Outcome evaluation assesses the results or benefits of mental health services received by clients or communities by comparing descriptive data on the mental health status of clients at different points in time. It aids clinicians and managers in planning programs and managing clinical services. A mental health center should establish goal-oriented program planning, information systems, and quality assurance programs before it attempts client outcome evaluation. Outcome studies are still in the developmental stages and should be conducted when there are clearly defined needs, available resources, and clinical and managerial agreement regarding the uses of the resultant data. Seven outcome evaluation methods are described and referenced: (1) level of functioning scales; (2) multidimensional ratings; (3) SCL-90 Symptom Checklist; (4) goal attainment scaling; (5) client satisfaction follow-up questionnaire; (6) community satisfaction studies; and (7) consultation and education outcomes. Client outcome studies can be continuous and provide on-going feedback, or they can be terminal and provide information about a particular service or group of clients. These studies assist in forming policy, developing programs, and justifying programs.

(Author/MLT)
CLIENT OUTCOME EVALUATION IN
MENTAL HEALTH CENTERS

Southern Regional Education Board
130 Sixth Street, N. W.
Atlanta, Georgia 30313

1979
The Southern Regional Education Board was awarded a grant (Mental Health Training Grant No. T15-MH14703) in late 1976 from the State Manpower and Development Branch of the National Institute of Mental Health. The Project was to develop publications and conduct workshops to assist mental health centers in improving their management practices and their program activities through the use of practical program evaluation. A series of publications and workshops is being developed through the combined efforts of the Board's staff and task force participants. Topic areas include:

- The Administrative Uses of Program Evaluation
- Use of Information Systems for Monitoring Mental Health Programs
- Linking Needs Assessment to Program Planning and Management
- Quality Assurance in Mental Health Centers
- Client Outcome Evaluation in Mental Health Centers
- Improving Staff Productivity in Mental Health Centers

The selection of these topics was based on the preferences expressed in a survey of mental health centers and clinics in the 14 states served by the Southern Regional Education Board.

Client Outcome Evaluation in Mental Health Centers describes outcome evaluation methods, and explores some of the ways that studies can be conducted and used. This publication is based on the recommendations of people in mental health centers and state mental health agencies. We thank all of them for their willingness to share their knowledge and experiences with us. We assume responsibility for the content of this report, including any misunderstandings resulting from the translation of ideas.

Janet F. Despard, Project Director
Improving Mental Health Centers and Mental Health Planning Project

Harold L. McPheeters
Director, Commission on Mental Health and Human Services
TASK FORCE MEMBERS

Philip Barkley
Director of Evaluation
Department of Mental Health/
Mental Retardation
Nashville, Tennessee

Jack Franklin
Texas Department of Mental Health/
Mental Retardation
Austin, Texas

William Hargreaves
Langley Porter Institute
University of California
San Francisco, California

Frederick L. Newman
Eastern Pennsylvania Psychiatric Institute
Philadelphia, Pennsylvania

Jerome S. Nichols
Mental Health Services of Roanoke Valley
Roanoke, Virginia

SOUTHERN REGIONAL EDUCATION BOARD STAFF

Harold L. McPheeters
Director
Commission on Mental Health and Human Services

Janet F. Despard
Project Director
Improving Mental Health Centers and Mental Health Planning Project,
WHAT IS OUTCOME EVALUATION?

There appears to be a limited agreement in the mental health field on the meaning of the term "outcome evaluation." A general definition found in the SREB publication, Definition of Terms in Mental Health, Alcohol Abuse, Drug Abuse, and Mental Retardation, defines program outcome evaluation as:

"The effects achieved for a target population by a program." This definition is expanded with the rationale that:

There has been much attention given to the services delivered by staff persons, but less attention given to the benefits or results to clients or communities. Outcome refers to the changes or benefits brought about in clients or communities as a result of the services delivered. Outcomes are seen as effects, changes, or impacts on recipients.

This general definition is probably acceptable to most people. Problems arise, however, when a more specific description is required to explain why outcome evaluation is done, how outcomes are measured, and what uses are made of findings.

The purpose of outcome evaluation is to find out whether clients are being helped by the mental health services they receive. Federal and state administrative agencies and legislative bodies are now exerting pressure on mental health centers to document the effectiveness of their services to clients in the community. But the expectations of outside agencies are not the only reasons for evaluating program outcomes. The information drawn from
outcome evaluation is also useful to the administrative and clinical staff in a center. Some of the questions that outcome evaluation can answer are:

- Is mental health treatment helping clients?
- How much does treatment help clients?
- What kinds of clients benefit more from a particular kind of treatment?
- Is one service modality more effective than another?
- Are clients satisfied with the services that they receive?
- Is the community satisfied with the center's services?

These questions can be answered by using evaluation or research approaches.

**Outcome Evaluation**

Outcome evaluation uses descriptive data on client status at different points in time to come to a conclusion about the influence of treatment on clients. Scientific rigor is not nearly as important as producing findings that are appropriate for decision making and useful for educating management and clinical staff. This more pragmatic approach often does not produce information that can be generalized to other settings, but methodologies should be used that will give the most precise answer possible, given the constraints of time, resources, and planned uses of the data. Findings from outcome evaluation are used to trigger action by clinicians and managers in assigning clients to particular therapies, allocating resources to programs, and identifying inservice training needs. They also may be used by managers to restructure existing programs.
Outcome Evaluation Research

Evaluation research is a form of applied, scientific research which measures change in client status over time to draw causal inferences about the effect of treatment on clients. A research design with random selection of clients or equivalent controls is used so that the relative effectiveness of two treatment approaches can be compared. This kind of study involves the investigation of events under scientific rules of evidence to generalize knowledge. Research results are used in developing alternative treatment approaches within programs in mental health centers.

Evaluative research is feasible when centers have the research talent and other resources available. Otherwise, it is not sensible for agencies with limited resources to spend service delivery dollars on rigorous scientific approaches. This does not imply that centers should not look for ways of improving treatment approaches. It does suggest that most centers should employ methods of measuring client outcomes that will provide practical and timely feedback on clinical activities before they attempt more sophisticated studies.

Mention should also be made about comparative studies of the effectiveness of various mental health programs. It is recommended that comparative studies are best addressed by state and federal agencies because of the costs and the problems of compatible data across programs. The exception would be when a number of centers pool their resources and data to do comparative studies, often with support and technical assistance from state mental health agencies.
OUTCOME EVALUATION METHODS

A number of methods can be used to evaluate outcomes. These methods differ in the dimensions of outcomes that are measured. Each method has advantages and drawbacks related to its specificity, cost, and potential uses. Seven different methods are briefly described and referenced.

Level of Functioning Scales

The client's overall level of functioning is measured from the perspective of the clinician. These global assessment scales are a shorthand way of indicating a number of factors related to client status. They must be backed up by a good clinical record to clarify what these factors are.

It is suggested that a broad range of scale points -- up to 100 with 10 point levels within the scale -- is more desirable than scales with 5 or 10 scale points because the scales with broader range are more sensitive in discriminating changes in client status. The indicators produced on broader scales are far more useful in quality assurance procedures because the information they yield is more sensitive.

References:


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).
Multidimensional Ratings

Pre- and post-multidimensional ratings of symptoms and personal, social, and community adjustment are available to centers that wish to use them. It is recommended that centers carefully choose the instrument that best suits their needs in providing answers to the questions which prompted the outcome study. Furthermore, centers are urged to use available scales instead of trying to develop their own. Some suggested measures and references are:

The SCL-90 Symptom Checklist is a client self-report form consisting of 90 items covering common complaints of psychiatric outpatients. Because it takes little time to administer and score, this checklist can be used on a routine basis with all clients. It can be used to explore the symptomatology and progress of particular client groups. Its limitations are that it includes no measures of interpersonal or social adjustment and, because it is confined to a standard set of symptoms, it does not show unusual or unique symptoms.

References:


Personal, Social and Community Adjustment Scales measure and compare the client's personal, social and community adjustment prior to treatment with adjustment at later points (either during or after treatment). Although the three scales shown below share the same measurement objectives, these scales differ in the details of their content, format, implementation procedures.
and costs. These scales tend to be lengthy and expensive to administer and analyze. They are most suitable for use in well-designed, time-limited studies rather than on a routine basis with all clients. The analysis of the data yielded by these scales can identify areas of adjustment in which clients need help; can be used to develop new types of services to meet the treatment needs of clients; and can help assess the durability of treatment results after termination.

1. The Katz Adjustment Scale (KAS) consists of five scales containing a total of 205 items: 1) personal symptoms; 2) performance of social roles; 3) informant's "expectations" of the client's social role performance; 4) performance of leisure time activities; 5) informant's expectations about leisure time activities. These scales have been most widely used in long-term psychiatric hospitals.

Reference:


2. The Personal Adjustment and Role Skills Scale (PARS) contains 40 items which measure personal and social adjustment. Separate versions of the scale are used for males and females. This scale is developed for rating by an informant (e.g., the client's family members) and has been used successfully as a mail-out questionnaire.

Reference:

3. The Denver Community Mental Health Questionnaire consists of 71 items that focus on personal and social adjustment, contact with other human service agencies, and client satisfaction with services. This questionnaire was designed specifically for use in mental health centers, primarily to follow up on clients after termination of treatment. It includes both self-reports by the client and reports by other informants; it is usually administered through structured interviews in the client's or other informant's home.

Reference:

Goal Attainment Scaling

Goal Attainment Scaling is a technique that measures treatment outcome by assessing the extent to which clients achieve individualized goals. The specific content of the scales is tailored for each client. A goal attainment follow-up is done for each client to determine the level of outcome on each scale. Outcomes for all clients are calculated through the combination of goal attainment scores of all clients. It is common for each mental health center to modify the basic technique to meet its own specific needs.

References:


The Automated Tell-Informant Goal-Oriented Progress Note (ATGON) serves many of the same purposes as goal attainment scaling. It is based on the same underlying assumption, but the design and procedures differ. ATGON is an automated technique which measures client progress toward predetermined goals. Assessments from three sources are included: clients, clinicians, and relatives of the clients.

Reference:


Client Satisfaction Follow-up Questionnaire

Assessing the satisfaction of clients with the process and results of treatment has become increasingly common in mental health centers, in part because of the emphasis on citizen participation and consumerism in human service agencies. These questionnaires are relatively inexpensive to design and implement. The data that they yield can assist in identifying problems in programs, getting feedback from the community on the value of mental health services, and providing information on "accessibility" and "acceptability" as required by current mental health legislation (P.L. 94-63).

It is suggested that client satisfaction questionnaires be kept simple and brief -- about 5 to 10 questions. These questionnaires usually include items directed to the client's satisfaction with treatment and their overall
satisfaction with the services offered by the center. Other concrete questions that may be of interest to the center director can also be added. It is recommended that some questions be asked two or three different ways.

Reference:

Denver Community Mental Health Questionnaire (selected questions):

James Cirillo, Shieh-Yang Lin, Douglas Bigelow and Marilyn Biggerstaff
Denver General Hospital Mental Health Center
70 West 6th Avenue
Denver, Colorado 80204

Daniel Larsen, C. Clifford Attkisson and William A. Hargreaves
Langley Porter Institute
University of California
San Francisco, California 94143

Community Satisfaction Studies

Outcome indicators can be derived from pre- and post-measures of change in community satisfaction based on key informant reports (e.g., formal center affiliates, ancillary services, referring agencies). Several other methods can be used. Actual client movement into and from the center can be tracked and compared to the policy and formal service agreements with other agencies.

Reference:


Consultation and Education Outcomes

Consultation and education services in schools, industry, nursing homes, law enforcement agencies, courts and other human service agencies can be evaluated by comparing actual activities to stated goals for services if the
center operates under a goal-oriented approach. Basic steps in setting goals and evaluating outcomes include:

1. Establishing an agreement with the agency that defines the goals to be achieved by the service;
2. Setting the plan for the provision of services;
3. Providing the services;
4. Measuring the outcomes by comparing the results to stated goals.

The reader is also referred to two general resource publications for information on outcome measures:


When selecting outcome measures, the evaluator should look for an instrument that is appropriate and sensitive to change in client status. Other considerations are the reliability of the instrument, the usefulness of the measures to clinicians and program managers, and the costs of the procedures. Since the major ways of measuring client outcomes often are not correlated to each other, the evaluator should try to select instruments to assure that 1) the dimension of client status chosen will answer the questions being raised; and 2) the resources needed for implementation are related to the potential pay-off that the findings will have.
Variations in the demographic, socioeconomic, and cultural characteristics of communities influence what is considered "normal" behavior and functioning in different communities. Although this is not an overriding factor in the selection of outcome scales, knowledge of community norms is helpful in rating and analyzing client outcomes. Some authors have developed outcome techniques that compare client outcomes to community norms to assess the effectiveness of treatment programs (Clarke, the states of Oregon and Washington). Assessments of the need for services which include the characteristics of the community (e.g., age, sex, race/ethnicity, income, education, unemployment, crime) assist in identifying the nature of factors that influence "normal" functioning and behavior in the community.

Mental health centers should conduct credible outcome studies whether they are done on a continuing basis or on a special study basis. The need for measures that apply across all treatment modalities reduces the scientific rigor of scales that can be used, but reliable instruments are easily found. It is advisable to select methods that rate both the clinician's and the client's perspectives of treatment results.

ONGOING ACTIVITIES IN PLACE

It is recommended that centers have the following activities in place before conducting outcome evaluation:

1. Goal-oriented planning should take place before conducting outcome evaluations. Written documentation of the proposed evaluation procedures should be included in the plans.
2. The center should have an evaluator or person with evaluation skills who serves as a member of the management team.

3. The center's administration must support program evaluation and have the ability to use the evaluation findings.

4. Operations and clinical procedures should be monitored through an information system (organized files from which data can be readily accessed) that includes data on:
   - client movement;
   - staff activity that accounts for at least direct service activities and indirect services, such as consultation and education;
   - cost data including direct costs, indirect service costs, and administrative support costs;
   - clinical records that are up-to-date and include treatment goals and plans for each client.

5. Case management should include the review of client cases by clinical supervisors and a quality assurance program in the developmental stage.

6. There should be mechanisms for feedback to clinicians and to the community.
CONDUCTING OUTCOME EVALUATION

Many centers defer client outcome studies to a later stage in their development for a number of reasons. Other program evaluation activities, such as the development of information systems and cost studies, have a higher priority than outcome evaluation in most centers. Implementation of outcome evaluation is often delayed because centers do not consider the potential payoff in the uses of outcome data to be high enough to justify the costs involved. (The exception is when categorical programs require outcome evaluations.) Another related factor is that the state of the art of outcome studies is still in the developmental stage and the potential uses of outcome data are not always understood.

PLANNING AN OUTCOME EVALUATION STUDY

The following questions should be asked in the planning stage of an outcome study to aid in selecting an appropriate method:

- Why is the data needed?
- What specific questions are being asked?
- Who will use the data?
- How often will the data be needed?
- How does the data collection process fit into other ongoing program evaluation efforts?
- Are the needed resources available?
Outcome evaluation should be done when there is a clearly defined need for data, resources are available, and administrators and clinical staff agree to use the findings. These decisions can be made by the center's management team.

In selecting appropriate instruments for measuring outcomes, it is recommended that centers choose from standard measures that are already available instead of trying to develop their own. If the persons involved in making this choice are not sure about the instrument that should be used, they should call in consultants from state or other agencies for assistance in the selection of an appropriate measure.

When doing an outcome evaluation for a categorical program (e.g., National Institute of Drug Abuse requires Client Oriented Data Acquisition Process), it is suggested that the center look at the federal and state reporting requirements for that program before choosing an instrument, even if the center does not receive categorical funds for the service. There are two advantages to using the same methods of measurement required by state and federal agencies: 1) outcomes can be compared with state and federal statistical data; and 2) if the program does get funding from these agencies, the center will not have to revise its evaluation procedures.

IMPLEMENTING AN OUTCOME EVALUATION-STUDY

Clinical and managerial staff should be educated on the meaning and uses of outcome evaluation before outcome studies are implemented. Additional training sessions may be necessary after implementation to maintain the reliability of ratings and to demonstrate the uses of the evaluation findings.
Staff should be given feedback reports on findings periodically so they can use the data for clinical and overall management purposes.

The evaluator can anticipate anxious reactions from staff when they first see the results of outcome studies because results are seldom as good as expected. Training sessions on the meaning and uses of outcome data will help reduce these anxieties. The center administrator should judge when and how any information is released to others. He may decide to withhold the release of outcome information until the evaluation system is operating smoothly and the reliability of ratings is well established.

Clinicians may be bothered by the words used in an instrument and may feel that identifying clients' behaviors with a number is alien to their way of thinking. Others may think that a standard instrument is inappropriate for the program. Some suggestions for handling these problems are:

- Try a standard instrument. If it does not produce the desired cooperation, try another one.

- Do not make word changes in a standard instrument initially. Instead, have training sessions in which the results of individual ratings are discussed and consensus on the meaning of rating categories is developed.

- After the instrument has been used a while, there are two possible approaches to increase rater reliability: 1) an interpretation for local usage of scales can be agreed upon without modifying the instrument; and 2) words in the instrument can be changed to fit local usage of the scales. If word usage is changed, notations on these changes should be made in any reports. Either approach should include staff training regarding changes in the scales to increase reliability.
TWO WAYS OF EVALUATING OUTCOMES

There are two basic approaches to outcome evaluation: 1) special studies and 2) continuous data collection. The basic procedures that have been outlined apply to both kinds of outcome evaluation efforts.

Special studies. Special outcome studies for evaluation require data that are not routinely collected or reported in the information system. Special outcome studies might involve sampling from continuously collected data for a particular subgroup of clients or conducting a full-scale study of client outcomes in a particular program. These studies may be done periodically or only once, depending on the need. Often the need for special studies is prompted by problems that appear in the regular monitoring reports. Clinical supervisors may request a special study when planning for a modification in an ongoing treatment program. The administrator may need outcome data to support the development of a new program or to justify an existing one.

Continuous Data Collection. The continuous collection of outcome information usually involves the rating of all clients who receive services. These ratings are recorded in the clinical records to assist in clinical management and in the center's information system to provide easily tabulated data for evaluation. The minimal level of outcome data that centers should consider maintaining on a continuous basis is:

1) The overall level of functioning for every client on intake. These ratings should be backed up by progress records for each client.

2) The overall level of functioning for every client at least once at a predetermined point in time, whether or not the client is still under treatment.
3) A client satisfaction follow-up questionnaire to all terminated clients (can be conducted by mail).

4) Summaries of data on levels of functioning and client satisfaction follow-up questionnaires at regular intervals, with appropriate feedback to the users of the information.

USE OF LEVEL OF FUNCTIONING SCALES

Several level of functioning scales were suggested in the previous section. These scales show the overall status of clients at the time of rating. Before and after measures show whether any changes have taken place while the clients were under treatment. It is recommended that level of functioning ratings be done at every clinical contact with clients to provide more adequate information for decision-making by clinicians, supervisors, and peer review and utilization review committees.

Regardless of how often level of functioning ratings are done, these indicators should be entered in the center's information system in two places: in the client's progress record for case documentation purposes and in the data collection system with other management data. These may be reported on billing tickets for individual clients along with the client's identifier, the services rendered, the code for the service provider, and the fee charged. In a hand-operated information system the aggregation of data can be facilitated by using a code to identify whether the rating was pre-treatment, during, or after treatment. A staff member should be assigned responsibility for monitoring data entries to make sure that the data are properly and completely collected.

Level of functioning data should be tabulated and reported to appropriate personnel at predetermined intervals. In smaller centers it may take as long
as six months before the data base is large enough to provide evidence of status changes by program. For these indicators to have meaning, they must be partitioned according to specific time periods. Client ratings are usually partitioned into the following groupings:

1. Clients who entered before reporting period;
2. Clients who entered during reporting period;
3. Clients who terminated during reporting period;
4. Clients who terminated after reporting period.

A partitioning by client type is also recommended to make the outcome measures more meaningful. Clients can be divided into those whose goals are directed toward improvement and those whose goals are primarily maintenance of their present status, or they may be divided by kind of problem or age group.

Routine feedback reports should be provided to clinicians, clinical supervisors and center managers. Generally outcome data is aggregated by client groups so that as reports proceed up the center's hierarchy, individual clients cannot be identified.

CLIENT SATISFACTION FOLLOW-UP QUESTIONNAIRES

Standard client satisfaction questionnaires are available to centers, or centers may construct their own. There are several basic issues that should be considered when using this method:

- Questionnaires should be short — no more than 10 questions.
- Questions should be concrete. They may include satisfaction with results of the treatment or general satisfaction with and accessibility of the services offered by the center.
Questionnaires can be mailed or, in some cases, filled out by clients at the time treatment is terminated.

Client satisfaction studies are secondary in importance to other evaluation activities, such as cost analyses, but because they are relatively inexpensive to do, they are usually worth the effort.

COST-OUTCOME STUDIES

Client outcomes can be merged with cost data to derive cost-outcome data, which relates the cost of providing service to clients to the degree of improvement in their functioning while in treatment. These studies are used to discover factors that contribute to differences in costs and client outcomes and to help decide about the best ways to deliver services to client groups.
USING OUTCOME EVALUATION

Mental health centers use outcome evaluation to help in making decisions about clinical management and program planning. The data may also be used to support requests for allocation of resources.

Clinical Management

When outcome ratings on clients are linked with treatment plans, clinicians get an objective view of their work with clients to help them make better decisions in managing their case work. They are able to identify those cases in which a treatment approach is particularly effective and those in which they are "spinning their wheels." Staff are also better able to make decisions on terminations of treatment and transfers of clients.

Clinicians usually do not like the idea of having the effects of their work evaluated. However, if it can be demonstrated that assessing outcomes can help them in providing better care to clients, they are less resistant, particularly when they can be assured that the findings will not be used punitively by management. Clinical supervisors find these data useful in monitoring cases and peer reviewers can use the data to assure the quality of the programs. The center may use the findings in inservice training programs to change the ways that clients are assigned to clinicians or to modify clinical procedures.
Documentation of client progress through outcome ratings can also help clients. For example, a client receiving alcohol rehabilitation services may be criticized by his probation officer because of negative reports made by the client's family. The therapist, by demonstrating that the client was progressing well in the program, could modify the probation officer's attitude toward the client. In addition, in clinical management, outcome indicators are used to "flag" areas where treatment is having problems.

Program Planning

Outcome studies assist center management in setting policy and developing program plans. Outcome information can be used 1) to improve programs; 2) to conserve resources; and 3) to justify programs. Several examples of the potential programmatic uses of outcome information follow.

Outcome information can be used to compare the effectiveness of one service to another in a very simple way. A center may be able to demonstrate that treating chronically disabled clients in a day care service is just as effective and costs less than the inpatient unit that was used in the past. Or, when recidivism rates and outcome indicators from the two groups are compared, the day care clients may have lower recidivism rates and higher outcome scores than those treated in the inpatient unit, thus showing that day care is a more effective treatment modality that also costs less.

Outcome information may also be used to support a decision to maintain a more costly but more effective service by demonstrating that clients improve more and have lower recidivism rates than those treated in a less effective service.
Client satisfaction studies provide information on the client's perceptions of the value and quality of treatment and mental health programs in general. This information is useful in modifying program procedures. In addition, such studies yield statistical data on the accessibility and acceptability of services for federal and state mental health agency reports.
Outcome evaluation assesses the benefits or results of mental health services received by clients or communities. It is an evaluation approach that compares descriptive data on the mental health status of clients at different points in time. Its purpose is to trigger action by clinicians and managers in planning programs and managing clinical services.

Many centers defer client outcome evaluation until goal-oriented program planning, information systems and quality assurance programs are in place. Outcome evaluation should be done when there is a clearly defined need for the data, resources are available, and the uses of data are agreed on by clinicians and managers.

Seven methods of evaluating outcomes have been described. Each method has its advantages and drawbacks which are related to its specificity, cost, and potential uses. Some of the major considerations in selecting an appropriate outcome measure are its sensitivity to change in client status, its reliability, the usefulness of findings, and the costs of implementation.

Client outcomes studies can be conducted continuously or as special studies. A minimal level of continuous data collection includes the rating of clients' level of functioning at predetermined times and the assessment of client satisfaction, with feedback to clinicians and managers at regular intervals.
Special studies tend to be more problem-oriented. They are usually conducted when there is a clearly defined need for information about a particular service or group of clients.

Outcome evaluation is used to assist in clinical management and program planning. Continuously collected outcome data help clinicians get an objective view of their work with clients. These data also assist clinical supervisors in monitoring cases and identifying the need for inservice training or changes in clinical procedures. Outcome studies assist in setting policy, developing program plans, and justifying programs.