outcomes of the goals so that the final Goal Attainment Score reflects the relative value of the results achieved. The comparative, rather than the absolute, value of the weights is important. In goal attainment scaling, two goals weighted "1" and "2" have the same relationship in terms of the ultimate score as if they had weights of "5" and "10." If all goals are equally important, they should all be assigned the same weight (usually "1"). Ratings for goal achievement will ultimately be multiplied by the assigned weight.

(4) Formulating Scales: Specific Measures of Goal Attainment. Once goals have been identified, evaluated and weighted, the next step is specification of five or more levels of possible outcome in relation to each. These outcomes should be presented in terms of a progression of attainment, ranging from the "most unfavorable outcome thought likely," to the "less than expected success," to the "expected level of success," to the "more than expected success," to the "best anticipated success." (See Exhibit 4, page 285.) It is generally best to begin with the "expected level of success" (middle

EXHIBIT 4

Sample Goal Attainment Follow-up Guide as a Consultation Contract

| | GOAL ATTAINMENT FOLLOW-UP GUIDE | | | |
|---|---|---|---|---|
| Levels of Predicted Attainment | Scale 1<br>CONSULTATION TO LINE COUNSELORS. | Scale 2<br>EDUCATION OF LINE COUNSELORS. | Scale 3<br>CONSULTATION TO SUPERVISORS. | Scale 4<br>ESTABLISHMENT OF PERMANENT CASE CONFERENCE SYSTEM |
| Most Unfavorable Outcome Thought Likely | Consultation program is cancelled. | None of the activities mentioned in (0) are used to enhance the skills of program staff. | Consultation experience has no impact at all on the supervisors roles or functions. | No mechanism exists for program staff to get consultation on difficult cases. |
| Less Than Expected Success | More than 1/2 of the scheduled meetings are cancelled by either party. | One-to-one consultations include only one or two of the activities mentioned in (0) | Consultation experience has not effected supervisory time spent in trouble-shooting for line counselors. | Staff receive case consultation only on informal or in-house basis. |
| Expected Level of Success | Provide regular weekly or biweekly consultation time to program staff for a period of 90 days. | Within regular consultations, audio-visual aids, selected readings, and general problem discussions are used | Provide training and consultation to supervisors on management problems, principles of supervision and organizational problems. | Continuing case conferences made available to staff on one-to-one basis as problem cases come up. |
| More Than Expected Success | As in (0), plus discussions about other kinds of consultation occuring (e.g., group consultation). | As in (0), plus interest expressed in developing topical staff seminars. | As in (0), plus supervisors spend more time in actual staff supervision and management. | Case conferences established on regular, one-to-one basis. |
| Most Favorable Outcome Thought Likely | As in (0), plus plans developed through group consensus for other kinds of consultation services. | As above, plus topical seminars begun. | As above, plus supervisors begin to function as consultants to line counseling staff. | As above, plus regular group case conferences scheduled. |

level), then fill in the two extreme cells and complete the scale by filling in the two intermediate levels. Note that the actual contents of each scale in the example in Exhibit 4 are specific, observable and realistic statements of potential outcome that have been designed to answer the following question: "Given this consultee with the existing background environment, abilities and liabilities, and given the capabilities of the consultant to deal with such issues as well as the current state of knowledge, what range of outcomes can we actually expect at the time of follow-up?"

(5) Follow-up. Evaluation of a consultation program involves follow-up of each scale to determine the outcome level that most closely resembles what actually occurred. When all scales have been scored, they can be combined into a summary Goal Attainment Score (see Chapter 7, page 209 ) which provides a general index of program success. While such a score provides one measure of how well a program achieves its goals, it is not the only useful product of goal attainment scaling. By looking at the level of success attained on each scale, detailed information can be derived on various aspects of program outcome, and the consultant may be interested in reviewing these differential outcomes in the light of the process of the consultation. The evaluation data can then be fed back into the next cycle of program planning.

What is the level of effort required?

Estimated resource requirements:

- The investment of effort required by goal attainment scaling varies widely, depending upon such considerations as (1) the number of individuals involved in the negotiation, (2) the number of goals to be negotiated, (3) whether follow-up will be in-house or done by an outside evaluator, (4) whether or not goal attainment scores will be calculated, (5) whether goals will be scaled for individual participants or for the consultation as a whole. The time required to negotiate five fully scaled goals between one consultant (familiar with goal attainment scaling) and one consultee is about one hour, with an additional 30 minutes needed to score the scales at follow-up. Follow-up assessment may be a highly time-consuming additional cost.

Limitations of these estimates:

- The use of goal attainment scaling to evaluate C&E programs becomes most difficult when there is little agreement on what the proposed program is to accomplish. The more specific and focused the program, the easier it will be to formulate, weight and scale goals appropriately. Ambiguity and conflict increase the time necessary to employ this technique.

What are the primary sources of information about this technique?

- Canfield, M., and Kliewer, D. A Conference Evaluation Manual. In: Hargreaves, W.A.; Attkisson, C.C.; Siegel, L.M.; McIntyre, M.H.; and Sorensen, J.E. (Eds.). Resource Materials for Community Mental Health Program Evaluation: Volume IV -- Evaluating the Effectiveness

of Services. NTIS Evaluation Study Reports Accession Number PB-249-046. Springfield, Virginia: National Technical Information Service, 1975.

- Kiresuk, Thomas J., and Sherman, Robert E. Goal Attainment Scaling: A General Method for Evaluating Comprehensive Community Mental Health Programs. Community Mental Health Journal, 4(6):443-453, 1968.

- Luft, Lorraine L. Evaluation of Mental Health Indirect Services. Unpublished paper. Burlingame, California: Peninsula Hospital Community Mental Health Center.

## F. DEVELOPING A DATA BASE FOR THE REVIEW AND EVALUATION OF CONSULTATION AND EDUCATION SERVICES

### What is the technique?

The development of this data base rests upon three data-gathering instruments proposed in a criteria-oriented approach to indirect service review. The data base includes the following instruments: (1) a project registration form; (2) an indirect contact form; and (3) a narrative progress record. These three instruments reflect conceptualization of the consultation process as a temporary social system which develops over time and involves three phases: inception of consultation, events and dynamics in the consultation process, and termination and review of outcomes.

The data base can be translated into a checklist in which criteria, varying in specificity, are used to review the appropriateness both of the decision to enter a consultation relationship and of the fit between the presenting problems and proposed intervention strategies. In addition, the data generated by these forms could be used to assess the adequacy of the consultant's performance and to judge the effectiveness of the consultation from different levels of consultees. Readers are referred to the primary source article for more detailed information on the use of such a checklist and its possible application to criteria-oriented review of C&E activities (see page 290).

### When should the technique be used and what are its limitations?

When: A technique of this type should be used when a Center has decided to establish a data base and formal procedure for routine accounting for consultation and education activities.

Limitation: The major limitation of this still-evolving procedure is the discursive nature of the data, which makes it difficult to quantify the results. This procedure is more of a description of process than an objective documentation of events and outcome.

How do you implement the technique?

The development of a data base consists of the filling out of three forms:

(1) The Consultation Project Registration Form. For each consultation activity undertaken, the consultant records during or just after inception of consultation the basic identification information on the consultee, the consultee's sponsoring organization, the consultee's presenting problems, and the consultant's anticipated intervention strategies as in the project registration form shown as Exhibit 5 (page 291 ).

(2) The Indirect Contact Form. In this system, this form is intended to provide basic enumerative data on the service activity as it unfolds through time. It is similar to the form already supplied on page 272 (Consultation and Education Worksheet), so we omit it here. The form is completed by each service provider for every indirect service contact on a regular basis.

(3) The Narrative Progress Record. This form captures some of the more dynamic and process-oriented aspects of the evolving consultation activity. It can be completed by each consultant and updated on an ongoing basis at appropriate phases in the development of the consultation, or the consultant may be interviewed by an experienced peer or member of a review committee upon termination of the consultation, using the narrative progress record as a structured guide.

With these elements of the data base in place, the Center is prepared to introduce further steps in evaluation and review of the quality of indirect services. Such a review might focus on key aspects of the consultation and education project—for example, appropriateness, adequacy and effectiveness. In terms of the appropriateness of the consultation, the following kinds of issues can be raised:

- Was the decision to accept the request for consultation appropriate, given the resources and skills available?
- Was there clear and appropriate authorization from the sponsoring organization and from the consultant organization?
- Were the past experience of the sponsoring organization with consultants and current attitudes toward this consultation appropriate to undertaking the consultation?
- Was the intervention strategy adopted appropriate?
- Was the consultation geared to the appropriate level in the organization?

With respect to the criterion of adequacy, the following issues can be raised:

- Was there sufficient interaction between the consultant and consultee to realize the specified objectives?

- Did the consultant have adequate background with the sponsor's organization, similar organizations, and the kinds of problems to be solved?

- Was the change process posited in the strategy adequately conceptualized, and were there direct, plausible and therefore adequate attempts to implement the change process?

- Were procedures for termination and follow-up of the consultation specified and carried out?

The criterion of effectiveness with respect to consultation and education services might involve the following kinds of questions:

- Were the primary objectives of the consultation achieved?

- Were the consultant and the consultee satisfied with their own individual performance and the performance of each other?

- Were there unanticipated positive and/or negative outcomes?

- Did the consultation require more consultant or consultee time than it was worth?

What is the level of effort required?

Estimated resource requirements:

- Mandays: Filling out the forms--2-5 hours over the course of a multi-month consultation. Tabulation, interpretation, discussion and reporting--will require a variable amount of the evaluator's time, depending upon quantities of forms, of persons involved, and of time involved; a conservative minimum is 8-16 hours per consultation project.

- Professional levels required: The consultant fills out the forms. The program evaluator raises issues, helps develop criteria (e.g., adequacy effectiveness and appropriateness), and engages in analysis, interpretation and reporting.

- Elapsed time: Variable.

Limitations of these estimates:

- There is little experience with the application of these forms to ongoing consultation and education activities. The lack of precedent will necessarily produce variation in the amount of time spent filling out the forms and attempting to apply them to program evaluation terms.

- The system delineates issues well, but adequate procedures are not available.

What is the primary source of information about this technique?

- Cytrynbaum, S. The Application of the Criteria-Oriented Approach to the Review of Indirect Service Activities in a Community Mental Health Center. In: Riedel, Donald C.; Myers, Jerome K.; and Tischler, Gary L. (Eds.). Patient Care Evaluation in Mental Health Programs, pp. 179-212. Cambridge, Massachusetts: Ballinger Publishing Company, 1974. (See Exhibit 5.)

## G. CONCLUDING NOTE ON NEWLY REQUIRED SERVICES

CMHCs are mandated to carry out prevention, outreach and coordination of community resources, as well as offering new services in rape prevention, control and treatment. Evaluation of these kinds of services will in most cases resemble evaluation of C&E activities. In time, specific instruments will no doubt appear and become well known for some of these areas of program activity. In the meantime, a sensible evaluation strategy can be initiated with simple measures of client satisfaction adapted to each program, to move toward outcome evaluation geared either to goal attainment scaling or to instruments in which generic program goals and objectives are codified as the basis for comparison. The choice of goal attainment or other styles of assessment would depend partly on the evaluation preferences of the Center, and partly on program-specific items such as data availability, form of records, etc.

A good basis from which to devise appropriate client satisfaction forms can be found in the Montague and Taylor Handbook referenced in page 277.

EXHIBIT 5

PART 1:

CONSULTATION PROJECT
REGISTRATION FORM

Date _____

A. *Identification of Consultant, Consultee and Sponsoring Organization*

1. Project name or number _____
2. Consultant(s) name(s) or number(s) _____
   _____
3. Date of request for consultation service _____
4. Name of person(s) making request for consultation services _____
   _____
5. Name of consultee(s) if different from person making request:
   _____
6. If the consultee(s) is (are) affiliated with an organization, what is the name of the organization? _____
7. What is the consultee's formal title, position and/or function in this organization or facility? _____
8. Indicate which of the following corresponds to the consultee's title, position or function.
   _____ (a) Individual with service responsibilities (e.g., clinician, teacher, guidance counselor).
   _____ (b) Individual with managerial, executive or administrative responsibilities (e.g., director of center, superintendent of schools, chief of clinical unit, assistant principal).
   _____ (c) Individual with programmatic responsibilities (i.e., program planner, program analyst or evaluator).
   _____ (d) Service/clinical unit or task group (e.g., clinical team, reading specialist unit).
   _____ (e) Formal or informal community groups or organizations (community board, welfare moms, tenants' union).
   _____ (f) Other (specify) _____
9. With which of the following human service organizations, agencies or facilities is the consultee affiliated?
   _____ (a) Law enforcement agencies, personnel, and affiliated groups.
   _____ (b) Formal or informal groups or organizations concerned with alcoholics or drug abusers.
   _____ (c) Non-center-affiliated, general health, medical care or mental health facilities.
   _____ (d) Welfare agencies or anti-poverty facilities, organizations or agencies.
   _____ (e) Facilities and agencies for the aged and other similar specialized groups.
   _____ (f) Schools, day care centers or other facilities concerned with the education and socialization of youth.
   _____ (g) Community residents or service groups.
   _____ (h) Other (specify) _____

B. *Consultee Presenting Problems*

1. If the consultee's request for consultation services concerns his/her direct service functioning in relation to a case or group of cases, indicate which of the following more specific service related presenting problems apply:

_____ (a) Too large a case load.
_____ (b) Inadequate resources available.
_____ (c) Needs help with specific problem-solving skills or techniques.
_____ (d) Insufficient knowledge concerning dynamics or socio-cultural factors in a case.
_____ (e) Difficult or complex case.
_____ (f) Lack of experience with this kind of a situation.
_____ (g) Inadequate supervision or training opportunities.
_____ (h) Other (specify) _____

C. *Proposed Initial Consultant Interventions*

1. Which of the following consultation activities are planned for this intervention?

_____ (a) Case-oriented consultation.
_____ (b) Staff development consultation.
_____ (c) Group work.
_____ (d) Program consultation.
_____ (e) Administrative consultation.
_____ (f) Community organizing.
_____ (g) Expediting/Advocacy.
_____ (h) Interagency collaboration.
_____ (i) Advocacy research.
_____ (j) Other (specify) _____

D. *Objectives and Goals of Interventions*

1. If the focus of the proposed intervention is on the consultee's direct service in relation to a case or group of cases, which of the following more specific consultation objectives apply?

_____ (a) To help consultee define and arrange for a more manageable case load.
_____ (b) To help consultee learn how to obtain more adequate resources.
_____ (c) To improve consultee level of problem-solving skills and techniques.
_____ (d) To increase consultee's knowledge about the dynamics and importance of certain socio-cultural factors in the case.
_____ (e) To help the consultee unravel and understand a difficult or a complex case.
_____ (f) To help the consultee arrange for adequate supervision and other relevant training experiences.
_____ (g) Other (specify) _____

EXHIBIT 5 (Continued)

PART 2:

NARRATIVE PROGRESS RECORD

Date _____

I. *I.D. Information*

1. Consultant name or number _____
2. Consultation project name or number _____
3. Name and position of consultee(s) _____

_____

4. Agency, organization or group with which consultee(s) is (are) affiliated _____

_____

II. *Inception of Consultation*

1. Has this consultee received consultation services in the past? If so, how did it turn out and were there any disruptive or negative residua? _____

_____

2. On what or whose authority did the consultee initiate the request for consultation service? _____
3. If person initiating request for service and designated consultee were not one and same, explain discrepancy _____

_____

4. Was the decision to render consultation services to this consultee in any way problematic for the consultant's home base organization? If so, briefly explain. _____

_____

5. What were the major explicit and implicit reasons for requesting consultation service and what was the degree of clarify about the problems from point of view of this:
   (a) Consultee _____

   _____

   (b) Consultant _____

   _____

6. Briefly describe any major discrepancies:

   _____

   _____

   _____

7. Briefly describe any important overt and covert expectations of the consultee concerning the consultation process and the consultant:

   _____

   _____

   _____

8. List the consultant's explicit and implicit objectives for the consultation. Any major discrepancies?

   _____

   _____

   _____

9. Describe the consultant's skills, experiences or technical resources which were particularly relevant to addressing the consultee presenting problems and expressed needs.

10. Were there any consultant skills, experiences or resources which were needed but not available? If so, document:

11. What were the major forces working for change and major sources of resistance at the individual, organizational or community consultee levels assessed by the consultant?

III. *Events and Dynamics in the Consultation Process*

1. Briefly describe the circumstances and manner in which the following task activities (if applicable) were carried out:
   (a) Initial contact
   (b) Negotiation of contract
   (c) Establishing consulting relationship
   (d) Entry and establishment of credibility
   (e) Initial data collection and analysis
2. Indicate the frequency and briefly describe a typical encounter between consultant and consultee:
3. Discuss the justification for any unusual consultant interventions or for a marked shift in consultation strategies:
4. If applicable, how did the consultant manage any major or significant crises, conflicts or unplanned intruding events?
5. Document progress or lack of progress towards objectives. How come?
6. What procedures or measures (if any) were employed by the consultant or consultee to assess the effectiveness of the consultation?

7. Were follow-up procedures, consultation alternatives or plans, etc. explored or arranged so that the work would continue after this consultation ended? If so, briefly describe: _____

IV. *Termination and Review of Outcomes*

1. List the explicit objectives which were achieved and not achieved both of a short-term and long-term nature: _____

2. Describe any unanticipated objectives or secondary benefits which were achieved: _____

3. Briefly record any additional evidence bearing on the impact of the consultation on the consultee's level of functioning and effectiveness and why: _____

4. Indicate the extent to which the consultee and consultant were satisfied or dissatisfied with consultant's functioning, the consultation process and outcomes: _____

5. If applicable, what next step or follow-up procedures were agreed upon? _____

Source: Cytrynbaum, S. The Application of the Criteria-Oriented Approach to the Review of Indirect Service Activities in a Community Mental Health Center, pp. 201-203, 209-212. In: Riedel, Donald C.; Myers, Jerome K.; and Tischler, Gary L. (Eds.). Patient Care Evaluation in Mental Health Programs. Cambridge, Massachusetts: Ballinger Publishing Company, 1974. Reprinted with permission of the publisher.

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Bry, Brenna H. The Early Intervention Program: An Experimentally Designed Drug Abuse Prevention Program in the Schools for "High-Risk" Seventh Graders. Paper presented in work-in-process session at National Conference on Evaluation in Alcohol, Drug Abuse, and Mental Health Programs, Washington, D.C., April 1-4, 1974. Monmouth County, New Jersey: Monmouth County Narcotics Council.

Bry, Brenna H. The Early Secondary Prevention Program: Comprehensive Program Development in Progress. Paper presented at Annual Drug Problems Association of North America Conference, Chicago, September 1975.

Reviews early intervention school program with matched control group: progress measured on basis of school attendance, promptness and grades. A point system is used to reward students for "desired behaviors." Teachers assign the points in weekly short interview about each student.

Hargreaves, W.A.; Attkisson, C.C.; Siegel, L.M.; McIntyre, M.H.; and Sorensen, J.E. (Eds.). Resource Materials for Community Mental Health Program Evaluation: Volume IV -- Evaluating the Effectiveness of Services. NTIS Evaluation Study Reports Accession Number PB-249-046. Springfield, Virginia: National Technical Information Service, 1975.

Mannino, F.V.; MacLennan, B.W.; and Shore, M.F. The Practice of Mental Health Consultation. DHEW Publication No. (ADM) 74-112. Washington, D.C.: Government Printing Office, 1975.

A review of consultation outcome literature.

Metfessel, Newton S., and Michael, William B. A Paradigm Involving Multiple Criterion Measures for the Evaluation of Effectiveness of School Programs. Educational and Psychological Measurement, 27(4):931-934, 1967.

Appendix has comprehensive list of unobtrusive measures of changes in school environment due to consultation and education.

Palmer, J., and McGuire, F. The Use of Unobtrusive Measures in Mental Health Research. Journal of Consulting and Clinical Psychology, 40:431-436, 1973.

Sundel, Martin; Crane, Betsy; Morrison, B.J.; and Schanie, Charles F. The Alternatives Project: A Mass Media Approach to Community Mental Health and Preventive Education. Paper based on a presentation at the Annual Meeting of the National Council of Community Mental Health Centers, Washington, D.C., February 25, 1975.

Taylor, Elaine N., and Vineberg, Robert. Evaluation of Indirect Services to Schools. In: Attkisson, C.C.; Hargreaves, W.A.; Horowitz, M.J.; and Sorensen, J.E. (Eds.). Evaluation of Human Service Programs. New York: Academic Press, 1976.

Good overview of how to plan, design and evaluate indirect services and interventions; specifically, in school setting, but applicable to other areas as well.

Watkins, Elizabeth; Holland, Thomas P.; and Ritvo, Roger A. Evaluating the Impact of Program Consultation in Health Services. Cleveland, Ohio: Human Services Design Laboratory, School of Applied Social Sciences, Case Western Reserve University, 1975.

Self-contained evaluation system that places suitable emphasis on the actual process of consultation, its organizational setting, and some of the dynamics of consultant and consultee. The reporting forms are of average difficulty, but their utilization is probably enhanced by the careful exposition preceding them, and the description of their development process and interim findings on their early use.

Webb, E.J.; Campbell, D.T.; Schwartz, R.D.; and Sechrest, L. Unobtrusive Measures: Nonreactive Research in the Social Sciences. Chicago, Illinois: Rand McNally, 1966.

Helpful in understanding context of unobtrusive measures, their use and limits.

# CHAPTER 10: QUALITY ASSESSMENT

## A. INTRODUCTION

### 1. Overview

A general view of how quality assessment relates to program evaluation appears in the Introduction to this manual (page 4). This chapter of the manual is geared to helping CMHCs cope with the guidelines for the Professional Standards Review Organizations (PSROs) set up under PL 92-603 (see page 302), and the requirements of PL 94-63 for quality assurance including peer and utilization review. Regulations for PL 94-63 have not yet been published. It may be some time before the relationship between PSRO and CMHC is well established. This chapter includes specific sections on admissions certification,[1] continued stay review,[1] clinical care evaluation studies,[1] profile monitoring,[1] retrospective chart audit (a method useful in clinical care evaluation studies), and outpatient review in mental health. While we understand that forthcoming accreditation standards for CMHCs to be issued by the Joint Commission on Accreditation of Hospitals (JCAH) may address the structure of a CMHC's quality assessment system, it is not likely that these standards will add any further requirements beyond PSRO or PL 94-63. The same holds true for any requirements imposed on CMHCs by nonfederal third-party payors, who also demand accountability via quality assessment.

Two points will aid the CMHC user:

(1) Most of the history, impetus and current sanctioning for quality assessment comes from medicine. The concepts and many of the procedures are heavily imbued with medical thinking, and will not always correspond to the concepts of every CMHC, since CMHC concepts have been in many cases heavily influenced by community and social psychiatry, social work, etc., or have otherwise consciously been moved toward a mental health model of service delivery. Nevertheless, the existing PSRO law is highly specific to medicine. It seems necessary to preserve that orientation to facilitate compliance for CMHCs that can pursue funding opportunities under Title XVIII or XIX programs.

(2) Quality assessment as it so far exists is heavily oriented toward inpatient settings. Much of this chapter may be useful to the Center generally in search of means for better evaluating its inpatient services. But comparatively little has yet been done to develop useful and simple ways to assess the quality of outpatient services--either in mental health or in medical care. What we did uncover that is germane to CMHCs is included in this chapter.

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[1] required under PSRO

Quality assessment can be rather closely linked to clinical records and their review. Like other subjects in this manual (patterns of utilization, client outcome, and cost effectiveness in particular), some of the data of quality assessment can ultimately be taken from the information system of the CMHC in a routine way, if that system is in the interim properly developed for that purpose. Indeed, much of the same data are required for these and other forms of program evaluation. Center administrators and evaluators should be alert to the likelihood they will be asked to support development of quality assessment systems, either under a general rubric of peer accountability, PSRO, or accreditation requirements of the JCAH.

Wherever these systems involve clinician or other judgments of client outcome, or clinician judgments of the adequacy of the process used with the client, the Center administrator or program evaluator should ask a series of not so rhetorical questions: Has the program evaluation function already conducted a number of studies rather similar in intention to the requested quality assurance system (for example, using some of the techniques described in the chapter on client outcomes)? How can the CMHC take advantage of this pre-existing work, especially if some of it is repetitive, for the new system? If the CMHC has a problem-oriented or similar approach to keeping its clinical records, do some of the clinical decisions forced to the surface by that system correspond to issues that are apparently important for the quality assessment system? Does this correspondence offer means for simplifying the development of the new system and integrating it with medical records? If the clinical records of the CMHC are fragmentary, not well kept up, or inadequately designed, do the requirements for a quality assessment system supply sufficient incentive to modernize the system, and justify the cost and difficulty of doing so?

Fred Newman[2] rightly points out the squeeze that some Centers may be in due to evaluation required by PL 94-63, regulations requiring unit of service costing, new state managerial systems--and now quality assessment in addition. Unless the evaluator is aware early enough that the data required by all these systems are overlapping, and begins to coordinate or integrate the recording, storing, and selective retrieval of these data, his function will collapse of its own weight.

In its medical applications, quality assessment has been clearly recognized as an aspect of clinician self-management. Indeed, examples of quality assessment in CMHCs feature peer review or utilization review committees. These are composed entirely or principally of clinicians. By and large, it is these committees in which evaluative judgments are made, when the system operates fully. What the *program evaluator* offers is (1) data; (2) selection and validation methods and design of special studies by which more general conclusions may reliably be drawn from the data; (3) stimulus, sometimes, toward investigating aspects of quality that did not occur to the clinicians, at least not in a form they chose to act on. The program evaluator may not often need to take the initiative with respect to quality assessment, but will certainly need to be very active in assuring suitable integration among this and other evaluation systems, and he may also have to furnish major

[2]Private communication, March 1976.

technical input to devising a system, if PSRO doesn't take care of that problem itself, as explained later. Under circumstances in which the evaluator suspects that quality of care is an issue, and no quality assessment process exists, carefully considered suggestions to Center management might include a recommendation to study such systems. Under PSRO, the program evaluator might need to understand PSRO review, in order to be able to be among the knowledgeable interpreters of its results to clinicians, administrator, and the Center director. It is under JCAH accreditation that the role of the program evaluator vis-a-vis quality is most likely to be that of system developer. However, unilateral or exclusive responsibility for the program evaluator is unlikely in quality assessment. As in most other major evaluation efforts, the evaluator will need to identify appropriate other key participants and form a team with them. In quality assessment, candidates may include computer manager, records librarian, Chairman of the Quality of Care Committee, and person named to be liaison with PSRO or placed in charge of obtaining Joint Commission accreditation.

The complexity of some of the data-gathering efforts required by several of the PSRO-compatible systems described later in the chapter will be beyond the capabilities of many CMHCs. But possession of the information in the manual will make it relatively easy for the evaluator to grasp what PSRO may come to involve, and will at a minimum start him on the process of becoming an informed participant, if his CMHC should face the issue of joining the PSRO on a basis that leaves the data processing to "the PSRO" or joins as a "delegate," performing most PSRO functions for itself.

Assessment of the quality of clinical services is an accountability process, which by its presence will encourage high quality, will reduce the use of inappropriate services, and may thus help to contain costs. Its operation will uncover deficiencies in the quality of care and lead to improvement of clinical care and thus to improvement in client health or mental health status. This approach is required for facilities to qualify for reimbursement under Titles XVIII and XIX of the Social Security Act (Medicare and Medicaid, respectively). Such sanction makes this a highly desirable type of program evaluation for facilities to use. Quality assessment techniques are viewed as program evaluation techniques in that they are used to describe and measure current performance, indicate where it is deficient, and provide sound data on which improvement plans can be based.

### 2. Quality of Care Defined

Defining the "quality" of clinical services is not a trivial task. The currently best established theory of quality of care suggests dividing the concept of quality into the categories of structure, process, and outcome, none of which by itself can be viewed as the valid measure of quality. *Structural considerations* relate primarily to the training and experience of providers, adequacy and availability of facilities, and adequacy of support staff and other resources. Are clinicians certified in their specialty? Are minimal equipment needs met? Are physical facilities adequate? Is

sufficient support staff available to meet basic client needs? These and countless other structural questions can be asked as a screen for uncovering quality deficiencies in a program on the premise that better quality care is likely to be provided when better qualified staff, improved physical facilities, and sounder fiscal and administrative procedures are applied. Meeting structural standards is necessary, but not sufficient, for the provision of adequate quality care. Some of the accreditation standards of the Joint Commission on Accreditation of Hospitals, and the conditions of participation of the Medicare program, are probably the two most widely known examples of structurally oriented assessment criteria operating in the United States today.

*Process of care assessment* has been the method most usually equated with quality assessment. Process assessment is conducted by specifying what types of services or therapies constitute quality care for a given type of client (usually age, sex, and problem- or diagnosis-specific) and comparing the actual care received by the client to the criteria. This method of quality assessment can be viewed as an audit of clinical practice, and is aimed at identifying areas where clinicians' practices may need improvement. Process assessment has intuitive appeal as a measure of quality of care. Unlike structural considerations or client outcome, process is under the control of the clinician. What the clinician does or does not do in behalf of a client can be compared to an ideal set of actions for like clients. Despite the intuitive appeal of process of care as a single measure of quality of care, process is not by itself an appropriate quality measure. Citing the cases of clients with (1) ideal process and terrible outcome and (2) terrible process and ideal outcome, the thesis is advanced that process evaluation is insufficient as a measure of quality.

*Outcome of intervention*, whether measured on an individual or group basis, also has its conceptual problems as a single indicator of quality. It is not intuitively appealing as a measure, since it is influenced by other factors beyond the process of care itself. Both adequate client outcome in the face of terrible process and poor outcome with excellent process represent situations where quality judgments on the basis of outcome alone seem inappropriate. Did the client receive adequate quality just because the outcome was adequate? Did the client receive poor care just because there was a poor outcome?

A related issue around outcomes is the logic of applying outcome criteria for quality to individual clients. Many students of the field argue that outcome is only appropriate as a group measure. In many cases it is known what percentage of clients with a given problem or diagnosis will improve and what percentage will not. In other words, not every client responds to therapy, and in those who do, levels of response may be very different. In that respect, it is not appropriate to judge quality of care for individual clients on the basis of individual outcome; rather, only group judgments are valid.

There are no easy means to overcome the above-mentioned difficulties: structure, process, and outcome assessments all offer a contribution. Structural reviews will

continue to represent a guarantee that the structure is in place for quality care to be delivered. Once structural standards are satisfied, quality delivery will be in the hands of the clinicians. Process reviews will continue to be legitimately plagued by the fact that ideal process cannot always be stated or agreed upon by clinicians. Furthermore, the correlation between good outcome and what is believed to be good process is very often not proven. In any case, many people argue that outcome needs to be accounted for also in quality of care judgments. Outcome review is currently enjoying a surge in popularity in circles pondering the issue of quality assessment in medicine. After all, many argue, what better indicator of adequate quality than a client restored to pre-intervention capability or health status? Yet outcome, too, has its limitations as a single measure of quality of care, discussed above. It appears that each partial measure of quality will continue to form the basis for elaborate, independent quality assessment systems.

### 3. PSRO

A primary focus of mandated quality assessment under PSRO is process assessment, and several techniques for process assessment will be the focus of the major sections of this chapter. However, client outcome assessment has been the focus of much work in the mental health field, and that subject has been treated in an earlier chapter. To bring the issue of quality assessment to a more concrete level, one needs to understand the legislative impetus for quality assessment particularly in relation to PSROs and CMHCs. In October 1972, PL 92-603 authorized the creation of Professional Standards Review Organizations (PSRO) to review the quality and appropriateness of services rendered to beneficiaries of Medicare, Medicaid, and the Maternal and Child Health program. PSRO review is required for inpatients, and optional for outpatients.

The PSRO legislation continued the national quality assessment trend begun under utilization review requirements in the mid-1960s, but further specified and modified the nature of mandated quality assessment activities. Utilization review had been oriented primarily toward review of hospital length of stay under Medicare, including retrospective review of a sample of Medicare patients to study necessity for admission, length of stay, and services provided, and concurrent review of particularly long stays (extended duration review). Experience with these utilization review requirements suggested that these federal quality assessment mandates be modified to increase their impact on cost and quality of care. No longer would necessity of admission and length of stay be reviewed retrospectively, but rather concurrently, so that unnecessary admissions could be prevented. Both long- and short-stay patients could be monitored to assure that all hospital days used were needed. Retrospective study was still recognized as a valuable method in quality assessment, and retrospective studies of quality variables by PSROs were authorized. In addition, the notion that group or aggregated data on institutions, departments, clients and clinicians could be studied to assess patterns of care was incorporated into the PSRO law.

PL 92-603 and subsequent guidelines require a four-pronged PSRO quality assessment system, including:

(1) Admissions Certification--a process to assure that each hospitalization is necessary;

(2) Continued Stay Review--a process to monitor length of stay and, optionally, quality of services;

(3) Medical (Clinical) Care Evaluation Studies--studies of quality variables, whose topics are left to the discretion of PSROs and participating facilities; and

(4) Profile Monitoring--analysis of group or aggregate data for institutions, departments, individual clinicians, or individual clients, directed at patterns of care.

Each PSRO has the option of performing such reviews itself or, if participating facilities demonstrate their capacity, delegating the authority to perform quality assessment to participating facilities. There is a strong financial pressure for participation. Any facility that wants reimbursement under Medicare, Medicaid, or Maternal and Child Health patients must somehow have PSRO review performed on behalf of those patients, whether by the PSRO or by its own quality assessment staff. There is no specific mention of CMHCs or of mental health services in the PSRO legislation or the PSRO Program Manual. But the legislation states categorically that reimbursements for services under Titles XVIII and XIX, and under Material and Child Health, must be tied to PSRO review. To the extent that CMHCs provide services to such clients, they fall within the legislated domain of PSRO. Just how much attention PSROs will pay to CMHCs in the program's developmental period is another matter. PSROs are now focussing their attention on inpatient services in the nation's acute care hospitals. Since CMHCs provide only a tiny percentage of inpatient services to the PSRO's target population, they may not be called upon to participate in PSRO review processes as early as the bulk of the nation's hospitals. However, it seems very unlikely that PSROs will be able to ignore CMHCs for very long if the requirement for PSRO review as a prerequisite for reimbursement is uniformly phased in over time. Relationships with the PSRO may be more complicated in CMHCs which use inpatient facilities in other institutions rather than having their own inpatient facilities, since the parent facility is itself likely to have a quality assessment mechanism of its own.

The Community Mental Health Centers Amendments of 1975, passed July 29, 1975 in PL 94-63, mandate that CMHCs "shall have established in accordance with regulations prescribed by the Secretary (1) an ongoing quality assurance program (including utilization and peer review systems) respecting the Center's services..." [Section 201(d)]. No regulations have yet been published to implement this provision of the law. However, early indications are that since CMHCs are so heavily involved in provision of ambulatory services, the quality assessment system required by PL 94-63 will include

outpatient and partial care review as well as inpatient review. One of the reasons the PSRO legislation leaves outpatient review optional is that the technology of outpatient review is not well developed in medicine; the same is true in mental health. PL 94-63 may very well signal the inception of an outpatient quality assessment system development phase in mental health.

## B. CONCEPTUAL ISSUES IN QUALITY ASSESSMENT

There are many issues in quality assessment that have been addressed in the professional literature. Detailed discussion of the subject would go beyond the scope of this manual. If CMHCs become alert to these issues, they may cope with them in a prospective, manageable way. The issues, discussed below, include:

- Value of explicit criteria
- Reliance on client records
- Confidentiality
- Use of nonclinician personnel
- Cost control and quality improvement: the trade-offs or balances possible
- Education vs. punishment
- Who are the providers

### 1. The Value of Explicit Criteria

There are two basic needs in any quality assessment system: data describing client care, and criteria by which to judge quality of care. (Data will be discussed below.) Criteria may be implicit or explicit. Implicit criteria are reflected in the judgments made by clinicians or committees who review any given case by reading the record and coming to a judgment. Most utilization review committees used implicit judgment in their quality assessment work until the early 1970s. At that time, work had begun in some of the physician-sponsored Foundations for Medical Care and the federally sponsored Experimental Medical Care Review Organizations, in the development of explicit criteria for quality assessment, based on physician consensus. This work was undertaken for two reasons: (1) to reduce the variability in the review process which occurs naturally when one relies on implicit judgment, and thus to reduce charges that review was arbitrary or capricious; (2) to respond to the apparently sensible contention that it is possible to agree on and write down descriptions of the services and therapies necessary for the care of diagnoses or problems. These services and therapies can then become explicit requirements for caring for clients expressing these diagnoses or problems. The PSRO program incorporates these notions in its major thrust toward development and use of explicit criteria in the review process. The use of explicit criteria, then, has become a virtual necessity for quality

assessment under PSRO. At the same time, clinicians continue to recognize dangers in the potential standardization of practice toward which strict application of explicit criteria could lead.

Under PSRO, the thrust toward use of explicit criteria has evolved not only to reduce variability in the review process and to agree on common denominators of necessary care, but also because of the needs of the PSRO system to incorporate systematic screening in a high-volume review setting. Explicit criteria are not meant to be absolute standards of care to which adherence must be complete. Rather, they are meant to serve as a screening mechanism to select cases which do not meet the criteria for further implicit review. Since they are to be used for screening rather than final judgment, explicit criteria can be applied by nonprofessional personnel in a high-volume review program, which precisely meets the needs of the PSRO program. In short, a program such as PSRO, requiring high-volume review that needs to assure some uniformity of review across sites and populations, could not very well rely on anything but explicit criteria for screening purposes. At the same time, PSRO cannot escape the ultimate reliance on implicit professional judgment for final review decisions. Clinicians will permit no less, nor have explicit criteria yet been stated that anyone has agreed can be used for absolute quality judgments. Under these circumstances, the PSRO program has moved toward requiring use of explicit criteria in the early stages of review, while reserving the use of implicit criteria for the later, more difficult professional judgments on exceptions generated by the review process. At the same time, use of entirely implicit systems is not excluded by the legislation, though it is quite difficult to see how such systems would operate practically at a high volume of review. The issue is not whether to use implicit criteria (they should be used), but when to use them.

Using implicit criteria in mental health quality assessment will be appropriate for many reasons. Mental health therapies are a matter of art, not just science: a lot of valuable richness may be lost in trying to use explicit criteria alone. Diagnoses are unspecific, in general, and far from being used in a standardized way. Prescribed or preferred treatment, as to both type and amount, may be quite variable from one therapist to another. Explicit criteria are comparatively easy to state, are often easy to develop into concensus form, but despite that kind of work still will not be based on anything other than professional judgment. These factors, combined with the fact that peer judgment needs in any event to be invoked in judging the exceptions any system generates, make a good argument for using implicit criteria in mental health quality assessment. One of the systems described in the final section of this chapter (Peninsula Hospital Outpatient Review System) utilizes implicit criteria only, in a clinical case conference model of considerable attractiveness. Evaluators about to set up a quality assessment or assurance system should consider seriously the pros and cons of using systems based on both implicit and explicit criteria, in terms of simplicity, political acceptability to peers and others, cost of system development, cost of system operation, ease with which each system may be subject to ulterior manipulation, and ease of coordination with other evaluation activities, as well as satisfying those who are requiring the review. If mental

health quality assessment systems could operate entirely independent of PSRO, they might be able to rely exclusively on implicit criteria: PSRO's impact on mental health quality assessment will almost certainly be to require the use of explicit criteria as a screening mechanism backed up by implicit review.

Let us examine in more detail some of the problems attendant with the use of explicit criteria. One major problem is that explicit criteria emerge from implicit theories or models of causation describing why people behave, feel, or think the way they do. These models of causation imply specific methods of treatment and process criteria. Therefore, explicit criteria are tied to specific theories of treatment. A second major problem is the specification of the group of clients to whom the criteria apply. Normally, criteria have been developed for specific diagnoses or theories of treatment (i.e., psychoanalysis vs. behavior modification). It is becoming recognized, for example, that many clients are treated for "problems" rather than "diagnoses," that problem-oriented criteria are needed, and that application of diagnosis-oriented criteria to clients who have problems rather than diagnoses is inappropriate. Furthermore, since a measurable percentage of the patients admitted to CMHCs fall into the "diagnosis deferred" category, the utility of diagnosis-specific criteria sets is questionable, and the need for problem-specific criteria is apparent. Also important is the fact that use of broad diagnostic or problem categories for criteria means that great care must be taken in the application of the criteria. Many clients who fall into the broad diagnostic categories may have any of a number of different problems, which may interact differently in different contingencies and which render the broad criteria inappropriate. The struggle here is between the two extremes of a long continuum: at one extreme, clients are grouped into broad categories and broad criteria are applied, while at the other extreme, the argument is made that each client is unique, with unique problem mixes and circumstances, and hence cannot be reviewed against any general set of criteria. If clients cluster somewhere between the two extremes, and not too close to the end of the spectrum where "uniqueness" is the watchword, criteria can usefully be set which recognize the major subcategories within broad diagnoses or problems, yet do organize the review and judgment process well beyond the possibilities inherent in a system based on implicit criteria. It should be remembered that criteria can be used in two ways: to make absolute judgments, or to screen out likely cases of deficient quality for further review by clinicians. When criteria are used to make absolute judgments, there is danger of inflexibility, for indeed, each client's unique contingencies and circumstances need to be accounted for in the process. When criteria are used to screen out exceptions for further review, the objections raised above are largely answered, for the subsequent review of an exception by a clinician can take account of individual circumstances which explicit criteria, however detailed, cannot. PSRO emphasizes that criteria be used for screening purposes, and not as absolute standards of quality of care.

Inherent in the criteria development process are difficulties which work against making criteria explicit. The four methods used to develop criteria

are: the consensus method; the literature search; statistical norms on existing practices; and the borrowing and adapting of existing criteria. The consensus method runs into difficulties when clinicians disagree or agree that they are unsure and are forced thereby to ambiguous (implicit) levels of generality. The literature search is as good as the literature and the searcher will enable it to be. Lacunae in verified information must result in corresponding gaps in criteria. The statistical method is really just a quantified expression of current professional practice, and in any case requires prior and rigorous explication if cases are to be classified usefully. Borrowed criteria, no matter how good, must go through a process of local adaptation, if they are to become acceptable. They may or may not be written from a perspective that makes localization an easy process. They are ambiguous until localized. They incorporate whatever difficulties and shortcomings in explicitness are associated with the method by which they were developed in the first place.

2. Reliance on Client Records

In the review process, data on client care must be compared to criteria in order to render quality judgments. The data can be reviewed either from the original record itself, from an abstract of the record prepared by a record analyst, or from a brief form prepared by the clinician himself (normally used in outpatient review only, called a transaction or encounter form). In any of these cases, certain problems exist. Review can only be as good as the record is accurate and complete. Where incomplete or inaccurate records exist, quality assessment is hampered, and decisions can be legitimately questioned. Where abstracts of records are used, the incompleteness or inaccuracy problem still exists, but is compounded by the need for abstractors to interpret the client's record and record their interpretation on the abstract. Such interpretations may be open to question. If the record is an imperfect statement of client care, and the abstract is an imperfect statement of the record, where does that leave a review process based on the abstract? Finally, when an encounter form is used, it must of necessity be short if clients are to be expected to faithfully complete it. If the shortness of the form or the need for conciseness do not permit a full explanation of the client contact, then review based on the form can be questioned. Chart audit by peers is often the most expedient and reasonable vehicle available for quality of care review, especially at the early stages of developing a quality assessment system. Chart review requires little system development, can easily lead to automatic self-criticism of the mode and content of clinical record-keeping (by the review committee) and provides a major opportunity for its sponsors to build a relatively enthusiastic constituency in the clinical staff. One caution: it's easier for a committee of clinicians than for others to remember that what they are undertaking is not chart review but care review; even clinicians, however, may out of their own committee dynamics, or to protect an erring colleague by delays, sometimes focus on the chart when the chart is not the issue. But by and large, clinicians are able to use the information given them on a chart as a starting point, and as back-up, for the review process. In the absence of acceptable, explicit screening criteria and where charts

are at best semi-explicit, a clinical case conference model or review, an extension of case staffing and teaching methods already employed in many CMHCs, may be the best bet. But where PSRO is involved, better be sure that such a system will qualify.

It is evident that quality assessment and the CMHC's management information system are closely related. The quality assessment system is likely to be quite dependent on the MIS for much of its data. We must caution against the error of integrating the MIS with clinical records to the point where management must be over-reliant on professional clinical records for MIS functions. In other words, MIS should be expected to feed data to clinical records, but clinical records should not be expected to feed data to the MIS.

### 3. Confidentiality

Whenever a client's record is opened up for review to other than his own clinician, the confidentiality of that record is abridged. Covering the patient name on the record before copying is an obvious protective device, but doesn't eliminate patient identification from the context, or other facts of the record. Care needs to be taken that confidentiality or individual client data are protected as fully as possible, by insuring that only the minimum number of people become knowledgeable about the details of any given case and have access to records, abstracts, or summaries of review findings and results. This is as valid a concern in mental health, where privacy between client and clinician has always been held in the highest regard, as it is in medicine, where confidentiality under PSRO review continues to be a major concern of all physicians. These issues are very much unsettled, legally, as we complete this manual. The implications of the Privacy Act of 1974 are still being uncovered, especially with respect to computerized data systems. Refer to such readings as the Bigelow and Nyceum book listed in the references to the chapter on MIS in this manual.

### 4. Use of Nonclinician Personnel

In many review systems that have come into existence in recent years, non-clinicians (nurses, record analysts, paramedics, abstractors, etc.) have been used in some steps of the review process. This has raised a number of issues for some among the professionals being reviewed. In particular, professionals have resented nonprofessional involvement in any aspect of the review of their professional work and have questioned the ability and training of nonprofessionals in the interpretation of client records. Without adequate clinical training, it is argued, nonprofessionals cannot deal with professional review issues, and their actions in review are viewed as un-founded second-guessing by the reviewees. It is clearly important to use clinicians as a back-up for any nonprofessional staff; quality assessment, however, is meant to be an objective process in which it is necessary to attain objectivity, disinterest and efficiency simultaneously. This is often difficult to accomplish without broadening the definition of peers.

The system should be constructed so as to leave the decision-making process open and visible to the clinical peers, if their trust of the system is an important issue. (Who these peers are may in some CMHCs be itself an issue.)

### 5. Cost Control and Quality Improvement: Trade-off, Balance, and Integration

There are two broad purposes behind mandated quality assessment activities: (1) to control the cost of care by eliminating unnecessary care and services; (2) to improve the quality of care by assuring that criteria defining quality care have been met. There are times when those purposes may be at odds with each other in individual client cases. For example, the pressure to contain costs might push a quality assessment system to favor the briefer or shorter modes of therapy in a given client situation, even though longer (hence more expensive) modes of therapy might be preferable (even if they were not an absolute choice for quality care). Taking second-best (though reasonable) therapy choices, or otherwise subjecting the treatment process to unwarranted modification for the sake of cost control, is a real possibility in quality assessment. In terms of priorities, however, it was not intended that cost control supersede provision of quality care as the number-one objective of such review systems. Providing quality care is still meant to be the ultimate governing principle behind PSRO-based and other quality assessment systems, and losses in quality are not an inevitable result of cost-oriented quality assessment. Suitable procedures can lead to a genuine balance based on making the right decisions at the right time, and occasionally even to new treatment standards or new procedures that represent new and valuable syntheses within the treatment process. Necessity sometimes does mother invention!

### 6. Education vs. Punishment

Finally, the issue is often raised as to what stance is taken by quality assessment systems with respect to means for effecting change. It has been an evident preference, from the earliest days of utilization review, that review decisions lead to educational rather than punitive interventions with affected clinicians. Ideally, discoveries of inadequate practice on the part of a clinician are transmitted into educational actions correcting such inadequacies. This continues to be the explicit intention of PSRO review. However, when a clinician repeatedly delivers inappropriate services, preventive sanctions by management are expected. Since quality assessment is now almost always tied to reimbursement decisions by federal and other third-party payors, an aura of punishment sometimes pervades clinician perception of quality assessment. Those who administer quality assessment systems need to assure that clinicians understand the process is meant to be educational (for self-improvement), and should employ management intervention to prevent inappropriate care, but interventions should come early enough that punishment is ideally never the result.

How to make the process truly educational is in itself an issue. Where a quality of care committee composed of clinicians has worked effectively in either medical or mental health settings, the participating clinicians tend to find the experience educational and beneficial. In fact, these benefits appear from scattered evidence of quality assessment research projects to be primary incentives to the clinicians to maintain and develop the quality review program. But if the clinicians are required to do what they see as massive amounts of paperwork, or face long delays while review is conducted, they are likely to regard the "educational process" as itself a punishment.

### 7. Who Are the Care-Givers?

A particular difficulty CMHCs may face in quality assessment is that very often the care in CMHCs is delivered by interdisciplinary teams, whereas review (in medicine, at least) tends to focus on individual providers of care. CMHCs will need to pay special attention to review of client care regardless of how and by whom it is provided. If PSROs are dominated by medical interests, they may have difficulty coping with this particular need of CMHCs.

## C. ADMISSION CERTIFICATION (INPATIENT SERVICES)

### What is the technique?

Admission Certification is a technique used to insure that hospitalization is the most appropriate method to treat the client's problem. It is a requirement, in both legislation and guidelines, of the PSRO program. Its outputs are either confirmation of the need for hospitalization or denial of that need, which in turn is intended to lead to denial of payment for admission of the client in question. The technique is applied for two reasons: (1) to assure that only appropriate admissions are made to inpatient facilities so that available facilities are used only when necessary; (2) to achieve the most appropriate level or type of care for clients.

For CMHC purposes, it is unfortunate that so much of the "technology" of quality assessment so far developed should relate to inpatient admissions and length of stay, since in so many CMHCs excessive length of stay is clearly not at present a problem, though it is a conceivable problem. Several pressures operate toward keeping length of stay as short as appropriate, and admissions well within bounds. Contracts with general hospitals furnishing inpatient services often stipulate that nonreimbursable days utilized will be paid for by the CMHC. Many CMHCs have extremely limited inpatient capabilities to meet a growing (total) demand for clinical services. The ideology of the community mental health movement itself tends to support a logic that minimizes length of stay of inpatients. But all this may change

if Medicare, Medicaid, and national health insurance ever offer inpatient coverage widely among the clientele of the CMHCs without also making outpatient services reimbursible--as has been frequently the case with the Blues and even commercial carriers.

Admission certification is a quality assessment technique in that its use can lead to increased efficiency in the use of facilities and increased appropriateness of client care.

The objectives of admission certification include:

(1) To insure that clients requiring inpatient care are admitted to inpatient facilities;

(2) To assure that care which could be provided at a noninpatient level of care is not provided on an inpatient basis without appropriate justification (e.g., lack of trained personnel, geographic constraints, etc.);

(3) To assure that inpatient admissions are not being inappropriately delayed; and

(4) When an admission is certified, to assure assignment of a diagnosis-specific or problem-specific length of stay certification period. In addition, where problems in post-discharge care are anticipated, discharge planning should be initiated as soon as possible after admission.

Admission certification when done is performed for elective, nonelective and emergency admissions. It is usually performed within the first 24-48 hours of admission, although the certification process can be implemented prior to admission.

When should the technique be used and what are its limitations?

The PSRO program has recognized that 100% coverage of clients may not be a productive policy in the long run. Initially, certification for all elective admissions is assumed unless there is clear evidence that a specific diagnosis or clinician does not need such review (admissions for term delivery is an example), or that available manpower is inadequate to handle the review volume generated by 100% review.

However, admission certification may not continue to be indicated for all admissions at all times. Discontinuation could occur when (1) accumulated data from the admissions certification program demonstrate the absence of admission denials for the clinician or condition under study; (2) historical data demonstrate excellent compliance with length of stay norms over time; (3) no history of inappropriate services use for clients or by clinicians under study is seen; and (4) client outcomes have been demonstrated excellent for the study condition.

On the other side of the issue, study of historical data from the admission certification program for elective admissions may indicate that specific conditions or clinicians are especially in need of close surveillance at the CMHC. Particular attention will then need to be given to the certification process for those situations.

Initially, certification of emergency admissions will be required for either all emergency admissions or a sample of admissions designed to assure that all clinicians and all major diagnoses or problems are covered in a reasonable period of time (undefined). If sampling for emergency admission certification is used, the selection process might focus on clinicians or conditions for which evidence exists that treatment or admission has in the past been inappropriate. Over time, it is presumed that areas not needing emergency admission certification will be identified and eliminated, while new areas requiring admission certification may be identified. The indications for applying the emergency admissions certification process, then, can be expected to vary over time. Under PSRO, two options exist: (1) the PSRO can conduct the review itself, using its own personnel, and (2) the PSRO can delegate authority to the CMHC to conduct the review, if the CMHC can demonstrate that it can conduct such review effectively. In early stages of PSRO development, the PSRO may need to delegate responsibility for review to the CMHC. Delegation may or may not occur in later stages of development after the PSRO has developed a mechanism, trained staff, and required expertise in the process of admissions certification.

How do you implement the technique?

There are four requirements for carrying out admissions certification: personnel, data collection forms, admissions criteria, and length of stay norms.

(1) Personnel: In admission certification programs operating in the early PSROs (Utah and Multnomah, for example), the principal personnel used was the review coordinator (usually a nurse). Use of nurses as review coordinators in the mental health context may well be appropriate; certainly this appears to be the common PSRO practice. In general, coordinators could approve admissions, but were required to refer all denials to clinicians for a final decision. The same principle seems logical for CMHCs as well. The review coordinator will need to be trained in the principles of quality assessment and the regulation of PSRO. The coordinator will be responsible for daily review of admissions, documentation of certification decisions, and if the admission is certified, assignment of an initial approved length of stay for the client. The clinician advisor in the process is used when a denial of admission is recommended by the coordinator. An appeals process to a larger utilization review committee has been provided in many review systems (whether for admission certification or some other form of review).

(2) Data collection forms: Data collection forms are needed for the initial paperwork and for tabulation of certification decisions. The PSRO Program Manual has identified certain basic data elements required in the process:

- Client identification;
- Payment method;
- Clinical identification;
- Diagnosis(es) or problem(s);
- Selected signs, symptoms, and/or results of previous treatment. (Data required here will be determined by the criteria used for admissions review.)

In addition, data on number of admissions reviewed, number certified, and number denied need to be kept, according to PSRO guidelines.

An example of an admissions certification data collection form for mental health was provided by the Colorado State Hospital, which has developed a prototype quality assessment system for inpatient mental health service along the lines of PSRO requirements, under a federal contract. The admission certification process in the Colorado system is extensive. Data are collected on:

- Demographic characteristics;
- Previous admissions, dates, treatments, and diagnoses;
- Vital signs, brief medical history;
- Manner and time of arrival;
- Recent use of mental health services;
- Whether the client met one of several clinical criteria for admission (see following discussion of criteria);
- Whether the client met one of several social criteria for admission (see following discussion of criteria);
- Whether the admission is clinically inappropriate or reluctant on the part of the admitting officer, but needed anyway (in the case of a binding court order, or a boarder);
- Final disposition, if not admitted as inpatient (i.e., outpatient, partial hospitalization, referral to another agency, admission refused);
- Presenting complaint (narrative on present situation and need for admission);
- Mental status and psychiatric clinical description (references to orientation, affect, presenting behavior);

- Diagnostic worksheet (for eight common diagnoses, common symptoms precipitating admission are available for check-off);

- Physical and medical needs at time of admission;

- Code for admitting diagnosis (in DSM-II).

As can be seen, some data on the form can be collected at the time the client presents for admission, and is used in the certification process as the basis for approval or disapproval of admission; other data are collected subsequent to the review decision. The form is thus suitable as an input to a retrospective study, and can also be used to fulfill reporting requirements on number of reviews, certifications, and denials.

This form is obviously imbedded in an elaborate and highly automated system of sophistication greater than many CMHCs soon can attain. Furthermore, some of the assumptions are unique to state mental hospitals. Ultimately, however, it may be in the interest of some CMHCs to develop quality assessment systems that are compatible with one another and with affiliated state mental hospitals, as opportunities arise for experiments and innovations in funding under the SSA health insurance programs, starting with Medicare and Medicaid. In any event, the form is adaptable to the purposes of many of the CMHC inpatient services.

(3) Admission criteria: An important need in the admissions certification process is for criteria specifying when, for the given diagnosis or problem, admission is appropriate or inappropriate. Four examples of criteria from mental health quality assessment systems are presented:

- Diagnosis-specific criteria sets: As developed by the American Psychiatric Association, these criteria sets specify the circumstances justifying hospitalization, indicate the supporting documentation required, and establish broad parameters governing the implementation of a treatment program, circumstances where extended duration of stay is warranted, and conditions for discharge (Example 1, page 319).

- Clinical and social indications for hospitalization: The Colorado State Hospital developed separate clinical criteria and social criteria for all patients, regardless of diagnosis or problem. Social criteria are included in the belief that it may not be a diagnosis/problem or need for psychotherapy alone that precipitates an individual's entrance to the mental health care system, but rather that social variables may account for the need for inpatient care in some clients. These criteria are also included below (Example 2, page 321).

- Symptom-behavior specific criteria: The Connecticut Mental Health Center has developed specific criteria for the hospitalization of patients exhibiting suicidal behavior. These criteria include a mix of clinical and social indications. The example is provided as an alternative in criteria construction where the primary focus is upon developing specific criteria on the basis of problem of note rather than diagnosis (Example 3, page 322).

• A scaled judgment of the necessity for hospitalization: The Connecticut Mental Health Center has also developed a general rating scale for appropriateness of hospitalization for all patients. In 1966, H.G. Whittington proposed a set of criteria to evaluate the need for psychiatric hospitalization,[3] using questions about client behavior, mental status, physical condition, and clinician concern for client well-being. The criteria are weighted on a scale of 1 to 4 to reflect their importance. While the Connecticut Mental Health Center modified Whittington's criteria for use in a retrospective audit system, the criteria can also be applied in an admissions certification context. Each prospective admission can be rated according to the criteria, receiving a score between 0 and 75. A score of 12 or more indicates definite need for hospitalization, while a score under 12 requires review by a clinical consultant, in the Connecticut system. The criteria, their weights, and instructions on rating are given below. This rating scale exceeds the requirements of PSRO, and its use may be too complex and costly in most CMHCs just beginning to develop quality assessment systems (Example 4, page 323).

(4) Developing norms for length of stay: Finally, admissions certification staff require statistical norms that provide an indication of the range of length of stay found in the population at large for a specific disease or problem. Such norms have been extensively developed in medicine for use in quality assessment programs; their development in mental health settings is just beginning. Length of stay norms are usually presented in percentiles; e.g., 10% of the population stays no longer than five days, 25% stays no longer than eight days, 50% stays no longer than 12 days, 90% stays no longer than 24 days, etc. In this way, a frequency distribution is used in monitoring of length of stay. The reason admissions certification staff need length of stay norms is that after an admission is certified, the review coordinator is expected to assign the client an initial number of approved days of inpatient care based on the norms. Most quality assessment systems use the 50th percentile for length of stay as the number of approved days. In other words, the client is certified for a length of stay up to the 50th percentile of the length of stay norms. Any stay beyond the 50th percentile must be reviewed, and a recertification process assigning a new approved length of stay ensues. This is the function of a separate quality assessment technique, Continued Stay Review (see page 325). Continued stay review is primarily oriented toward length of stay monitoring; hence, it overlaps admission certification in that the process of admission certification includes initial length of stay assignment.

When the review coordinator has a data collection form, admissions criteria, and length of stay norms to work with, the process of work is relatively straightforward. Certification of the appropriateness of admission occurs first. When a new client is admitted, the review coordinator must perform the admissions certification process as soon as possible. In the Colorado State Hospital system, review is conducted within 24 hours of admission. In

[3] in Psychiatry in the American Community. New York: International Universities Press, 1966.

the nation's first PSRO, the Utah Professional Review Organization, the same time period is used. In each individual review, either the admission is certified or an exception is generated which requires review by a clinical advisor. The Colorado system is unusual in its use of computerization in the admission certification process. Once the data collection form is completed (including the review coordinator's perception of whether clinical or social criteria for admission are met), the form is subjected to computer analysis. An exception is generated, and returned to the review coordinator for further analysis or referral to a clinician if admission is deemed inappropriate, in any of the following circumstances:

- No clinical or social criteria for admission are met;
- The clinician indicates that the admission is inappropriate or reluctant;
- The presenting complaint is unrelated to the admissions criteria;
- Client mental status and psychiatric description are unrelated to admitting diagnosis;
- Instructions for the diagnostic checklist are not followed;
- Significant symptoms are not checked when applicable;
- Pertinent medical history and physical findings are left blank; and
- The form is illegible, or unsigned.

If the computer signals the admission as an exception (potential denial), the review coordinator corrects those clerical or documentation errors that apply. If, after those corrections, the admission still does not meet admissions criteria, a clinical advisor is called in to render an approve or deny judgment. Approved admissions go on to the next step, length of stay assignment. Denied admissions may be the subject of consultation between clinical advisor and admitting clinician, an appeal to a full review committee or some other institutional authority, or removal of the client from inpatient facilities.

The Utah system, like most other admission certification systems, relies on the judgment of the review coordinator, backed up by clinical advisor, based on review of the client's record and perhaps discussion with the admitting clinician. Denials are subject to the same process as in the Colorado State Hospital system.

After an admission has been certified, the review coordinator assigns the admission an approved initial length of stay, based on statistical norms, where they are available, usually the 50th percentile. This period represents

the number of days certified as the maximum eligible for Medicare/Medicaid payment unless further review extends the length of stay. (See description of the technique, Continued Stay Review, for the recertification process.)

Typically, a note is placed in the client's record informing the clinician of the approved length of stay, and noting that longer stays need continued stay review.

There are conditions under which statistical norms are not used in the review process:

- Norms may simply not be available for the diagnosis or problem in question;
- The client may have multiple problems, rendering the use of norms for single problems inoperative; and
- The client's diagnosis or problem may be unclear.

In such circumstances, length of stay assignments need to be based on subjective judgments of reasonable length of stay. Clinician advisors should play a major role in determining assigned length of stay in such circumstances.

What is the level of effort required?

Estimated resource requirements:

- Mandays: This is an ongoing process. Maximum review load per review coordinator per day was estimated at 50-60 clients by two of the nation's earliest PSROs (Utah and Multnomah). Administrative support is also required. Clinician advisor support at one to two hours per day per review coordinator.

- Professional levels required: Clinicians as review advisors, trained professional staff as review coordinators. Clerical personnel for tabulation of statistics.

- Elapsed time: Ongoing process.

- Other resources required: Few estimates of cost and time to conduct admissions certification are available. The Colorado Mental Health Review Project estimated that an experienced review coordinator could complete the admission data collection form in five minutes. In the world of PSRO, cost and time estimates are based on the combined processes of admissions certification and continued stay review, which in effect blend into a single ongoing concurrent review mechanism. In the Utah PSRO, costs of the dual process were estimated at $7.71 per admission for a system which had reviewed 36,000 admissions up to early 1975. In the Multnomah PSRO, cost of review per admission was estimated at $7.54 for a fully operational

system. These costs average in both developmental and operational costs, including salaries for review coordinators and clinical advisors, costs of criteria development, and data processing costs.

Limitations of these estimates:

- These are either Arthur D. Little, Inc., estimates or very preliminary estimates from early experiences of PSROs conducting review for medical patients. Few data are yet available on resource requirements for mental health admissions certification.

What are the primary sources of information about this technique?


- PSRO Program Manual, Chapter 7. USDHEW, March 1974.
- Goran, Michael, et al. The PSRO Hospital Review System. Medical Care, 13(4), Supplement, April 1975.
- Riedel, Donald C.; Tischler, Gary L.; and Myers, Jerome K. (Eds.). Patient Care Evaluation in Mental Health Programs. Cambridge, Mass.: Ballinger Publishing Company, 1974.
- Paras, Jorge L., M.D. A Guide for Development and Implementation of a Utilization Review and Medical Care Assessment Program. Fort Logan Mental Health Center, Colorado State Hospital Project. Report to DHEW under Contract No. HEW-05-74-52, 1974.


- PSROs presently in operational status, or close to that status, located reasonably near the CMHC.

EXAMPLE 1

APA CRITERIA SET FOR ALCOHOLISM

| ALCOHOLISM | DSM-II |
|---|---|
| | 303.0 |
| | 303.1 |
| | 303.2 |

I. JUSTIFICATION FOR ADMISSION

A. Potential danger to self, others, or property or
B. Excessive use of alcohol, and
C. Planned detoxification, or
D. Need for continuous skilled observation or therapeutic milieu

II. LENGTH OF STAY

A. INITIAL LENGTH OF STAY ASSIGNMENT FOR PRIMARY DIAGNOSIS OR PROBLEM (numerical determinations to be established locally based on statistical norms)

B. EXTENDED LENGTH OF STAY ASSIGNMENT (numerical determinations to be established based on the individual patient's condition at the end of the initial length of stay period)

1. REASONS FOR EXTENDING THE INITIAL LENGTH OF STAY

a. Continuation of danger to self, others, or property
b. Continued need for detoxification or therapeutic milieu
c. Antabuse (disulfiram) reaction

III. VALIDATION OF:

A. DIAGNOSIS:

1. Documentation of alcohol use great enough to damage physical health or personal or social functioning, or as a prerequisite to normal social functioning

B. REASONS FOR ADMISSION

1. Documented danger to self, others, or property (IA)
2. Documentation of alcohol consumption pattern noted above (IB)
3. Documentation of current alcohol intoxication (IC)
4. Documentation of failure or unavailability of appropriate outpatient management (ID)

IV. CRITICAL DIAGNOSTIC AND THERAPEUTIC SERVICES

| | Screening Benchmark |
|---|---|
| A. Psychotropic medication (for detoxification patients) | 100% |
| B. Treatment plan to include problem formulation, treatment goals and therapeutic modality (e.g., psychotherapy, pharmacotherapy, social therapies, behavior modification) | 100% |
| C. More than two psychotropic medications at any given time, or change of psychotropic medication more than twice in a 7-day period | 0% |
| D. ECT | 0% |

V. DISCHARGE STATUS

A. Achievement of inpatient treatment goals (as outlined in IV-B)
B. Specific follow-up treatment plan established

VI. COMPLICATIONS

A. PRIMARY DISEASE AND TREATMENT-SPECIFIC COMPLICATIONS

1. Delirium tremens or withdrawal seizures
2. Complication of medication
3. Continued drinking during hospitalization

B. NON-SPECIFIC INDICATORS

1. Suicide or attempt
2. Development of psychosis after a tenth hospital day
3. Elopement or discharge against medical advice
4. IM psychotropic medication for more than ten days
5. Re-admission within 30 days of discharge

AMERICAN PSYCHIATRIC ASSOCIATION

Source: Model Criteria Set for PSRO

EXAMPLE 2

COLORADO STATE HOSPITAL SYSTEM

Clinical Criteria for Admission to 24-Hour Care
(at least one required)

1. Medical emergencies--severe, life-threatening physical conditions.

2. Need for Controlled Environment--suicidal, assaultive, severely disoriented or disabled.

3. Need for clarification of diagnosis by 24-hour behavioral observation (extensive diagnosis and evaluation process not obtainable otherwise in the community).

4. Need for specialized treatment under 24-hour supervision.

5. Drug--alcohol dependency requiring supervised withdrawal and treatment.

Social Criteria for Admission to 24-Hour Care
(at least one required)

1. Need to interrupt deleterious psychosocial interactions (examples would be destructive life style reinforced by family or peer behavior, or a child in need of protection).

2. Behavior intolerable to the client, family, or community (inpatient facilities used as an agent of social control in this case--examples would be destructive symptomatic behavior, family cannot cope with client, client cannot care for himself, or has no family).

3. Interpersonal crisis (acute recent devastating event, ego disruption, client on the verge of making largely irreversible decisions).

4. Economic reasons (insurance for private care expired and further treatment is needed, client is medically indigent).

5. Suitable community services unavailable (largely for rural clients).

Source: Paras, Jorge L., M.D. A Guide for Development and Implementation of a Utilization Review and Medical Care Assessment Program. Fort Logan Mental Health Center, Colorado State Hospital Project. Report to DHEW under Contract No. HEW-05-74-52, 1974.

EXAMPLE 3

CONNECTICUT MENTAL HEALTH CENTER

Criteria for the Hospitalization of Patients
Exhibiting Suicidal Behavior

If the patient exhibited any of the following:

- Current, clear suicide attempt
- A clear, lethal suicide plan
- A recent history of medically serious attempts
- Suicidal thoughts, gestures, or attempts in association with delirium or psychosis
- Recent marked progression in seriousness of thought or from thought to gestures
- Expression of strong suicidal thoughts with intent without seeing another way out
- An expectation of hospitalization that cannot be changed at interview
- Expectation of change in significant others due to suicidal behavior are not met nor can be changed appropriately
- Precipitating factor cannot be changed or
- High risk social circumstances, was he hospitalized (compulsorily if necessary)?

Source: Riedel, Donald C.; Tischler, Gary L.; and Myers, Jerome K. Patient Care Evaluation in Mental Health Programs, p. 79. Cambridge, Massachusetts: Ballinger Publishing Company, 1974. Reprinted with permission.

EXAMPLE 4

CONNECTICUT MENTAL HEALTH CENTER

General Criteria for Certifying
The Appropriateness of Hospitalization

Instructions to Reviewers

1. Rate patient on each criterion as follows: none=0, slight=1, moderate=2, and extensive=3; multiply the rating by the weight shown and enter the score for each criterion. Sum the scores for all 12 criteria to obtain total score.

2. Ratings are to be based on the patient's condition in the seven days preceding evaluation for hospitalization.

3. In applying the criteria, an item of reported behavior should be employed to arrive at a rating on the first criterion on the list to which it applied: do not use the same item on behavior to score a criterion that falls later in the list (e.g., suicidal behavior should not be used in rating criteria 4 and 5).

Criteria

1. Is there evidence of active suicidal preoccupation, in fantasy or thoughts of patient? (Weight=2)

2. Have there been suicidal attempts or active preparations to harm self (e.g., buying a gun, etc.)? (Weight=4)

3. Has the patient threatened to hurt someone else physically? (Limit to verbal threats) (Weight=2)

4. Have aggressive outbursts occurred toward people? (Weight=4)

5. Have aggressive outbursts occurred toward animals or objects? (Weight=2)

6. Has antisocial behavior occurred? (Weight=1)

7. Are there evidences of impairment of such functions as reality assessment, judgment, logical thinking, and planning? (Weight=1)

8. Does the patient's condition seem to be deteriorating rapidly or failing to improve despite supportive measures? (Weight=1)

9. Are there physical or neurological conditions or a psychotic, disorganized state that require(s) hospitalization to initiate the treatment process? (Weight=2)

10. Does a pathological or noxious situation exist among patient's family or associates that makes initiation of treatment without hospitalization impossible? Or, does the patient's disordered state create such difficulties for family or associates that he has to be removed and hospitalized for their sake? (Weight=1)

11. Are emotional contacts of the patient so severely limited or the habitual patterns of behavior so pathologically ingrained that the "push" of a structured hospital program may be helpful. (This criterion should not be applied to acute patients, but only to those who are so limited as to be unable to establish and maintain emotional contacts.) (Weight=1)

12. Does evaluation of the patient's condition require the 24-hour observation and special evaluation that a hospital provides? (Including stabilization or reevaluation of medication.) Or, is patient referred for treatment of drug or alcohol dependence? (Weight=4)

Source: Riedel, Donald C.; Tischler, Gary L.; and Myers, Jerome K. Patient Care Evaluation in Mental Health Programs, p. 81. Cambridge, Massachusetts: Ballinger Publishing Company, 1974. Reprinted with permission.

## D. CONTINUED STAY REVIEW

### What is the technique?

Continued Stay Review is a technique which is used to assure that hospitalization for already hospitalized clients continues to be necessary and appropriate to client care. Continued stay review has two dimensions: length of stay and quality of care. Length of stay review is the mainstay of continued stay review; quality of care review on a concurrent basis is less well developed as a technique. Length of stay review relies on use of statistical norms or clinician judgment (where norms are not available or applicable) on client length of stay for specific problems. Typically, clients are reviewed periodically with the period of review determined by the norms on length of stay. In most systems, a client would usually be reviewed when his length of stay reached the 50th percentile of length of stays for the specific condition he has. If continued hospitalization was deemed appropriate at that time, he might be assigned a new checkpoint of the 70th or 75th percentile. Review would proceed at each checkpoint, with determinations made at each review of whether continued hospitalization was appropriate. Determinations of continued need would result in a certification of the client's stay for an additional number of days (determined by the next length of stay checkpoint), while a determination of no further need for hospitalization should result in notification of such a finding, and discharge of the client from inpatient facilities.

The objective for continued stay review as a quality assessment technique is to assure that inpatients (1) receive inpatient services only as long as necessary, and (2) receive services appropriate to or required by their condition. It is a technique whose application is expected to improve (1) the efficiency of the use of clinical services, and (2) the quality of client care. Conducted too rigidly, length of stay review may actually reduce the quality of care, where its procedures are insensitive to the possibility that the prescribed stay is actually too short.

The objectives of continued stay review stated by the PSRO Program Manual include:

- To assure that payment is made only for care which should be delivered at an inpatient level of care unless otherwise justified (e.g., no lower level of care available, geographic constraints, etc.);
- To assure that the services provided to a client are efficacious, meet locally developed standards of quality, and are delivered at a time most consistent with the client's needs;
- To perform effective pre-discharge planning; and
- Where necessary, to collect data needed for use in clinical care evaluation studies.

It is expected that continued stay review will be conducted for all PSRO admissions at first. Over time, clinicians or diagnoses for which continued stay review is not needed may be identified.

Three types of criteria are expected to be used in continued stay review:

(1) Criteria specifying what client outcome indicates the client is ready for discharge (discharge criteria);

(2) Criteria indicating types of service, or specific services, required by the diagnosis or problem which can only be provided at an inpatient level of care (level of care criteria); and

(3) If in-depth assessment of quality of care is to be conducted, criteria will be needed indicating critical and contraindicated diagnostic and therapeutic services (quality of care criteria).

Data required from the continued stay review process by PSRO include:

- Number of cases reviewed;
- Number of extensions granted by coordinator;
- Number of extensions referred to clinical advisor:
  - -- number granted
  - -- number denied (identifying client and clinician for each denial);
- Data on compliance with quality criteria where quality review is conducted; and
- Total number of inpatient days approved.

When should the technique be used and what are its limitations?

The technique is required by PSRO for each client under PSRO jurisdiction. Where limitations exist, they will probably be due to nonavailability of length of stay norms or explicit criteria for the process of treatment, thus forcing the technique to rely on the implicit judgment of review personnel. As stated earlier, the technique may eventually be applied in limited situations rather than for all clients, if the PSRO or CMHC is able to identify selected clinicians or client groups for whom the process is judged necessary.

How do you implement the technique?

Once personnel are in place and trained, two needs still exist:

(1) Statistical length of stay norms;

(2) Explicit criteria for the process of treatment.

Age and diagnosis or problem-specific length of stay norms are required for the ongoing review of length of stay in continued stay review. If they are not available, or are inapplicable, implicit judgment on length of stay is used. For the CMHC that wishes to conduct concurrent review of the quality of the treatment process, use of explicit criteria stating critical elements of care and contraindicated therapy is advised. Without explicit criteria, the implicit judgment of the review coordinator must be relied upon. Unless the review coordinator is a clinician and peer of the clinicians being reviewed, the use of implicit judgment on quality of care can lead to difficulties related to nonclinicians judging clinicians. The objective of concurrent quality review is to identify quality deficiencies while they can be corrected, and to work, through consultation with clinicians, to correct them immediately.

- Length of Stay Review

The initial assignment of a length of stay is made during the application of the Admissions Certification technique, described in this manual. Normally, this will be the 50th percentile of length of stay for clients of the same age and sex as the subject client. If statistical norms are not available, or are inapplicable, an implicit judgment of a first review checkpoint is made by clinician advisors and the review coordinator.

Continued stay review then commences. Two to three days prior to the checkpoint, the review coordinator will review the client's record and optionally discuss the client with the involved clinician. If continued stay is judged necessary, a new checkpoint will be assigned, based on norms (the 75th percentile is often used) or implicit judgment. The process of assigning new checkpoints, usually termed recertification, can occur as often as necessary.

It is important to remember that the assignment of approved lengths of stay to clients should not be permitted to develop into a process where recertification is frowned upon.

Norms for length of stay indicate a range of lengths of stay which are found in client groups of similar characteristics for a common problem. The 50th percentile indicates that half of the population can be expected to need no more than that many days, but equally that half of the population can be expected to need more than that number. When a client reaches the 50th percentile, then, he may well be in that half of the population for which longer stay is required. Each client needs to be judged individually.

The rationale underlying length of stay monitoring is simple: overall, if unnecessary utilization of inpatient days exists for a given client group, length of stay monitoring will apply pressure on clinicians to reduce this

unnecessary utilization. This will lower the overall range of length of stay norms over time. Where no unnecessary utilization appears to exist, length of stay norms can be expected to remain unchanged over time. CMHCs applying the process of length of stay monitoring should keep in mind that the objective of the process is not arbitrary reduction in length of stay (to contain costs of care), but rather assuring that care rendered to clients as inpatients is necessary and appropriate, which may or may not involve reduction of length of stay. Attempting to reduce length of stay for its own sake may obscure client care needs, and ultimately be detrimental.

How do review coordinators make judgments about the necessity for continued inpatient care? Usually the judgments are implicit (though the assignment of a new length of stay is often based on explicit norms). The Colorado State Hospital system offers a series of general criteria for use by review coordinators in the decision process. In the Colorado system, the review coordinator searches for the following indications that discharge is not yet appropriate:

- Psychosis not in remission;
- Client is suicidal or assaultive;
- Physical complications;
- Treatment of disruptive personality in process;
- Skill or role enhancement therapy in process;
- Similar services still needed, and unavailable in the community;
- Awaiting transfer to dependent care facility or other facility;
- Awaiting economic support arrangements;
- Family rejection;
- Community rejection.

When a judgment is reached by the review coordinator that continued inpatient stay is no longer appropriate, that judgment is transmitted to the clinical advisor for a final recommendation. If the recommendation is that stay is no longer indicated, the involved clinician is informed. Generally, he may question the decision by appeal to a larger review committee. If the decision is upheld, two choices are left:

(1) Discharge of client;

(2) Continued stay, even though reimbursement will not be received for noncertified days of care.

In terms of logistics, recertifications are usually communicated to clinicians by placing highly visible notes in the client's psychiatric record stating dates for which recertification is in effect, while denials are communicated personally by clinician advisors.

An alternative approach is to solicit material directly from the clinician, which eliminates the necessity of a chart review. Here the determination of continued care can be made directly by a utilization review committee or committee member on the basis of the information provided. An example of a form is provided on page 331(Example 5).

A second, optional part of continued stay review is concurrent quality assessment. This involves ongoing monitoring of services and therapy to assure that clients are receiving quality care judged in terms of the process of care. Concurrent quality review is usually done against explicit criteria for the process of care. It can also be done implicitly. In either case, any judgments of inadequate quality made by review coordinators need to be transmitted to the clinical advisor, who is responsible for a final judgment and, if necessary, consultation with the involved clinician. In the Colorado State Hospital system, the review coordinator conducts concurrent quality assessment. The coordinator studies the treatment plan face sheet for initial diagnostic impression, definition of client problems, appropriateness of planned interventions to client problems, and evidence of tentative release goals and plans. Progress notes are reviewed for entries of client behavior, treatment responses, and other related circumstances. Finally, the chart is reviewed for a medical assessment, to assure that physical findings are recorded, lab reports completed, and minimum required medical work-up is performed. Examples of reasons why a judgment of deficient quality care could be made include nonacknowledgement of abnormal physical and lab findings, use of interventions not related to client problems, or inadequate recording of client progress. Previous experience of other quality assessment systems suggests that what often appears as inadequate process of care is in fact no more than inadequate recording of interventions and progress. The imperfect correlation between client records and client care is widely acknowledged in medicine; if the same holds true in mental health, concurrent quality review coordinators would do well to assure that judgments on quality are rendered only after a full investigation of client care is conducted (discussion with involved clinician in addition to review of record).

What is the level of effort required?

Estimated resource requirements:

Data on this issue were presented in the Admissions Certification section. For concurrent quality review only:

- Mandays: 15 minutes per chart review. One hour per day for review coordinator and clinician advisor to discuss findings.

- Professional levels required: Clinicans as advisors. Professional staff as review coordinators.

# CONTINUED

# 4 OF 5

- Elapsed time: Ongoing process.

- Other resources required: No computer required.

Limitations of these estimates:

- These are Arthur D. Little, Inc., estimates. Few data are available on resource requirements for concurrent quality review, and little or no experience in mental health is available on which to draw.

What are the primary sources of information about this technique?


- PSRO Program Manual, Chapter 7. USDHEW, March 1974.

- Goran, Michael, et al. The PSRO Hospital Review System. Medical Care, 13(4), Supplement, April 1975.

- Riedel, Donald C.; Tischler, Gary L.; and Myers, Jerome K. (Eds.). Patient Care Evaluation in Mental Health Programs. Cambridge, Mass.: Ballinger Publishing Company, 1974.

- Paras, Jorge L., M.D. A Guide for Development and Implementation of a Utilization Review and Medical Care Assessment Program. Fort Logan Mental Health Center, Colorado State Hospital Project. Report to DHEW under Contract No. HEW-05-74-52, 1974.

- Operating PSROs.

EXAMPLE 5

Certification of Need for Continued Stay: Beth Israel Medical Center - M.J. Bernstein Institute Psychiatric Inpatient Service. Utilization Review

Dr._____, on_____, your patient_____ will have been hospitalized 23 days. If you anticipate that more than 30 days of inpatient care is needed, please complete and return this form before the 23rd day. If discharge is anticipated before 30 days, check here [ ] and return.

1. What symptoms or behavior necessitated current admission?

2. Has patient been hospitalized before?
   [ ] No [ ] Yes:_____ times, last hospitalization at _____, usual length of stay_____.

3. Therapeutic goals for this admission:
   [ ] a. remission of symptoms
   [ ] b. evaluation of previous psychotherapy
   [ ] c. planning for psychotherapy
   [ ] d. planning for other care
   [ ] e. diagnostic evaluation
   [ ] f. other
   Elaborate briefly, making clear what is to be accomplished or what problems exist.

4. [ ] Discharge not possible because necessary work-up not completed early enough; explain.

5. Discharge not possible because discharge plans not complete:
   [ ] a. planning not initiated promptly
   [ ] b. direction of planning had to be altered during hospitalization
   [ ] c. discharge difficulties related to:
      [ ] 1) patient's motivation or acceptance of situation
      [ ] 2) insufficiency of community resources
   [ ] d. physical illness of patient prevents completion of plans
   [ ] e. transfer pending
   Give specific details to illustrate the problem.

6. [ ] There was a relapse, but patient is now improving; describe.

7. [ ] Type of therapy was changed during hospitalization; specify.

8. [ ] Discharge within _____ days from now is anticipated.

9. Explain reasons for requesting further hospitalization beyond 30 days.

_____ _____
Date Physician

Action: [ ] Approved [ ] Disapproved [ ] More information needed

Source: Richman, Alex and Pinsker, Henry. American Journal of Psychiatry, 130(8): 903, August 1973. Copyright 1973, the American Psychiatric Association. Reprinted by permission.

## E. CLINICAL CARE EVALUATION STUDIES

### What is the technique?

A Clinical Care Evaluation Study (the mental health term for the medical care evaluation studies mandated by PSRO) is a retrospective study of some aspect of the quality of clinical care given in the CMHC, oriented toward group data analysis rather than individual client analysis. Clinical care evaluation studies do not themselves represent a discrete, well-defined technique of quality assessment which can be described in a "how to do it" manner. Rather, the term is used to describe a concept, a retrospective study of some aspect of the quality of clinical care, such as:

- Consistently poor client outcomes for a specific condition;
- Use of suicide precautions;
- Persons on three or more psychotropic drugs; and
- Use of neurologic evaluation for patients with memory impairment or neurological deficit.

Clinical care evaluation studies, as a technique of quality assessment, can really only be described in structural terms: what steps to take, how to close the feedback loop, what to do next. In fact, many of the techniques outlined in other sections of the manual can probably serve as clinical care evaluation studies.

Clinical care evaluation studies are most useful to CMHC management when they investigate a correctable problem which the CMHC needs to solve immediately rather than a more academic research issue. They are useful in providing data on the reasons behind current problems, which can then be the focus of managerial action to improve the quality of services or the efficiency of services utilization in the CMHC.

The PSRO Program Manual suggests that clinical care evaluation studies have certain characteristics. Among these characteristics are:

- Specifically designed, in-depth study focusing on identified real or potential problem areas;
- Usually of short duration;
- Prompted by objective (through study and analysis of data) or subjective (staff or managerial perceptions) identification of problem areas;
- Usually performed by a single organization, but can be performed by a group in a coordinated effort;

- Do not usually deal with an individual client or clinician, but rather with data on care provided by a number of clinicians to a number of clients;

- Results of such studies should form the basis for educational or other efforts to ameliorate the problems uncovered;

- Can be used to monitor the effectiveness of other quality assessment activities (such as admission certification and continued stay review) and identify areas where such efforts should be terminated, originated, or intensified;

- Possibly identify changes needed in organization and administration; and

- Analysis of data is normally conducted retrospectively, although data for the study may be collected on a concurrent basis (while the client is receiving services).

When should the technique be used and what are its limitations?

Generally, clinical care evaluation studies are an example of group data analysis (profile monitoring is the other group data analysis technique included in the quality assessment section of the PSRO manual), and as such are indicated whenever the CMHC wishes to address group rather than individual quality assessment analyses.

While outcome studies are addressed in another section of this manual, the utility of clinical care evaluation studies to patient outcome analysis needs to be stressed. When adequate process of care is specified in criteria for certain conditions or problems, it is expected implicitly that all patients should receive care according to the criteria. Not so with patient outcomes. Some patients improve and some do not. Adequate process does not guarantee adequate outcome. Adequate outcome may occur in spite of inadequate process. While it may be possible to specify some short-term outcomes that should be expected of almost all patients, very few such outcomes exist. For the most part, outcome is more appropriately understood on a population or group basis, using percentages as criteria for determining adequacy of outcome. For example, in a given group of patients, adequate outcome would exist when the group improvement rate equaled usually observed rates established as criteria.

Perhaps the most significant limitation of the clinical care evaluation study is statistical: the sample sizes generated may not be large enough to draw reliable inferences. For example, if an empirically derived criterion suggests that 80% of patients with condition X should be able to perform activity Y independently after four weeks of treatment, and in a CMHC only six out of ten (60% of) patients can do so, this does not prove that performance is below standard. A sample size (N) of ten is insufficient

reliably to permit conclusions based on the 20% "deficiency" between 60% and 80% success. Overcoming the sample size problem may require long sampling time periods, which in turn may be accompanied by other difficulties (staff changes, population changes, therapy of choice changes, etc.). Another limitation is the expense of obtaining meaningful outcome measures.

How do you implement the technique?

PSRO regulations require that facilities under PSRO review be engaged in at least one clinical care evaluation (CCE) study at any given point in time, and complete or participate in a minimum of four per year. Clinical care evaluation studies focus on assessing quality, while continued stay review under PSRO is more in line with traditional utilization review of length of stay and services utilization. CCE studies emphasize quality improvement through education for clinicians to correct specifically identified problems. Such studies have been required as part of utilization review by the Medicare program since 1967.

It is not possible to describe CCE studies in a concise way, since they can include the review of process (what is done, step by step), review of client outcomes (what results from something being done), review of use of a given procedure (under what circumstances it is used, and with what consistency or outcomes), or study of the operating characteristics of an institution (time lags, internal procedures, etc.).

Clinical care evaluation studies can follow a general operating model proposed in "The PSRO Hospital Review System," Goran et al., Medical Care, April 1975. The following steps are taken:

(1) Determine study objectives: Generally, objectives will be related to both studying a certain problem and following through to implement actions based on study results. Objectives should be selected with the following characteristics in mind:

- Apparent problem — The study should focus on areas of perceived problems in the CMHC.
- Volume or frequency — The problems studied should be frequent enough to allow sufficient data to discern patterns of care or draw statistical inferences.
- Efficacy of treatment — To the extent possible, the problems studied should be those in which therapy has been shown to improve patient health status. Otherwise, efforts may well be wasted in trying to improve performance on the treatment process, when in fact it is not the way in which it's done, but the process itself, that has determined the outcome of the study.

Once an objective has been defined and a group of observations (patients or behaviors) has been identified conceptually for the study, it is important

to assure that the group is defined in a way that assures homogeneity and replicability.

(2) Establish criteria and standards: Explicit criteria and standards should be used whenever possible as a comparison base for the data collected in the clinical care evaluation study. Criteria and standards may be developed or selected in a number of ways discussed in the description of Retrospective Chart Audit (page 341). These methods of criteria development include clinician consensus, empirical derivation, reliance on literature, and importation from elsewhere.

(3) Design the study: Once the study objectives have been defined, the observations to which the study relates have been identified (sampling design), and criteria have been established, the scope and period of the study must be determined and the availability of resources to conduct the study must be ascertained. Variables to consider in study design include:

- Study location -- Normally study is located within a single facility but it may be located within a specific service or a number of different facilities. If comparisons are made between facilities, expert judgment on comparability between facilities will be required.

- Type of study -- Retrospective, using data from patients already discharged or prospective, using data collected during patient's care, or a combination.

- Use of comparison population -- Controlled experiment or quasi-experimental design.

- Sample size -- This needs to be addressed to be assured a reasonable level of reliability of results (statistical significance). It is dependent on the characteristics of the defined study group, the frequency with which the problem is seen at the CMHC, the intended period of study, and the expected magnitude of effects being studied.

- Data collection method -- It is most economical to use already collected data accessible in a computerized data system. If such data are not available, they must be collected specially. This normally involves the preparation of data collection instruments and the use of staff time in the actual collection of data. Data sources may include client records and interviews with staff. If client records are abstracted in the data collection process, competence in interpreting clinical records by the data collection staff will be needed.

- Data processing -- Processing can be manual, built into the routine management information system if a computerized system exists, or performed as a special task within or outside the CMHC. Normally, computerized data processing is most useful in studies which plan to analyze a large number of variables for a large number of clients. Manual tabulation and analysis will probably suffice otherwise.

- Manpower and other resources -- Clinicians, review coordinators, clinical records analysts, and data analysts. Number of hours expected to be utilized and the costs of forms and processing.

Specification of data needed is one of the most important parts of step (3). These data usually fall into three categories:

- Basic descriptive information, demographic or socioeconomic, to assist the interpretation of study results;

- Data related to the criteria developed--the client care process or outcome data--which form the basis for study's analyses and conclusions; and

- Other clinical and social information--such as other related health and mental health problems, stage of disease or problem family situation, initial mental health status, etc., to assist in the interpretation of study results.

(4) Data collection: This step may occur concurrently or retrospectively. It will be of greater or lesser ease depending on the level of computerization in the CMHC. A major concern for the CMHC during this process will be assuring that confidentiality of client data is maintained, and providing clear instructions to whomever is performing the data collection.

(5) Statistical analysis: Data can be aggregated and analyzed either manually or by computer, depending on the study's scope. It is likely that the scope of care evaluation studies in most CMHCs will indicate manual analysis.

(6) Analyze results and identify deficiencies: Reports should be analyzed by the utilization review committee or some other authorized body and quality deficiencies should be identified. Very often presentation of the data through individual clinicians or clinicians in a group is dependent upon committed interpretation by an expert clinician and is often supplemented by selected individual reviews and discussions to emphasize points made in the report. If causes for quality deficiencies can be identified, step (7) is facilitated considerably.

(7) Develop an action plan -- educational intervention or administrative change: Clinical care evaluation studies undertaken for quality review should designate responsibility for quality deficiencies into one of three categories: (a) administrative, (b) lack of resources, and (c) clinician knowledge gap.

Corrective action leading to service improvement should result whenever an actionable deficiency is found. Educational intervention is traditionally considered the most appropriate action in quality review processes when a deficiency is identified and it is amenable to education. Educational interventions range from individual conferences with individual clinicians,

to formal education courses, to group discussions with the entire staff. Correcting quality deficiencies is the most sensitive part of the process. Handling in an educational rather than a punitive manner is thought to be advantageous, though it is a matter of common sense that "education" is easier when there are sanctions that can be applied to clinicians that fail to respond to the education. Administrative change may also be an appropriate result of a clinical care evaluation study. For example, a study of inappropriate admissions could find that they are more common on weekends and recommend having a social worker on duty or on call for weekend admissions.

(8) Restudy: Without a follow-up or restudy, it is difficult to determine whether educational or other corrective reactions have actually influenced clinician behavior and the quality of patient care. Restudies may be done either periodically or irregularly.

What is the level of effort required?

Estimated resource requirements:

- Mandays: Depends on complexity of study. Can be as little as 8-10 days for data collection, analysis, and interpretation; up to 2-3 months for more in-depth efforts.

- Professional levels required: Program evaluator or data analyst for data collection and analysis. Clinicians for interpretation.

- Elapsed time: Two weeks to three months. Aim to conduct four studies per year at a minimum.

- Other resources required: Computer might assist more complex studies, but generally should not be required.

Limitations of these estimates:

- These Arthur D. Little, Inc., estimates are based on limited experience of the earliest operating PSROs. More data on resource requirements should become available as the PSRO program matures.

What are the primary sources of information about this technique?


- PSRO Program Manual, Chapter 7. USDHEW, March 1974.

- Goran, Michael, et al. The PSRO Hospital Review System. Medical Care, 13(4), Supplement, April 1975.

- The PEP Primer, Joint Commission on Accreditation of Hospitals, 1975.

- Riedel, Donald C.; Tischler, Gary L.; and Myers, Jerome K. (Eds.) Patient Care Evaluation in Mental Health Programs. Cambridge, Mass.: Ballinger Publishing Company, 1974.

- The PSRO program is the most evident source for examples of clinical care evaluation studies. At this time it may be premature to seek out examples of clinical care evaluation studies. In as near a future as six to nine months, however, it may become possible to take two actions:

  (1) Find examples of clinical care evaluation studies conducted under the PSRO program (though most will relate to medical rather than mental health problems); and

  (2) Discover, through the Bureau of Quality Assurance, HEW, which PSROs relate to either psychiatric hospitals or CMHCs by delegating the responsibility for PSRO functions and which must, as part of their responsibility, conduct clinical care evaluation studies. Such organizations, once identified, can be contacted for guidance and examples.

## F. PROFILE ANALYSIS

### What is the technique?

Profile Analysis is a technique performed retrospectively using group or aggregate data on client care as the basis for analysis of the patterns of care. Profile analysis is mandated by the PSRO enabling legislation, PL 92-603, as a required method of quality assessment under PSRO. However, no regulations had been issued as of March 1976 to implement the statutory requirements or specify in further detail the process of profile analysis. It had been an early policy decision of those responsible for PSRO in HEW that of the four quality assessment activities mandated for PSRO [admissions certification, continued stay review, medical (clinical) care evaluation studies, and profile analysis], profile analysis would not be immediately required since the technology available for it was not well developed. It was, and still is, the expectation of the PSRO program to issue profile analysis regulations as the technology for such efforts develops through pilot projects underway in some early PSROs and other review organizations. We are including this technique in the manual, then, because CMHCs may be required to implement profile analysis in the near future, although no regulatory requirement yet exists to do so. It is not at all clear that profile analysis will ever be a responsibility of CMHCs. If the technique is eventually implemented, PSROs may perform all of the analysis.

A profile is a summary of all services received or rendered by the profile subject over a stated time period. PSRO legislation requires that profiles be developed and analyzed for individual clinicians, individual clients, and groups of clinicians or clients (usually termed institutional profiles). Group of clinicians or clients may be selected by any number of characteristics, such as diagnosis or problem (for clients), therapy (clients receiving or clinicians using), etc. "Profiles" may resemble studies of patterns of use.

Profile analysis is a process for discerning patterns, deviations from norms, and trends over time. While the data are highly sensitive client care data which clinicians must ultimately interpret, the evaluator can play an active role in formulating study designs and analyzing data once reported. Taking action on the basis of analyses is a matter left to clinicians and administrators in most peer review systems, but they must nevertheless rely on the evaluator's credibility to design and conduct or at least tabulate a study of profile data.

When should the technique be used and what are its limitations?

The technique is indicated primarily when the CMHC wishes to analyze the pattern of practice of a given clinician or group of clinicians, or the use of services by a client or group of clients, over an extended time period. Such a desire could arise when:

- The CMHC wished to study the practice of a clinician or group of clinicians;
- The CMHC wished to study the utilization of services by a client or group of clients;
- The CMHC wished to monitor the impact of a change in policy, or an educational program, on clinician practice or client use of service over time; and
- The CMHC wished to compare practice among clinicians, or use of services among different client groups, over time.

The principal limitation of profile analysis may be statistical: the volume of practice included in a profile over a specific time period may be insufficient to draw statistically valid conclusions, or to state reliable generalizations, about patterns of practice or comparisons between groups. In this situation, the time period over which the profile is drawn may need to be lengthened, or the strength of statements made on the basis of the profiles needs to be modified. Related to this is the problem of potential misinterpretation due to inadequate information. Differences may be found among clinicians or groups, without adequate chance to determine whether these are due to distinctions in practice or differences in problems.

How do you implement the technique?

Without computerization of data on client contacts (outpatient encounters, inpatient case abstracts, or some summary of each "episode" of care), profile analysis will probably be extremely difficult. Since profiles must somehow report or summarize the experience of a client, clinician, or client or clinician group over a period of time, the manual tabulation of a profile for even one clinician or client would require much reading, interpretation

and summarization of psychiatric records. The investment of the time and resources of a record analyst to hand-tabulate profiles would in all likelihood be quite sizable.

A "profile" presents aggregate data in a way intended to display patterns of services over a defined period of time. Profile analysis may include comparisons of the patterns of care among clinicians or clients, comparisons of current patterns of care with those from a previous time period, and identification of patterns indicating quality deficits.

Profile analysis can be conceived as a sequential process:

(1) Define study group or topic;

(2) Identify analyses that need to be done, and data required for the analysis;

(3) Define ways to identify indicators or patterns meriting further attention;

(4) Generate and perform analysis of profiles, using original psychiatric records as necessary to explain the profiles, or assist in their interpretation;

(5) Draw conclusions;

(6) Identify follow-up activity--a further study, an educational effort, managerial action; and

(7) Set criteria for subsequent profile analysis to determine the impact of activity undertaken in step (6).

Client profiles may list data on each individual client-clinician encounter for the profile's period of study. Included might be data on date of encounter, client problems, results of examination, and actions prescribed. A mental health profile might include client problem, therapies given, and a summary of client progress or mental health status. Reading the profile over time could produce judgments on:

- Over- or under-utilization of services;
- Appropriateness of therapy; and
- Changes in client mental health status and effectiveness of therapy.

Actions could then be taken (depending on judgments made from the profile) on modifying client use of services and changing or maintaining therapy.

The clinical profile could describe the number of clients seen for each common procedure and aggregate data for all clients seen by the clinician regardless of diagnosis or problem. The report could also include a

comparison of the clinician's own practice with practice of a peer group. A peer group summary profile could present and compare aggregate performance values for different specialties. Finally, a clinician management profile by diagnosis or problem could summarize individual clinician performance for a specific diagnosis or problem. These reports would include cases from all clinicians within a specific peer specialty group.

What is the level of effort required?

It is not yet possible to make estimates on mandays, professional levels, elapsed time, and other resources required to perform profile analysis, but it should become fairly easy to get reasonable time and cost estimates whenever the PSRO program begins to require profile analysis by PSROs as a regular function.

What are the primary sources of information about this technique?

- PSRO Program Manual, Chapter 7. USDHEW, March 1974.
- Goran, Michael, et al. The PSRO Hospital Review System. Medical Care, 13(4), Supplement, April 1975.
- Within the PSRO universe, profiles have been used at:
  -- The Multnomah Foundation for Medical Care;
  -- The San Joaquin Foundation for Medical Care;
  -- The New Mexico Foundation for Medical Care.

  Other PSROs may now be developing profile analysis capability on their own.

## G. RETROSPECTIVE CHART AUDIT (CLINICAL AUDIT)

What is the technique?

Retrospective audit of individual client cases is a technique employed in evaluating the quality of care rendered to individual clients. It is based upon chart review and can be considered a method for performing clinical care evaluation studies. Traditionally, Retrospective Chart Audit has been focused on the process of inpatient care. Retrospective chart review methods have been developed which permit evaluation of:

- Appropriateness of diagnosis or problem statement;
- Appropriateness of admission;
- Appropriateness of services rendered;
- Appropriateness of client length of stay;
- Compliance with informed consent requirements to protect patient rights.

This technique has not been employed very often or very consistently for outpatient care, for a number of reasons related to the conditions of acute clinical care:

- Mandates from federal legislation have so far included only inpatient care (where it is hypothesized that significant cost savings can result from effective utilization review);
- Third-party payment sources have followed federal initiatives in focusing on inpatient care;
- Inpatient records contain more detail than outpatient records to support a review process dependent on those records for data;
- Conditions requiring hospitalization are relatively better defined and specific, with recognized methods for treatment and established indicators of client improvement; and
- Outpatients usually have a wider array of problems or symptoms rather than well-defined conditions, limiting the ability to make effective review judgments since treatment methods have wider variation and more judgment may be called for.

Retrospective chart review is usually conducted by a committee of clinicians, commonly called the utilization review committee (URC). Its product in each case is a judgment of whether quality care was rendered overall (based either on explicit criteria or on implicit judgment) where some quality deficiencies occurred, and (sometimes) feedback to involved clinicians of URC decisions.

## When should the technique be used and what are its limitations?

Retrospective chart review was mandated for Medicare and Medicaid patients on a sample basis prior to PSRO. PSRO does not now require retrospective chart audit in its mandated quality assessment program. However, retrospective chart audit may be a technique which can be used by CMHCs in conducting retrospective studies to meet the PSRO requirement for clinical care evaluation studies.

## How do you implement the technique?

Retrospective chart audit requires:

- Data input (clinical records or case abstracts);
- Criteria to judge quality (implicit or explicit, normative or empirical, process or outcome);
- A method of case selection;

- A review process to compare selected cases to criteria (including early screening steps);

- A method for acting on review results.

(1) Data requirements: Review usually is based on an examination of individual client records to determine what was done to clients, when, and with what results. Review can be facilitated, and screening of cases can occur more readily, if an encapsulation of critical data from the client's record is available (and perhaps computerized in large CMHCs). Such an encapsulation, termed a case abstract, has formed the basis for many hospital-based review systems. Use of a case abstract as a first data input for review facilitates selection of cases with a greater likelihood of showing quality deficits if the abstracts are first compared against criteria (usually explicit) in a selection process.

(2) Criteria development (consensus method): Criteria are discussed at the beginning of this chapter.

The most popular model for criteria development in medicine has been the consensual approach. Typically, groups of experts are convened in panels to develop criteria for a given diagnosis, problem or condition based on their own knowledge of well-accepted process. Criteria are usually developed prior to implementation of the review system. These criteria usually address such facets of care as:

- When is admission appropriate? When inappropriate?

- What services (diagnostic and management) are critical for all clients?

- What services do some but not all clients need? What are the contingencies which require such services?

- What services are contraindicated?

- What are reasonable norms for length of stay (panels rely on empirical data here) or frequency of services?

- What are the prerequisites for discharge?

Criteria can be developed from professional literature by committees of experts. For some client problems, literature is available on the efficacy of treatment processes in achieving service goals. Some criteria developers have accordingly preferred to rely on processes validated in the literature rather than clinical consensus.

It is also possible to derive criteria empirically. In this process, data on the services rendered, length of stay, etc., for a group (preferably large and statistically valid) of patients with the same condition are gathered

for analysis. The data will provide a clear indication of those services usually rendered to clients with the given condition, and those not so routinely rendered. Those services which are usually rendered (usually may be defined according to the wishes of the criteria developers--70%, 80%, 90% of clients, etc.) can then be taken as the criteria for treatment of the given condition. Criteria development in this manner assumes that what clinicians actually do for patients is the best source of data for criteria formulation. This method of criteria development has been used extensively to determine norms for length of stay for patients on local, regional, and national bases, most notably by the Commission on Professional and Hospital Activities for its national PAS-MAP hospital discharge data system.

Finally, criteria developed elsewhere may be used by a given facility in its own framework. While this method saves considerable time, it has not been extensively applied. Most groups of clinicians have held to the belief that sufficient variation exists in treatment practice, available resources, and populations served that only locally developed criteria will be acceptable locally. Direct clinician participation in the criteria development process has been found important in assuring the credibility of the criteria to those whose work is being reviewed.

Some examples of criteria have been included earlier in this chapter.

(3) Methods of case selection: At the extreme, retrospective chart audit for every case handled in a given facility is the ideal, most thorough method of applying this technique. However, the expense of review, time required to review adequately, and limitation of staff time to participate in the review process requires in practice that methods be employed to select from the entire group of clients treated some samples of cases for retrospective review. Ideally, case selection should select for intensive review a sample of cases with a higher probability of containing quality deficits than a purely random sample would. (However, random sampling itself is a rational method of case selection since it, too, selects a subset of cases for review.) The method of selecting cases for retrospective review, if carefully conceived, is a major factor in determining the impact of the review process in discovering and correcting quality problems.

Some methods of selecting cases for review include:

- Purely random selection -- This method may provide a reasonable profile of typical care given at the CMHC, but will not center on known problem areas or cases with unusually high proportions of quality deficits. Therefore, the random selection process is not efficient for a review process aimed at improving clinical care.

- Selection by service -- All or a sample of cases for a given service may be selected for review on a periodic basis. Such a method may be used to insure that the quality assessment process monitors all aspects of care in the CMHC. This method, too, is not likely to select cases with higher than expected probability of quality problems.

• Selection by individual clinician -- All or a sample of cases may be selected for a given clinician in a given time period, particularly if there is reason to suspect the clinican is providing inadequate care.

• Selection on the basis of a particular problem -- If particular problem areas are known within a CMHC, cases can be selected whenever they relate to the problem area. For example, CMHC staff may feel implicitly that care for alcohol abuse patients has been unsatisfactory. Alcohol abuse cases can then be reviewed in depth to determine if a quality deficit really exists in the treatment of such patients.

• Selection by source of payment -- CMHCs will be required by PSRO to provide for review of at least a sample, if not the entire population, of Medicare, Medicaid, and Maternal and Child Health patients. Increasing pressures by other third-party financing agents may also require review of these programs' beneficiaries by CMHCs. In order to assure payment for services rendered to these patients, CMHCs will need to employ a selection mechanism which fully accounts for these externally imposed requirements.

• Selection by screening for cases with a higher probability of quality deficit -- This is the most powerful case selection mechanism available to CMHCs in that it assures the most productive use of valuable staff time and energy in the review process. Screening can occur in a number of different ways:

(a) By explicit criteria and norms

-- By automation, using case abstracts

-- By staff, using criteria and norm checklists (usually nonclinicians, since clinician expertise is not needed)

(b) By implicit judgment

-- By clinicians

An ideal screening mechanism is one which uses explicit criteria and norms for almost all conditions coupled with computerization of data from each medical record (note that we are not talking about a computerized medical record system itself). In the absence of computerization, record analysts using explicit criteria can perform manual screening using the client record as the data source. The example we give assumes computer availability, but the logical flow of the screening mechanism is the same whether a computer or manual process is used.

The data that needs to be computerized must be recorded on case abstracts, which can be either problem-specific or uniform for all problems. The abstracts should record all data on services performed, results of tests, etc., that will permit a computer to compare the data to the criteria and norms to determine whether the criteria and norms have been met or not. The computer can then generate reports which identify those cases which failed to meet the criteria for further review.

While the subgroup has a higher probability of demonstrating quality deficits than does a random sample of cases, no judgments have been made by the computer. The criteria used to select cases are not normally meant to be dogmatic and absolute, since they are applied to groups of patients with a common problem whose individual uniqueness, contingencies, etc., render the rigid application of criteria an unwise policy. Rather, the criteria help select cases for review by other clinicians who will ultimately determine whether the exception to the criteria so identified by the computer is really a quality deficit or a perfectly justifiable course of action for that individual client. It is the latter process of review by peers using clinical judgment and discretion that harmonizes the use of explicit criteria and leaves room for differences between patients and between physicians in an automated screening process.

For most CMHCs, the use of an automated criteria and abstract system is probably feasible. A more reasonable screening mechanism is the use of a nonclinician staff member employing a checklist of criteria and norms. The staff member could work from either a sample of cases or the entire set of cases for a given time period. By reading the psychiatric records for each client, the staff member could compare the records to the explicit criteria and norms to identify cases failing to meet the criteria. This sample is then forwarded to the URC for review.

Without explicit criteria and norms, CMHCs wishing to screen for high-probability quality-deficient cases will need to rely on the implicit judgment of clinicians. Clinician screeners will work either with a sample of cases or all cases for a given time period, implicitly reviewing each patient record and making a personal judgment of quality. Those cases judged inadequate in quality will be forwarded to the URC for review.

Finally, the fallback position for the CMHC which cannot afford an expensive system for screening, or cannot afford to employ nonclinician or clinician staff time for screening, is simply to avoid screening at all. Any of the other case selection methods, while likely to be less efficient in terms of results per unit of staff time, is still a valid way of selecting cases.

Riedel, Tischler and Myers in Patient Care Evaluation in Mental Health Programs (Ballinger Publishing Company, 1974) suggest a long list of case selection methods (Example 6, page 348).

(4) Review process: Beginning with data input, criteria and a selection mechanism, a sample of cases is selected for in-depth review by the URC. The review process itself undertaken by the URC is largely implicit. The judgments needed to be reached in each case include:

- Was the patient placed in the appropriate service (inpatient, outpatient, etc.); or, was admission appropriate?

- Were diagnostic and management services received in keeping with current thinking on adequate process of care for this problem?

- Were services under- or over-utilized (includes length of stay)?

- (Perhaps) Was short-term outcome satisfactory?

While judgments may be made recognizing the available explicit criteria for the condition, most URC judgments derive from an overall sense of quality and appropriateness of care, and hence are implicit.

The committee, in reviewing cases, may wish to obtain additional information from involved staff, or examine the client record directly. Any and all information sources should be fully accessible to the committee.

The last step in performing review work is the most important of all: taking action on review results. Feedback of review results to individual clinicians and to whole staffs, interpretation of the data by a URC member, and educational interventions where appropriate can be used to point out quality deficits and ways of improving.

Finally, study of the actions taken by the URC over a period of time can be used to modify the review process itself. If few quality deficits are being discovered, the case selection mechanism can be changed so that different problems are monitored. If many deficiencies are uncovered, even more intense scrutiny may be warranted. If quality deficits somehow come to the URC's attention other than through the case screening process, the screening process is probably inadequate and needs to be made more sensitive. If quality deficits continue to occur in a service or clinician after URC educational actions, administrative action may be indicated.

What is the level of effort required?[4]

Using chart abstracts, clerical staff should spend 1-2 days per week, while members of the review committee might each spend 25-30 minutes per reviewed case. Using the medical charts directly, committee members might spend slightly less time per case (15-30 minutes).

What are the primary sources of information about this technique?

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- The PEP Primer. Joint Commission on Accreditation of Hospitals, 1975.

- Peninsula Hospital, Burlingame, California (operating system).

- Connecticut Mental Health Center.

[4]Private communication, Gary L. Tischler, M.D., Connecticut Mental Health Center, March 1976

EXAMPLE 6

SOME SELECTION MECHANISMS FOR
RETROSPECTIVE CHART AUDIT IN CMHCs

- Reason for discharge against medical advice.
- All suicides.
- All deaths.
- Total length of stay greater than one year.
- Admission diagnosis missing.
- Admission diagnosis missing and still in treatment.
- Admission diagnosis missing and length of stay greater than 7 days.
- Suicidal (active) and not offered treatment or not hospitalized.
- All patients with greater 4-5 admission in 1-2-year period.
- Was not hospitalized on an inpatient service and has at least one of the following symptoms: agitation, disorientation, suicidal act, hallucinations, delusions, inappropriate affect, incoherence and has admission diagnosis of one of the following: functional psychosis, missing, affect disorder, drug dependent, no mental disorder and duration of illness less than one month.
- Presence of delusions and/or hallucinations and/or persecutory thoughts and/or inappropriate affect or disorientation or incoherence and not diagnosed schizophrenic.
- Those patients whose intensity of illness is severe and not hospitalized.
- Presence of sleep, marriage, eat and job problems and alcohol abuse without an admission diagnosis of alcoholism.
- All re-admissions for schizophrenia.
- Random sample.
- Institution-specific forms missing: admit form, ER sheet, transfer form, dictated admit/transfer/discharge summary, change of status form, financial form, progress notes, physical examination, etc.
- All re-admissions within a given year.
- Admission diagnosis of depression and condition on discharge described as "worse."
- Those on alcohol unit with no alcohol admitting diagnosis.
- Those on drug unit with no drug admitting diagnosis.

## H. OUTPATIENT REVIEW: A STATEMENT ON THE STATE OF THE ART

Although the technology of conducting review of inpatient care in medicine is beginning to take shape, the technology for review of outpatient care is in its earliest formative stages. In PSRO, inpatient review is mandated and well articulated (admissions certification, continued stay review, medical care evaluation studies, profile monitoring); early utilization review efforts, primarily retrospective chart audit, have contributed greatly to the formulation of this technology. Ambulatory care review is optional under PSRO and few, if any, PSROs are conducting such review. In fact, the Bureau of Quality Assurance, responsible for PSRO operations at HEW, has only recently undertaken a study to assess the state of the art of ambulatory review in medicine.

Early explorations of the mental health universe (including both psychiatric hospitals and CMHCs), a review of available literature, and consultation with NIMH staff, independent consultants, and operational staff in some CMHCs suggests that the state of the art of outpatient review in mental health settings is still quite primitive. If meeting PSRO requirements were the only concern of CMHCs, this would not be cause for worry since, as noted above, outpatient review is not yet mandatory. Indeed, PSRO is meant to be an evolutionary process. But other Social Security requirements may also intrude, and quite independent of PSROs is the requirement in the CMHC continuation legislation, PL 94-63, that CMHCs conduct quality assessment for all services, including outpatient care. Such a broad-sweeping legislative requirement has pushed beyond available technology but, in recognizing that CMHCs are heavily engaged in the delivery of noninpatient services, has the effect (intentional or not) of stimulating methods to review the quality of outpatient services in CMHCs. Critical to how much stimulation is provided will be the as yet unissued regulations to implement the quality assessment provisions of PL 94-63.

It would be potentially advantageous to society and to the CMHC if all CMHC clinical services are reimbursable by third-party financial intermediaries. From the history of Blue Cross and Blue Shield, it is clear that administrative and clinical justifications will be found for placing marginal cases of whatever category in the reimbursable (originally inpatient) category wherever advantageous to client or provider. There is a strong (but incompletely demonstrated) belief that outpatient services in mental health are very frequently cheaper and are equally or more effective than inpatient services across a wide range of complaints in which physical protection issues are absent. Coverage, and review, of outpatient services would seem to offer worthwhile protection against misuse of inpatient services.

So far, outpatient review activities have been discovered in two settings: the Peninsula Hospital in Burlingame, California, and the Connecticut Mental Health Center. These outpatient review activities are neither so detailed nor so well defined that they can be written up yet as separate techniques in this manual. They are described briefly below.

In addition to its inpatient review activities, Peninsula Hospital reviews both partial and outpatient care. Review of partial care cases is done by the Inpatient and Partial Care Review Committee, meeting once per week. Cases reviewed include:

- Clinical or management problems;
- Any partial care case which the therapist wishes to extend beyond four months;
- Any community day care or activity group therapy client for whom care for greater than six months is desired;
- Any community activity program client for whom the therapist wishes to extend care beyond one year.

Therapists are sent a letter four to six weeks prior to the deadlines asking for a presentation of the case at an upcoming committee meeting. At the presentation, the case is discussed by the committee with the therapist, and decisions are reached on the appropriateness of continued therapy and next steps to take.

Review of outpatient care is conducted by two committees: the Adult Outpatient Review Committee and the Child Outpatient Review Committee. The criterion for selecting cases to be reviewed is straightforward: any client for whom the therapist wishes to continue therapy beyond six weeks.

Each case is presented to the committee by the therapist involved. The presentation includes patient and family identification, referral source, statement of the problem and time and place of onset, developmental history (client and family), probable dynamics (precipitating event and diagnosis), treatment goals, and frequency of treatment requested. The case is discussed by the committee, and decisions are reached on the nature and appropriateness of continued therapy. It appears that review of both partial care and outpatient care at the Peninsula Hospital is dependent for decisions on the implicit judgment of a group of clinical peers rather than on comparison of client therapy to explicit, published criteria.

Its sponsors have repeatedly stressed the educational value of the review process. It is conducted on a basis that leads both the committee and the case presenters to become very detailed and painstaking in their discussion, and is expected to result in extremely specific treatment authorizations (e.g., half-hour individual therapy sessions for four months). It encourages all the clinicians involved to expose and share their knowledge and to devise treatment plans that take very explicit account of costs and monetary values as well as clinical preferences. Results have been reported in the literature in somewhat anecdotal form, so far. The system is not presented as a panacea, but obviously fits well into processes of local self-education that include the bridging of the gap between clinicians and fiscal people. But it has not yet at least served as an effective tool for fighting against

the worsening fiscal squeeze. (See references to this chapter: Newman, Peer Review: A California Model.)

The Connecticut Mental Health Center also conducts outpatient review. The process is under the auspices of the Center's Utilization Review Committee. Screening criteria and a case abstract method are used to initially measure quality of care. Clinical audit and clinical studies are used for the in-depth study of identified issues related to the quality of services provided. Provision is made for the feedback of information to clinicians in relation to particular instances of care and to administration in relation to policy recommendations derived from the committee's activities. Discussions of results have not yet appeared in the literature.

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Useful for examples of care evaluation studies given.

Riedel, Donald C.; Tischler, Gary L.; and Myers, Jerome K. (Eds.). Patient Care Evaluation in Mental Health Programs. Cambridge, Mass.: Ballinger Publishing Company, 1974.

Discusses the earliest federally funded effort in psychiatric peer review, the five-year Connecticut Mental Health Center Psychiatric Utilization Review and Evaluation Project. Includes extensive discussions of quality of care, data systems, criteria development, screening and review, and various special research studies.

Sampson, Lawrence M.; Luft, Lorraine L.; Newman, Donald E.; and Kazanjian, Vard. Peer Review: Therapist and Patient Follow-up Survey. Presented at 128th Annual Meeting of American Psychiatric Association, Anaheim, California, May 6, 1975.

Reports the impact of Peninsula Hosital's psychiatric peer review system on relationships and outcomes reported by therapists and clients.

Sullivan, F.W. Professional Standards Review Organizations: The Current Scene. American Journal of Psychiatry, 131(12):1354-1358, 1974.

History of PSRO legislation; American Psychiatric Association involvement in PSRO development.

U.S. Department of HEW. PSRO Program Manual. March 1974.

Chapter 7 lays down the guidelines for the review responsibilities of PSROs.

Weiner, Oscar D. The Use of MSIS for Utilization Review. In: Laska, Eugene, and Bank, Rheta (Eds.). Safeguarding Psychiatric Privacy: Computer Systems and Their Uses. New York: John Wiley & Sons, Inc., 1975.

Discussion of use of computers in complex quality assessment studies.

Weiner, Oscar D., and Levine, Michael S. A Process of Establishing Norms for Inpatient Length of Stay in a Community Mental Health Center. American Journal of Psychiatry, 132(8):843-846, 1975.

Describes a method for defining length of stay norms in CMHCs.

# CHAPTER 11: APPROACHES TO CITIZEN REVIEW

## A. INTRODUCTION

Elsewhere in this manual we have described several techniques for involving catchment area residents in program evaluation activities related to needs assessment, and the acceptability and accessibility of services. These widely adaptable techniques have included the Key Informant Interview, the Community Forum, the Community Impressions Survey, and the Nominal Group Approach. In all of these approaches, residents have been consulted as part of a program evaluation or needs assessment activity. They have not, however, participated in the design and planning of that program evaluation activity, nor its final assessment in terms of possible recommendations and decision-making. The purpose of this chapter will be to describe some areas where citizens can play a role in the planning and review of program evaluation activities. The subject has become more important to program evaluators because PL 94-63 requires that there be an annual review of services by residents of the catchment area. While it may be arguable whether Congressional intent goes beyond provision of a process for public ventilation, there is no question but that the requirement presents the CMHC with an opportunity to develop useful, credible information on its relationships with the community it exists to service.

PL 94-63 requires review and citizen participation in CMHC program evaluation activities by requiring that the Center's governing body be composed of individuals representative of the catchment area; and the Center "will, in consultation with residents of its catchment area, review its program of services and the statistics and other [evaluative] information...to assure that its services are responsive to the needs of the residents of the catchment area." The specific forms of that participation and review will differ in each community mental health center depending upon its auspices, organization, relatedness to the catchment area and kinds of citizen groups and individuals who have become involved with the Center's program.

## B. ROLE OF THE BOARD

Each Center is required to establish a citizen board to provide effective citizen influence and input to CMHC decision-making. There are several ways that such an advisory board can take an active role in program evaluation activities:[1]

[1]Adapted and expanded from a presentation by C. C. Attkisson before the Mental Health Advisory Board Council of California, May 1975.

- Assuring that program goals and structures are relevant to community service needs and are amenable to evaluation;
- Reviewing evaluation data related to the appropriateness of services;
- Reviewing the level of effort in the program and how it is being distributed relative to established goals;
- Acting as a channel for citizen response;
- Reviewing of client satisfaction studies, and the criteria used to evaluate the acceptability and accessibility of services;
- Operationalizing accountability with the salutory effect this has on providers of service;
- Assuring public dissemination of evaluation reports; and
- Assuring that the program evaluation function honestly represents conditions without fear of censoring by Center management or service staff.

There are additionally, however, some areas where board involvement in program evaluation activity becomes more problematic and often quite complex. For instance, lay citizens can sometimes cause great confusion when they insist on becoming involved in evaluating individual administrative and service personnel in ways that disrupt an otherwise viable organization of the staff. Furthermore, technical questions like the design of studies and the technical aspects of management information systems often require specific knowledge more likely to rest in the hands of professionals then in the hands of citizens, though the specification of the purposes and general capabilities of such projects and systems may be entirely appropriate to a lay group. Citizen input and reaction to technical designs can, of course, be fruitful. Finally, citizen input may be harmful in attempting to designate what is an appropriate service or procedure in a particular situation or case. But, citizens can well insist upon high-quality peer review and utilization review by professionals in the organization itself, or the use of outside experts. This latter point is highly recommended.

The Mental Health Advisory Board Council in California[2] has suggested the following sequence of steps to encourage mental health advisory boards to become involved with program evaluation activities:

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[2]Taken from minutes of the Mental Health Advisory Board Council of California, May 1975.

(1) Gather information on what evaluations are done routinely by other agencies or within the Center itself, and evaluations anticipated in the future.

(2) Based on a review of these ongoing evaluation processes, determine the level of evaluation activity being conducted relative to what seems appropriate.

(3) If that activity level is low or unbalanced, board members should become advocates for the development of a program evaluation capability.

(4) Board members should review the data collection requirements and the relationship of the data to the quality of service and program goals.

(5) Board members should always be at the forefront of reviewing the relevance of service goals to community needs.

(6) Board members should insist that they and other citizens get evaluation reports in a form that they can understand. This may entail some negotiation with professionals to arrive at a common language and set of terminology which can allow boards to use the results of program evaluation.

(7) Boards should advocate studies directed toward client satisfaction, peer reviews, and "accessibility."

(8) At some point after having familiarized themselves with the state of program evaluation in the CMHC, and having advocated the development of specific studies, board members may become involved in program evaluation themselves. Before doing so, however, they must carefully assess their own manpower and expertise for doing so.

Boards that are interested in evaluation should attempt to keep in touch with the activities of their regional evaluation networks and/or the National Council of Community Mental Health Centers or state associations. It may be appropriate for the CMHC program evaluator to provide liaison or at least an introduction.

Several cautionary notes are appropriate, so long as it is understood that they are only suggestions and not orders from on high.

- Most boards should not casually undertake program evaluation activities on their own since they are likely to be reliant on staff for any data they will use. In any event, they should usually strive for cooperative program evaluation ventures with the staff of the Center rather than to take too much of a risk that their interest will be seen

as fault-finding. The staff may, of course, be reluctant to cooperate, in which case the board may need to do some work to overcome that reluctance, hopefully by gradually eliciting a common understanding with the staff.

- In undertaking program evaluation activities jointly with CMHC staff, board members should be thoughtful about how the results can be tied back to appropriate programs at the Center. If there is no understanding at the beginning of a program evaluation as to how and who will use the findings, the effective and final utilization of program evaluation findings will be less likely.

Some additional recommendations for citizen board members are in order:

(1) Subcommittees of citizen advisory boards made up of citizen members can be effectively utilized to address special issues and to incorporate lay influence on what may otherwise be an exclusively "professional" set of evaluation formulations. There should always be a route by which ordinary common sense questions rise to the surface and are considered. This is a way of involving consumers and ordinary citizens in the community mental health center. For instance, the board might establish a standing Program Evaluation Planning and Review Committee.

(2) The main issue is to assure accountability and responsibility. If a Governing Board or an Advisory Council chooses to be concerned with evaluation, it should establish a clearly described subcommittee to carry out its mandate, which will most likely emphasize the planning and review of evaluation activities. Such a subcommittee will need to communicate with the professional and utilization and peer review/medical records committees as well as the Center Director. It will need to include some leaders who are committed to discharging their responsibility, and broadly aware of what the planning and review of evaluation activities will entail. Browsing through this manual is one way to develop such an understanding.

(3) Regional citizen mental health boards, where organized, can create wider public involvement and provide for liaison between individual mental health centers and state mental health authorities. In many cases, this is required by state law.

## C. RESIDENT REVIEW

PL 94-63 does not specify the kind or extent of citizen review to be obtained by the CMHC. Centers will obviously vary widely in terms of how they go about achieving the goals stipulated in the legislation.

(1) The occasion for gathering resident review is the planning of program evaluation activities and the publication of an annual program evaluation report. The availability of such a report, perhaps at an annual

"open house," and the initiation of such a planning process provides a concrete occasion and a tangible objective for gathering resident input. The following means are suggested for capitalizing upon that occasion.

(2) Publicity of CMHC services and evaluation activities: Publicity for CMHC services through the catchment area can explore all of the available media including newspaper stories, radio call-in talk shows, local TV station presentations--perhaps through public service commercials, or perhaps through more lengthy half-hour shows where such time is available. Through such activities the Center can publicize the availability of its annual program evaluation report, solicit inquiries and requests for the report from concerned and interested citizens, and specify other avenues through which resident input can be made to the Center program.

(3) Presentations before citizen groups: Center personnel can undertake half-hour to forty-five-minute presentations before a variety of citizen groups to appraise them of the Center's program and program evaluation activities. Possible groups for consideration would include PTAs; voluntary service organizations such as the Lions Club, Kiwanis, League of Women Voters; and neighborhood organizations including ethnic clubs, religious groups associated with churches, etc. Of these, only a few will actually conduct rigorous reviews. Most can provide little beyond a public forum.

(4) Community forums: Community forums, as described in this manual (see page 108), can also be used to gather more open-ended citizen input to Center plans and evaluation results.

(5) Coffee Klatsches: The Center might also inaugurate a series of monthly coffee klatsches at the Center to which interested citizens could come, meet with staff, and discuss various issues relating to services and evaluation. Former clients, parents of clients, board members, and persons active in other agencies can offer useful feedback and problem formulations if the discussions are properly managed and motivated. Success is highly dependent on leadership.

(6) The establishment of a citizen review committee: If the board establishes an evaluation committee, it may include members who are not on the board, and it may be chartered to publicize the results of evaluation planning and of the evaluation activities themselves, with a view to stimulating further reflection by residents of the catchment area.

(7) Specialized review by client groups: If specific evaluations are to be conducted of particular services offered by the Center--e.g., a drug treatment unit or alcohol treatment unit, specialized services for children or the elderly, etc.--groups receiving those services should be involved in helping to design the program evaluation study and should also be apprised of the results of that study. This, of course, begins to get very close to needs assessment activities, particularly when subpopulation groups in the catchment area would be consulted for input on program evaluation planning.

(8) Enlist volunteers to help do evaluation: Volunteers can quickly become knowledgeable and quite able to discuss in their own circles the significance of the work they are doing, and to tell others how they may make their own inputs to the overall Center evaluation activity and to resident review in particular.

The above listing of possible areas for obtaining resident review is meant simply to be illustrative. Because the legislation is so open-ended, each Center will find its own way in these matters according to its own history, traditions, connectedness to the catchment area, and the kinds of citizen input and involvement it already has.

Once the decision is made to consult with residents, and media are at least tentatively selected, the specific purposes to be served must be clarified.

- The Center may want feedback on its evaluation priorities. Do particular groups or individuals agree that the most important issues are being evaluated? Do they agree with the relative emphasis? What do they believe should be evaluated?

- The Center may want support for and participation in some of its evaluation processes. What do client communities believe is going on in the name of evaluation? What does the Center need to do or to say in order neither to offend nor mislead those in the community who are asked to provide information necessary to evaluation studies?

- The Center may wish to discuss the implications or significance of certain findings. For example, "Our study says that such and such a program is not very accessible. How could we make the program more accessible?"

- The Center may wish to incorporate direct evaluation by residents into its thinking. Evaluative assertions can become hypotheses for more formal evaluation. ("You haven't done anything for our kids and half the time we can't even get you to see our children at all.") Evaluative assertions may also serve as corroboration of formal evaluation, and as evidence that residents have been asked what they think, in the least contrived manner possible.

Open-ended discussion may turn out to be the most satisfactory format for Center-resident dialogue, simply because anything else is likely to seem too constraining to some residents. However, Center personnel must be clear about what kinds of information and response they want from the interaction, and must communicate to the residents an acceptable stance: one conveying that they know what they want to find out, that they know how to go after it, but they're open to suggestion and able to entertain the possibility that theirs is neither the only nor the ultimate agenda. Particular attention to the role of the Center personnel participating in these sessions with residents is often appropriate. Center personnel are

not functioning as evaluators; residents are not functioning as respondents or informants. Instead, the relationship is that between responsible representatives of a community institution on the one hand and responsible citizens on the other. This is why Center personnel must prepare and must present themselves very carefully.

It is also important to get word back to residents on how their input has been used. If it becomes a part of printed documents, marked copies might be sent to participating residents. If it is included only implicitly, an additional meeting or special letter for interested residents may be appropriate.

## D. ROLE OF PROGRAM EVALUATOR WITH RESPECT TO THE BOARD AND CITIZEN REVIEW

All aspects of board and citizen review involve sensitivities and ambiguities that evaluators should consider with particular care.

- Technical resource to the board. Where the board initiates evaluations of its own, the evaluator may be exposed to the possibility of seeming not to know whether he works for the Center Director (usually the fact of the matter) or directly for the board (rare). It is important to perceive the situation clearly and be open and constructive about its implications. The same issues may occasionally arise during board presentations of evaluation studies.

- Community pollster/investigator. In conducting evaluation studies in the community, there are obvious risks of appearing to be exploitive or at least intrusive. Every social researcher is familiar with the problem, which has to do with the community perception that evaluators have power which easily leads to getting the whole Center in trouble.

- Evaluator accountable to the community on behalf of the Center. Where the evaluator serves as the recipient of community data as the agent of "resident review" rather than of Center management, he has the delicate task of explaining community views fully and with complete integrity. He cannot act from his own desire to define the Center, or from his own defensiveness, and he should somewhat reduce rather than exaggerate the defensive quality of what the residents are trying to communicate.

## E. BOARD SELF-EVALUATION

Though it is beyond the scope of program evaluation as now conceived to study the effectiveness of the board itself, the program evaluator who has difficulty in obtaining any necessary guidance from the board might consider whether the problem is internal to the board's mode of operating. If so, he may want to propose to the Center Director that the board be encouraged to take up the question of its own effectiveness and to use one of the several processes available to set its own objectives and measure its progress toward them.

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## APPENDIX A: TRAINING PROGRAMS[1]

Since program evaluation is one form of research, many program evaluators have come from a research tradition. This tradition has frequently been academic in orientation rather than applied. More recently, the importance of program evaluation has led to this specialty being included as a visible topic in a number of education programs.

In the absence of any comprehensive list of training programs, the following list has been taken from two sources: programs listed by McCullough in a recent article[2] and schools with training grants from NIMH concerning program evaluation or closely related topics. For those funded by NIMH the name of the Principal Investigator is given as a potential source of information. These programs placing special emphasis on training in program evaluation methods are subdivided by educational level:

### Undergraduate Programs

University of Oregon
School of Community Service and Public Affairs (James Marshall)
B.A. in program evaluation and development

### Masters Level

Hahnemann Medical College and Hospital
Philadelphia, Pennsylvania (George Spivack)
M.A. in mental health program evaluation

Florida State University
Graduate School in Social Work
Tallahassee, Florida 32306 (Harris Goldstein)
M.A. in social work with emphasis on program evaluation

McMasters University
Faculty of Medicine
Hamilton, Canada
M.A. in clinical epidemiology or health care research

### Doctoral (including Masters)

University of California (Los Angeles)
School of Public Health
Department of Epidemiology (Dr. Leo G. Reeder)
Doctoral training in epidemiology applicable to program evaluation

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[1] Information compiled by Charles D. Windle, Ph.D.

[2] McCullough, P. Training for Evaluators. In: Zusman, J., and Wurster, C.R. (Eds.). Program Evaluation: Alcohol, Drug Abuse, and Mental Health Services. Lexington, Massachusetts: Heath & Co., 1975 (pp. 247-266).

University of Chicago
Division of Social Sciences and Graduate School of Business (Norman Nie)
Doctoral training in survey research

Cornell University
Social Systems Research Training Program (Robert McGinnis)
Ph.D. in applying sociology to policy research

Florida State University
Department of Sociology (Kent Miller)
Doctoral students are oriented toward community mental health

Harvard University
School of Public Health
Department of Behavioral Science (Dr. Robert C. Benfari)
Doctoral training in epidemiology applicable to program evaluation

Johns Hopkins University
Department of Sociology (Edward McDill)
Doctoral training in quantitative social analysis

University of Oregon
Department of Sociology (Reuben Hill)
Ph.D. in sociological applications in public policy formulation

Washington University
Department of Political Science (Jesse McCorry)
Ph.D. in political science applications to social welfare problems and priorities

University of Wisconsin
Department of Economics (Eugene Smolensky)
Ph.D. in economics related to human resources

University of California (Berkeley)
Department of Sociology (Percy Tannenbaum)
Ph.D. in training in research in public policy

Pennsylvania State University
Community Systems Planning and Development (Theodore Vallance)
Masters and Ph.D. in processes of social planning

Johns Hopkins University
School of Hygiene and Public Health (Charles Flagle)
Masters and Ph.D. courses in operations research in mental health services

New Mexico State University
Department of Educational Psychology
Ph.D. with emphasis on mental health evaluation and research

University of California (Los Angeles)
School of Public Health
Graduate degrees in evaluation and social analysis

University of North Carolina
School of Public Health
Graduate-level program to upgrade skills of mental health statisticians and recruit new people to the field

Post-doctoral (and Advanced Doctoral)

University of California (Berkeley)
Department of Anthropology (Eugene Hammel)
Post-doctoral training for anthropologists in formulating and implementing public policy in social services

University of California (Los Angeles)
School of Public Health
Department of Epidemiology (Dr. Leo G. Reeder)
Training in epidemiology applicable to program evaluation

University of California (San Francisco)
Department of Psychiatry (Enoch Callaway)
Collaborative research with preceptors to evaluate clinical innovation

Harvard University
School of Public Health
Department of Behavioral Science (Dr. Robert C. Benfari)
Training in epidemiology applicable to program evaluation

Northwestern University
Department of Psychology (Lee Sechrest)
Post-doctoral eight-week summer session

University of Minnesota
Department of Sociology (John Brandl)
Advanced graduate and post-graduate training in evaluation research

Yale University
Department of Sociology (Gary Tischler)
Two-year post-doctoral training in mental health service delivery evaluation and research

University of Massachusetts
Department of Sociology (Peter Rossi)
Near- and post-Ph.D. training for eight weeks in evaluation research design

Knowledge of these training programs may be helpful in identifying locations where one could get training in program evaluation and potential employers might recruit program evaluators. Less academic training programs are periodically available from:

(1) NIMH's Staff College. Occasional intensive one-week seminars are held on "Evaluating Community Mental Health Services: Principles and Practice." This seminar focuses on practical approaches to

conducting evaluation relevant to the requirements of the Community Mental Health Centers Amendments of 1975. Information about these courses can be obtained from Ms. Isabel Davidoff, The Staff College, National Institute of Mental Health, 2340 University Boulevard, East, Adelphi, Maryland 20783.

(2) Civil Service Commission. A number of courses at the Management Sciences Training Center (1900 E Street, N.W., Washington, D.C. 20415) are held for federal, state and local government employees. One of these courses, "Design and Management of a Program Evaluation," consists of two four-day classroom sessions separated by a two-day on-the-job application of evaluation techniques.

Another resource for training in related areas is: A Guidebook to Curricula in Mental Health Administration by B.R. Greene, J.A. MacIntyre, B.P. Shelton, J.L. Walker and J.T. Anderson, Trinity University, Department of Health Care Administration, February 1975.

## APPENDIX B: REGIONAL OFFICE CONTACTS ON MENTAL HEALTH PROGRAM EVALUATION

Each HEW Regional Office at present includes at least one person who is in touch with program evaluation developments. CMHC program evaluators may count these persons among the resources potentially available to them as they seek to extend their own competences, or to cope with particular problems. While it will never be possible to staff every Regional Office with persons who can solve every problem or answer every question, the viewpoint as well as the expertise of Regional Office staff members will frequently be found helpful, as well as information they may provide about other sources and resources.

| | |
|---|---|
| Region I | Richard Elwell |
| Region II | Richard Woy, Ph.D. |
| Region III | Walter Lauterbach, Ph.D. |
| Region IV | Robert Carrick |
| Region V | Ralph Melda, Ph.D. |
| Region VI | Everett Pile, Ph.D. |
| Region VII | Robert Battjes and Elizabeth Ossorio, Ph.D. |
| Region VIII | Ernest Ficco |
| Region IX | Dorine Loso and Reicko Humma-True, Ph.D. |
| Region X | Jack Bartleson |

# APPENDIX C: RESEARCH DESIGN

## A. CAUTIONS IN THE INTERPRETATION OF PROGRAM EVALUATION RESULTS

Evaluation literature is replete with discussions of formulating appropriate study designs for evaluation studies. The issue of study design evolves around such factors as when and how often data are collected, how many groups of subjects are used, how comparable groups of subjects are, and whether comparisons made between groups or within a single group over time are valid.

### Factors Which May Jeopardize Evaluative Comparisons

There are a large number of factors which operate to jeopardize the analyses made in evaluation studies. In general, many of these factors can be controlled by the application of appropriate study designs. Such factors include:

(1) History--Events occurring during the conduct of the study or between measurements that are made in the evaluation may affect the variables being measured quite independently of whatever program is being studied.

(2) Maturation--In general, evaluation studies are conducted over some time period rather than instantaneously. As such there are processes operating in the subjects of the evaluation over time (such as learning, growth, aging, and so forth) which may affect the variables being studied independent of the program.

(3) Testing--It is well recognized that taking a test or being measured can affect the results of subsequent or repeated tests by sensitizing the subjects to the subject matter of interest to the evaluator.

(4) Instrumentation Change--Any changes in the data collected, instruments used to collect data, observers, scorers, and other data measurement factors may affect comparisons made between data collected at different points in time.

(5) Statistical Regression--If for any reason groups have been selected for study on the basis of having either extremely high or extremely low scores or tendencies for certain measured variables, they will tend to show less extremity in their scores upon repeat measurement irrespective of the existence of a program being studied or applied to them.

(6) Selection--Often there are biases present in the composition of various groups being compared as a result of the subject selection process. This is particularly true if subjects select themselves into study groups. For example, comparisons of people from a community who voluntarily participated in an educational program with a sample of people from the same community who did not participate will need to take account of the fact that those who participated voluntarily probably had a higher motivation level and a greater desire to learn about the subject matter than those who did not, which in turn is likely to affect whatever variables are being measured.

(7) Experimental Mortality--It is a common occurrence in evaluation studies that as groups are studied over time some subjects are lost within groups. Differential losses of subjects from groups being compared could easily occur as well.

(8) Multiple Treatment Effects--When a program is applied a number of times to study subjects and repeated measurements are taken of the impact of the program, it is not possible to erase the early effects of the program or to measure how much of the impact found later in the program is due to the early application of the program or the current application of the program.

(9) Interactive Effects--Interaction between the factors cited above which may occur in a number of different ways is itself another factor which acts to make interpretation of evaluation data more difficult.

Randomization

Randomization is the most well recognized method of dealing with many of the factors listed above. Basically, randomization implies the random assignment of subjects to groups being compared by the program evaluator. It is well recognized that there is much variability in study subjects, environmental conditions, the application of the program, and the measurement of responses or program impact. In turn, there is always experimental error present in an evaluation study. The error is of two kinds: systematic error or bias which can often be linked to the way study groups were formulated, and random error which does not favor one group over another. The process of randomization eliminates bias in the assignment of subjects to study groups. Since it has been recognized that the primary variability in experiments is the variation found in the study subjects, most attention in study design should be paid to the random assignment of study subject to various study groups.

In general, it is wise to randomize everything that can be controlled in an experiment: the assignment of study subjects to groups, the assignment of interviewers or observers to groups, the time and place of program applications and other controllable variables. Randomization reduces the possibility that alternative explanations can be used to explain observed effects of differences in study groups before and after program application or between study groups. Furthermore, randomization increases the plausibility that the application of the program is actually responsible for observed results. The mechanics of randomization are relatively simple. A complete list of potential study subjects is needed as well as a set of random number tables (although other devices such as dice, playing cards, and so forth could be used). Methods of using random number tables or other devices to assign study subjects to various groups are discussed in other texts and are beyond the scope of this appendix. Randomization is the best known process to assure that comparison groups are equivalent in terms of other characteristics such as demographics and economic status and that study groups are representative of the larger target population from which they were drawn. In short, randomization is a process that can bring reasonable assurance of the equivalency of experimental and control groups or of comparison groups. Where randomization is not feasible an alternative is to consciously match subjects in comparison groups so that they are equivalent along lines not likely to be affected by regression related to measurement errors (e.g., sex, age, and other demographic characteristics).

Sampling and Study Group Size

A key consideration in program evaluation studies is the size of the groups studied that is required before the evaluator can be confident that the results of the evaluation are valid and correct. For example, it is intuitively more reasonable to believe a study which concludes that the program showed impact in 100 out of 110 individuals exposed to the program than a study that draws the same conclusion on the basis of observing impact in 4 out of 5 individuals studied. In short, there are important issues surrounding the believability and authority with which conclusions are derived which relate to the statistical consideration of the sample size. How much of an effect must be shown before the program is deemed practical or socially important? How confident must we be in the correctness of the conclusions drawn from the evaluation? Discussions of determining appropriate sample size to assure confidence in results is beyond the scope of this appendix. Typically, sample size is chosen to satisfy statistical requirements such as minimizing the standard deviation of the treatment effect estimated or satisfying requirements for the size of confidence intervals or the level of statistical significance or probability of drawing correct conclusions desired. The reader is referred to basic texts on statistics for further information on importance of sample size to the validity of evaluation results. One simple fact needs to be stated here. Doubling the size of the sample does not double the

precision of the evaluation or halve the uncertainty surrounding evaluation results. To double the precision, for example, one must quadruple the experimental size. Costs may thus increase more than proportionately to the reduction in uncertainty.

Reliability

The concept of reliability in program evaluation refers to the degree to which the measuring technique or instrument can be depended upon to secure consistent results upon reported application. Reliability indicates the probability of obtaining the same results upon repeated use of the same measuring instrument, whether objective test or subjective judgment. Dependability of measurement and stability of results upon repeated applications are concepts that are intimately tied to reliability. Truly reliable measurement then is only affected from one measurement to the next by random unsystematic error, the chance variation in response obtained from one measurement to another. Reliability has been thought of in terms of variance in measurement between different measuring instruments, between readings using the same measuring instruments, between observers, and between times of measurement. The extent to which different instruments measure the same thing, or the congruence of several indicators, indicates the reliability of using one instrument in place of another.

A reliable instrument should be one which produces the same results upon repeated application by the same observer to the same data. If a data collection instrument can produce consistent results when applied by two or more observers, such an instrument is thought of as a reliable one. Reliability is necessary but not sufficient to insure validity. For example, if a measurement is subject to large random error not very much can be measured precisely; hence the measurement will be invalid. It may, however, be reliable. In a different circumstance a reliable measure may simply be invalid, such as using blood pressure as a surrogate for hypertension. Reliability should not be confused with consistency since actual change over time in what is being measured may occur. If one observes fluctuations in what's being measured over time the explanation may not be that the instrument is not reliable but that there is in fact much variation over time. In short, reliability is influenced by random, unsystematic error only. Reliable instruments should reflect actual fluctuations in what's being measured. Random inconsistency has no pattern. Systematic inconsistency is an issue of validity.

There are a number of sources of unreliability. There may exist subject unreliability--the subject's mood, motivation, and so forth may undergo transient changes. There may be observer unreliability in which the observer is not consistent in his methods or techniques of observation or recording. There may be situational unreliability in which conditions under which the measurement is made change for repeated measurements. Instrument unreliability often exists in which questions are poorly

worded or ambiguous or instructions are lacking on how to record data. Finally, processing unreliability occurs whenever coding, errors, or the mechanics of processing the data are confused.

All measurement has inherent error; the objective in evaluation is to keep that error manageable. The more precision the evaluator wants, the more important is the concept of reliable data collection. The more knowledge that is needed concerning differences between groups, the more important is reliability. It is important to note, finally, that unreliability is as likely to occur in one direction as another. In the aggregate then it is possible that unreliability effects may cancel each other. Overall reliability may then appear high although reliability of measurements for individual subjects is extremely low. Analyses based on aggregate data may be reasonable, then, while analyses of individual study subject data may be questionable.

## Validity

The concept of validity in program evaluation refers to the degree to which a measure or procedure succeeds in doing what it purports to do. The question of validity most often centers on the avoidance of systematic consistent errors or bias. There are a number of different types of validity. Face validity, for example, is the term applied to a situation in which the measure has obvious significance. A patient's heart rate after 5 minutes on a treadmill, for example, has face validity as a measure of physical fitness. Consensual validity is reached when a panel of experts achieve consensus on the value of a given measure. Correlational or criterion validity occurs when a measure correlates closely with another measure that is "known" to measure what is desired. Finally, predictive validity is the phrase used to describe measures that correlate closely with future events and thus have high predictive value.

There are a number of factors affecting validity. When a program's assumptions or objectives are biased, measures are said to suffer from propositional bias. The application of inappropriate or irrelevant operational indices reflects instrument bias. Inadequate representativeness of the target population or high rates of non-response or study group drop-out reflects sampling difficulty which affects validity. Observer or evaluator invalidity may occur when the biases of such individuals influence the subject or what the individuals record as data for the evaluation. The subject's bias also affects validity particularly when deliberate misinformation is given to use the evaluation for the subject's own purposes. Validity may be affected by administrative conditions such as conditions under which the study is conducted, the season of the year, and the data collection methods employed. Finally, validity may suffer from inappropriate analysis, particularly when data is used deliberately to further hypotheses which are the personal beliefs of those conducting the analyses.

Validity is a basic problem in all measurement. The best one can do to assure maximum validity is to (1) reduce invalidity by eliminating possible sources of invalidity and assuring that factors that produce unbiased measures are present, (2) include checks of validity in the data collection process, and (3) provide for corrections wherever the source of invalidity is known.

Completeness

Completeness refers to the ability of an evaluation study to assure that all data that are needed are collected and available. The character and frequency of missing data in a study is all-important to the final results. Low rates of missing data will not generally interfere with statistical derivation. However, high rate of missing data and differences between the experimental and control groups in terms of the character of the missing data will decrease the power of the analysis to detect program impact and may undermine the credibility of analyses conducted using the data. Completeness is particularly troublesome where data are missing in some systematic way.

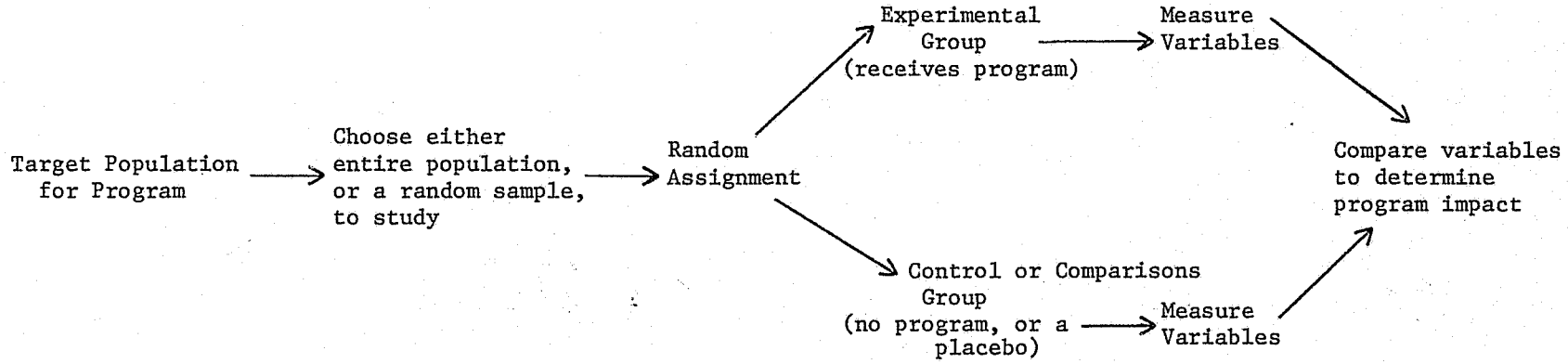
## B. COMMON DESIGNS FOR EVALUATION STUDIES

A basic issue in evaluation lies at the heart of all efforts to develop careful study designs: causality vs. correlation. It is desirable, whenever possible, to establish that a program has caused an observed effect rather than to be able to make only the weaker statement that the effect took place simultaneously with the program. Experimental study designs are particularly useful for this purpose, since their structure is intended to permit the evaluation to rule out competing explanations for observed effects by controlling all variables in the study population except the program itself.

Three types of study design will be discussed: non-experimental designs, experimental designs, and quasi-experimental designs. The inclusion of these designs in the manual should not be interpreted by the reader as the establishment of models for CMHC evaluation studies, nor as an attempt to push CMHCs toward experimentalism in program evaluation. They are included, rather, as a reference for those CMHCs who have the time and resources to permit the pursuit of more rigorous evaluation studies, and who are willing to commit the resources usually associated with such efforts.

Groups take into account the need to be sure that a comparison can be made between a group that did receive the program and a group that did not, in order to be assured that whatever program effects are measured can realistically be attributed to the program.

Figure 1


Target Population for Program
Choose either entire population, or a random sample, to study
Random Assignment
Experimental Group (receives program)
Measure Variables
Control or Comparisons Group (no program, or a placebo)
Measure Variables
Compare variables to determine program impact

In the following narrative we will use a method of depicting experimental designs that is well recognized in the evaluation literature. An X will indicate the application of a program, and an O will indicate an observation or measurement. Each line in a depiction will represent a separate group of study subjects. Time sequence is read across a line. For example, a single line XO will represent the application of a program followed by an observation. When more than one group is involved, more than one line will appear in the depiction. When Xs and Os are depicted above or below each other, they will be occurring at the same point in time.

Non-Experimental Designs

(1) The One Shot Case Study. This design is depicted as shown below:

XO

This design represents a single group which receives the program and then has measurements taken. This is a very weak but common design. Because there are no data on the values of the variables present in the study group before the application of the program, there is no way of knowing that whatever is observed afterwards can be attributed to the program. Furthermore, because there is no other group to compare the study group with, there is no way of accounting for such factors as extraneous events, maturation, testing effects, instrument changes, and so forth.

(2) The One Group, Pre-Test, Post-Test Design. This design is shown below:

$O_1XO_2$

It involves the use of a single group measured before and after the application of the program. This design is strengthened with respect to the One Shot Case Study in that this design at least has data from before the application of the program which can be compared with data from after the application of the program to measure changes in the study group. However, it is hazardous to attribute the changes observed to the program because the design does not have a comparison group which did not receive the program. Therefore, the design does not account for other extraneous events that might have an impact similar to the program, unstimulated change due to time alone (improvement that would have occurred with or without the program), the fact that the pre-test may itself be a stimulus to change the fact that changes measured may reflect instrument changes or changes in data collection procedures, and that statistical regression may be present.

(3) The Static Group Comparison. The study design shown below uses two groups: one which receives the

$XO_1$

$O_2$

program and one which does not. Variables of interest are measured at the same point in time in both groups after the study group has received the program. Because there is no way of determining whether the two groups are equivalent since they have not been randomly selected, it is not possible to identify any program impacts with any certainty. What can be determined are post-program differences between the two groups. However, the attribution of any differences between the groups to the program itself is specious.

True Experimental Designs

(1) The Pre-Test, Post-Test, Control Group Design. This design is depicted below:

$$RO_1 \; X \; O_2$$
$$RO_3 \quad O_4$$

The R used on each line indicates that the two groups have been selected randomly. This design uses before and after measurements in two groups: one exposed to the program, the other not exposed to the program. Randomization has assured that the two groups are as alike as possible before the application of the program. Baseline data (pre-program data) has been collected so that differences within groups over time can be measured. In such a design the ideal situation is that the two groups not interact at all. Because post-program measurements are also taken, the most important comparisons to be made are a comparison of the difference between $O_2$ and $O_1$ compared to the difference between $O_4$ and $O_3$. The use of an experimental and control group has controlled for history, maturation, testing, instrumentation, regression, and the other factors that need a control group in order for the factors to be excluded as possible explanations of program effect.

(2) The Solomon 4-Group Design. This design, shown below, includes four groups all randomly selected.

$$R \; O_1 \; X \; O_2$$
$$R \; O_3 \quad O_4$$
$$R \quad X \; O_5$$
$$R \quad O_6$$

In two groups pre-program data is collected while in two others no such data is collected. Two groups are exposed to the program and in all four groups post-program data is collected. This design is precisely the same as the pre-test, post-test control group design explained above for the first two groups listed in the design. The addition of the two groups which did not have baseline data collected can be used to measure the effects

of the pre-test and any interactions between the pre-test and other variables that might have occurred. Comparison of $O_2$ to $O_5$ and $O_4$ to $O_6$ will provide data on the effects of testing. In addition, the effect of the program can be measured by a number of different comparisons.

(3) The Post-Test Only Control Group Design. This design uses an experimental and control group randomly assigned

$$\begin{array}{lll} R & X & O_1 \\ R & & O_2 \end{array}$$

with post-tests only. The only difference between this design and the Pre-Test, Post-Test, Control Group Design is that the pre-test is not included in this design. Since randomization has done as much as can be done to assure the equivalency of the experimental and control groups it is argued that there is really no need for the pre-test. The pre-test can be used as is in the Pre-Test, Post-Test, Control Group Design to assure the evaluator that whatever differences there may in actuality be between the experimental and control groups are at least measured. Theoretically, however, there should be no differences between the groups, or differences that are measured will be measures of random error in the assignment of control on experimental groups rather than systematic differences.

Quasi-Experimental Designs

(1) The Basic Time Series Design. This design measures variables of interest repeatedly for a single group. It can be implemented in a variety of ways as shown below:

Example: $O_1O_2O_3O_4 \; X \; O_5O_6O_7O_8$

Example: $O_1 \; X \; O_2 \; X \; O_3 \; X \; O_4 \; X \; O_5 \; X \; O_6$

Example: $O_1O_2 \; X \; O_3O_4 \; X \; O_5O_6$

For example, four observations can be taken of the group followed by application of the program and four more observations. Alternatively, each observation can be followed by an application of the program. Still another alternative would be to have two observations followed by an application of the program. This design can be used most effectively for single event programs, i.e., programs which occur a single time. If sufficient observations are taken before and after the program is applied it will be possible to account for any trend that had occurred before the program and to measure any immediate and sustained impact that the program had in the group with the after program measurements. However, because no control group is used, history and various other

factors are not well accounted for. The time series design in which a single observation is followed by an application of the program in a continuous cycle is most useful to measure the ability of a program to retain or increase its effect as conditions change and as feedback of program impact is made to the administrators of the program themselves. It is not possible to separate the carry-over effect of previous applications of the program each time there is another application of the program.

(2) The Multiple Time Series Design. This design can be applied in the same variety of ways as the Basic Time Series Design. The difference is that a control group is also used

$$O_1 O_2 O_3 O_4 \ X \ O_5 O_6 O_7 O_8$$

$$O_9 O_{10} O_{11} O_{12} \quad O_{13} O_{14} O_{15} O_{16}$$

and observations are made simultaneously for both groups. The comparison data that becomes available with use of the control group strengthens the study design.

(3) The Non-Equivalent Control Group Design. In this design a control and experimental group are used together with

$$O_1 \ X \ O_2$$

$$O_3 \quad O_4$$

pre- and post-program measurements. The non-equivalency of the control group to the experimental group since randomization is not present is a drawback of the study design.

For further discussion of study design the reader is referred to Donald T. Campbell and Julian C. Stanley, Experimental and Quasi-Experimental Designs for Research, Rand McNally College Publishing Company, 1963. This excellent reference includes extended discussions of non-experimental, true experimental and quasi-experimental designs. The sections on quasi-experimental design in particular are much more extended than the limited presentation of quasi-experimental designs in this appendix.

## C. AN ALTERNATIVE TO EXPERIMENTALISM IN EVALUATION: THE DECISION-THEORETIC APPROACH

The decision-theoretic approach to evaluation described in this appendix is just beginning to be written about in the evaluation literature. It has been developed as a combination of decision theory (which involves decision-making under uncertain conditions) and a particular approach to mathematical analysis known as Bayesian statistics. The technology of

this approach is yet developing. We are told that applications exist in a number of CMHCs, but we have run across no examples. Raiffa's approach has, however, been used in a variety of business decisions, and according to Guttentag, the method has also been used extensively in the physical sciences.[1] We present an overview of this approach in the appendix to inform the reader of the existence of the approach. We must emphasize that the technique represents one of the "cutting edges" of new evaluation methods and is likely to be much further developed and refined as it comes to be of increasing practical use to program evaluation in CMHCs.

The proponents of the decision-theoretic approach argue that the state of the art of evaluation in practice is inadequate. In particular they register five complaints about common methods of evaluation research in use today. The first is the assumption that programs are in a fixed and unchanging state and that they can be observed in such a state at various times and places. In fact programs are quite different from place to place because places differ and programs themselves may change over time. The second difficulty with evaluation research today is that there is an overwhelming insistence on drawing causal inferences. Sometimes, however, programs are effective for reasons other than the expected causes. A third complaint the authors have is that evaluators are being taught to try to impose experimental and quasi-experimental designs on programs in order to do effective evaluation. One requirement of such designs is that programs remain invariant while data are being collected. Sometimes programs may remain invariant, but more often than not they do not. In most cases they are not held invariant to suit the needs of the evaluator.

Another difficulty is the need for a control group and the normal inability in a social setting to find an adequate control group for an experiment. This leads to pre-post analysis in which the group itself serves as its own control group over two periods of time. One way that has been taken around this is the so-called "convergent validity" approach. This general line of thinking suggests that the more different lines of evidence point in the same direction, whether experimental or not, the more persuasive the data is likely to be. The proponents of the decision-theoretic approach argue that pseudo-experiments should be avoided if possible and that where they are done, convergent validity is essential for establishing confidence in a conclusion.

Still another difficulty with current evaluation methods is that the distinction is made between formative and summative evaluation. Whether during or after the program, the questions that need to be answered are all the same. Is the program a good idea? How can we make it work as well as possible or how can we do better? As programs progress a number

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[1] Private communications, March 22, 1976

of different changes are likely to occur in them. First, the values of the program staff and those being served by the program are likely to change in response to both external causes and the program itself. Second, the program itself evolves and changes its nature. Third, the external societal circumstances may change. Finally, knowledge of program events and impacts is disseminated. A continuous self-feeding evaluation technique is therefore needed.

One way out of all of these evaluation dilemmas is to take the reporting approach. In this approach large numbers of statistics are amassed and reported. Most of the statistics are descriptive. Such statistics can be useful but only in a limited way.

In response to these drawbacks in evaluation, the techniques of decision analysis and Bayesian statistics have been melded into a technology entitled Multi-Attribute Utility Measurement. This combination does "not make use of artificial devices such as null hypotheses. They permit, in fact, encourage, quantitative combination of evidence from different sources, different lines of inquiry, and different techniques of investigation. In particular, they make it easy to combine in a formally appropriate numerical way judgments with experimental or other empirical data and they combine very naturally with the value judgments that... produce wise decisions.[2]

There are a number of different versions of multi-attribute utility measurement. Its essence, however, is that it describes each outcome to be evaluated on each dimension of value by experimentation, observation, judgment, or some combination of these. The values placed on each outcome are then combined by means of an aggregation rule. This would seem to require reducing values to a common basis.

Ten steps are reported in the Edwards, Guttentag, Snapper[3] version of multi-attribute utility measurement. These are:

Step 1: Identify the subject, person or organization whose utilities are to be maximized.

Step 2: Identify the issues or decisions to which the utilities are relevant.

Step 3: Identify the entities to be evaluated. These are usually outcomes of possible actions.

---

[2]Edwards, Ward; Guttentag, Marcia; and Snapper, Kurt. A Decision-Theoretic Approach to Evaluation Research, p. 148. In: Struening, E., and Guttentag, M. (Eds.). Handbook of Evaluation Research, Volume I. Beverly Hills, California: Sage Publications, Inc., 1975.

[3]Ibid.

Step 4: Identify the relevant dimensions of value.

Step 5: Rank the dimensions in order of importance.

Step 6: Rate the dimensions in importance, preserving ratios of importance.

Step 7: Mathematically convert the weights into numbers that are similar to probabilities on a zero to one hundred scale.

Step 8: Measure the location of each entity being evaluated on each dimension.

Step 9: Calculate utilities for entities.

Step 10: Make the decision based on the principal of maximizing utility.

This simplified and somewhat abstract description of multi-attribute utility analysis is concretized in the Edwards, Guttentag, Snapper article from which this discussion is derived. The reader is also referred to the folowing references:

Guttentag, M. Subjectivity and its Use in Evaluation Research. Evaluation, 1(2), 1973.

Phillips, L. D. Bayesian Statistics for Social Scientists. New York: Crowell, 1973.

Raiffa, H. Decision Analysis: Introductory Lectures on Choices Under Certainty. Reading, Mass.: Addison-Wesley, 1968.

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* U. S. GOVERNMENT PRINTING OFFICE : 1976 O - 221-458

DHEW Publication No. (ADM) 76-404
Printed 1976

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