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AUTHOR Roessler, Richard T.
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ABSTRACT

This paper examines the historical and philosophical underpinnings of independent living programs and presents strategies for evaluating such programs. Discussed first are issues in evaluating independent living programs. The evolution of independent living services and the mission and goals of independent living are outlined. Described next are techniques for evaluating various facets of independent living programs (including general program design, person change, environmental change, client satisfaction, and project operations). An independent living processes and outcome model is provided. Presented in the final section are a series of 16 conclusions and recommendations for evaluating independent living programs. (MN)

STRATEGIES FOR EVALUATING INDEPENDENT LIVING PROGRAMS

Richard T. Roessler

Arkansas Rehabilitation Research
and Training Center

University of Arkansas, Fayetteville
Arkansas Rehabilitation Services

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Abstract

The mission of independent living services is to increase the severely handicapped individual's dignity, freedom, and control of personal destiny. To help people reach these overarching goals, independent living programs must provide direct services or information regarding available services in an efficient and effective manner. Evidence of the success of services should be sought in terms of a) client functioning, b) environmental changes, c) client satisfaction, and d) program management practices. Regarding person change, emphasis is on human capacity areas such as health, social-attitudinal, mobility, cognitive-intellectual, and communication functioning. To eliminate external barriers to life satisfaction, environmental changes are needed in physical, social, economic, and human services areas. Accomplishments of person and environment changes should enhance the client's satisfaction with program services. Finally, independent living programs should also be evaluated as to their overall management capabilities.

TABLE OF CONTENTS

SECTION I:

Introduction

Purpose

The purpose of this paper is to provide an introduction to evaluation of independent living services. In order to evaluate a new human service program, one must understand why that program evolved. What are the program's mission and goals? Who is the program to serve (target population)? Only with this historical and philosphical underpinning can one determine whether programs in independent living have proper service objectives for the proper clientele.

Having determined that a program has set appropriate goals for appropriate target groups, the program evaluator can move to the next step of identifying program criteria and instruments to measure progress on those criteria. Such an evaluation strategy allows one to determine whether services have met effectively and efficiently the needs of the clientele. Hence, in addition to discussing the mission and goals of independent living, this paper also devotes considerable attention to discussing concrete criteria by which the effectiveness of independent living services could be gauged. The presentation closes with a flowchart of the evaluation process in independent living.

Issues in Evaluating Independent Living Programs

Muzzio, LaRocca, Koshel, Durman, Chapman, and Gutowski (undated) provided some excellent reasons for evaluations of independent living programs. They pointed out that results of these assessments can:

1. Justify the existence of independent living rehabilitation,
2. Justify the level of expenditures for the program,
3. Improve techniques of independent living rehabilitation, and
4. Insure that services are being delivered to the target population.

Due to the ambiguity regarding desirable outcomes in independent living rehabilitation, evaluation of such programs is no easy task. As Muzzio, et al. (undated) and Darley; Tate, and Frey (1979) noted, no single success criterion exists. Instead, as this paper demonstrates, multiple criteria of success must be employed in evaluating independent living programs.

SECTION II

The Independent Living Movement

Evolution of Independent Living Services

Establishment of a new human service program requires several conditions. Obviously, widespread awareness of deficiencies in existing services is needed (Rossi, 1978). Then, it must be feasible to deliver needed services through an organization staffed by trained personnel.

Success of the newly established program depends on the degree to which it responds to the original needs and deficiencies, i.e., to the mission for the service. Hence, a paper on program evaluation of independent living should first examine the mission and goals of independent living and then discuss ways to evaluate whether the program is meetings its goals.

The Mission and Goals of Independent Living

Independent living services in the United States are responsive to fundamental deficiencies in our culture experienced by individuals with severe disabilities. Countless observers of society's reaction to disability have described how resulting social practices deny individuals with disabilities access to freedom of choice and independence. As a result, definitions of independent living emphasize the need for disabled individuals to a) attain the rights and privileges of adults (Cole, Sperry, Board, & Frieden, 1979), b) participate actively in society (working, having a home, raising a family, sharing in the joys and responsibilities of community life) (Stoddard-Pflueger, 1977), and c) select and maintain a lifestyle consistent with personal desires, means, and expectancies (Cassatt-Dunn, 1978). In essence, the qualities of life which severely disabled individuals are denied include control of one's life and participation in the community consistent with personal desires and capabilities.

The desire for control over one's life and meaningful participation in the decision-making process emanates from

et al., 1979). Forces of discrimination and prejudice in the social environment severely limit an individual's capability for meaningful integration in the community and labor force. The negative effects of architectural barriers, financial disincentives, and lack of financial benefits on individuals with disabilities is patently clear. Finally, gaps in service programs resulting from lack of a) awareness of technological advances, b) advocacy efforts for individuals with severe disabilities, and c) involvement of consumers in service planning limit an individual's independent living capabilities.

A strict environmental interpretation does, however, overlook the person aspects of the equation. Consistent with the interactional theories of psychologists such as Kurt Lewin, Sigelman, et al. (1979) stated that desirable social outcomes are a function of personal capabilities as well. Attempting to clarify the effects of severe disability, they described five domains of human functioning and performance which might be altered by disability. These five domains include health, social-attitudinal, mobility, cognitive-intellectual and communication functions. A review of the literature on disability and its impact indicated that these five areas were "sufficiently comprehensive to classify all functional difficulties" (p. 105) even those resulting from mental retardation.

If limited in the health area, the person lacks the "physical well-being called good health" and "is characterized by functional impairments in one or more of the body's systems; . . . ." Problems of self-acceptance and motivation for self-improvement are included in the social-attitudinal area. Mobility limitations include diminished capability to manipulate objects, move about home and work place, and participate in the affairs of the community. Impaired cognitive-intellectual functioning affects learning, memory, and generalization of learning. If limited in communication function, the person "has difficulty sending and receiving messages, and exchanging information and ideas with other persons" (Sigelman, et al., 1979, p. 105).

If life outcomes are dependent both on human capabilities (behavioral capacities) and environmental forces, then it stands to reason that goals of independent living programs must address both person and environment. In the sections to follow, the proper target groups and broad goal areas for independent living programs are outlined.

Target Population for Independent Living Services. Although they may later seek assistance of a vocational nature, the target population for independent living services includes individuals with severe disabilities who do not have an immediate vocational goal. DeJong (1979b) noted that a 1974 survey conducted by the National Center for Health Statistics estimated that 3.3% of the U.S. population would qualify for independent living services. To date, the movement's "core constituency" has consisted of younger, physically disabled individuals who live around a metropolitan area with a university. Noticeably absent in the independent living clientele are "racial minorities and older individuals with severe physical impairments" (DeJong, 1979b, p. 438). Indeed, Stoddard (1980) reported that over 50% of the clients of the California independent living programs were in wheelchairs. They tended to be as well or better educated than the general population. DeJong (1979b), however, stressed the importance of expanding the independent living movement to individuals with other types of disabilities and to older individuals.

Saying that serving those with severe disabilities is the aim of independent living does not, however, clarify the goals those programs should have. Hence, the next section discusses goals of independent living programs.

Goals of Independent Living Programs. Although independent living services must remediate personal and environmental difficulties, studies of independent living centers emphasize the importance of flexibility. No one concern or set of concerns clearly emerges when reviewing either the presenting problems of individuals at independent living centers (Muzzio, et al., undated) or the services of existing independent living centers (Stoddard, 1980). At the same time, Stoddard (1980) identified central problem areas for independent living services to address, e.g.,

1. Problems in the client's self-image as a disabled person.
2. Problems in functional limitations and the need to reduce limits on the person's ability to play, work, and live in the community.
3. Services needed for the community to reduce barriers and make the community more accessible physically and attitudinally.
4. A range of social and personal skills (Stoddard, 1980, p. 13).

SECTION III

Techniques for Evaluating Independent Living Programs

Overview

Given their goal to increase the individual's freedom of choice and self-control, independent living programs must be effective on several fronts. First, the program must provide services which enhance the individual's functional capabilities. In the person change area, key services should be focused on improving individual health, social-attitudinal, mobility, cognitive-intellectual, and communication functioning. Independent living programs also must initiate changes in the environment which increase the options of disabled individuals. Environmental changes are required in physical, social, economic, and human service spheres. To include the client's perspective, evaluators must assess client satisfaction with services. Finally, independent living projects must accomplish management or operational objectives such as the mandate to ensure substantial involvement of consumers in the service program.

Person Change

In discussing "person change" through independent living services, Stoddard (1980) noted several important areas--self-image as a disabled person, functional limitations, and a variety of social and personal skills. Sigelman, et al. (1979) further elaborated on target areas by defining five dimensions of human functioning, e.g., health, social-attitudinal, mobility, cognitive-intellectual, and communication. Because it is based on an exhaustive review of the literature, the Sigelman, et al. (1979) scheme provides a comprehensive outline for understanding human functioning and, thus, for establishing person change goals for independent living services. In each of the five functioning areas, independent living services could be designed to:

Health functions

Increase the overall physical health of the individual
Decrease impairments in bodily systems
Decrease the amount of pain experienced
Increase the individual's participation in life activities

Social-attitudinal functions

Improve the level of acceptance of self and abilities
Improve the individual's social skills
Increase the individual's motivation to improve self

Mobility functions

Increase the individual's manual skills for manipulating objects and devices
Increase the individual's capability to move at home, work place, and from place to place in the community
Decrease the individual's difficulty in participating in other physical activities

Cognitive-intellectual functioning

Increase the individual's intellectual capacity to manipulate symbols and objects
Increase the individual's capability to acquire or store in memory new cognitions and behavior patterns and/or to transfer learning to new situations

Communication functioning

Decrease the individual's difficulties in sending and receiving messages
Decrease the individual's difficulty in exchanging information and ideas with other persons.
(Sigelman, et al, 1979)

Stating goals in these areas only sets the stage for evaluating a program's effectiveness. The next step involves specifying measurable objectives which include statements of the performance or behaviors expected. Positive changes in these behaviors or performance levels as a result of services then provides evidence for the effectiveness of the program.

Although they have utilized different categories than Sigelman, et al. (1979), several individuals have developed multi-dimensional rating scales and behavioral checklists adaptable to program evaluation in independent living. Examples of these multi-dimensional instruments include the Level of Rehabilitation Scale (Carey & Posavac, 1977), Independent Living Assessment for Persons with Disabilities (Schwab, 1981), Functional Assessment Profile (Ehrenworth, Kelly, Langton, LaRue, Marsh, Rapp, Reilly, & Konar, 1980), Independent Living Behavior Checklist (Walls, Zane, & Thvedt, 1979), Functional Assessment Inventory (Crewe & Athelstan, 1980), The Ideabook: 550 Indicators for Use in Setting Goals (Garwick & Brintnall, 1977), and Functional Capacity Areas (Crumpton, Cassell, Freeman, & Sawyer, undated). Dimensions from these measures can be related to the person change goals previously presented.

In using any rating scale, evaluators must be concerned with reliability and validity. A reliable measure results in comparable findings over time or raters. To consider a measure valid, one must have evidence that it assesses the construct it purports to measure. The more behaviorally specific the measure; i.e., the more observable and concrete the evaluation called for, the more reliability and validity are ensured.

For some of the measures discussed in the sections to follow (Carey & Posavac, 1977; Garwick & Brintnall, 1977), evidence exists of sufficient reliability and validity. Other measures (Crumpton, et al., undated; Schwab, 1981; Walls, et al., 1979) are highly specific in terms of observable behaviors, and, thus, one would assume adequate reliability and validity. Of course, additional research is needed to support that assumption. One instrument (Crewe & Athelstan, 1980) is in the experimental stages of development, and additional reliability and validity information will be available. The final measure reviewed (Ehrenworth, et al., 1980) calls for broad ratings of extent of impairment and potential for change (referred to as "compensation"). The complexity of these ratings underscores the need for carefully controlled reliability and validity studies with the instrument.

Health. Evaluation of health functioning could focus initially on ratings of the individual's physical health and capacity for self-care. To measure medical condition, Crewe and Athelstan's (1980) Functional Assessment Inventory uses ratings of the person's

"capacity for exertion, endurance, loss of time from work due to treatment or medical problems, and stability of condition." The Functional Assessment Profile (Ehrenworth, et al., 1980) calls for a global rating of the individual's self-care capability as to whether it represents an asset or limitation. Rating self-care as a limitation requires the rater to identify not only the specific problems but also to specify how to compensate for the problems. Areas of self-care included in the overall ratings are eating, toileting, grooming, dressing, cooking, shopping, washing, cleaning, and money management. Some of these areas overlap concerns in other functional categories such as mobility (shopping) and cognitive (money management).

The weakness of the previously described measures is their global nature. Obviously, the next important step to take is toward greater behavioral specificity. Several of the scales move in that direction. For example, Carey and Posavac's (1977) Level of Rehabilitation Scale lists multiple self-care areas under Activities of Daily Living so that the ratings of capability are provided for each area (feeding, use of toilet, bowel and bladder control, grooming, dressing, and bathing). Some areas included in their Activity of Daily Living Section fall into Sigelman's et al. (1979) category of mobility.

An even greater level of behavioral specificity and objectivity regarding self-care capabilities is provided in Schwab's (1981) "Independent living assessments for persons with disabilities." Her three part evaluation process calls first for self-ratings in self-care areas. These self-ratings are then supplemented by ratings from an observer such as the counselor. Finally, provisions are made for situational assessment of self-care skills in an actual laboratory setting. The laboratory phase of the evaluation is guided by results of the self-rating and observer rating. For example, in the area of self-dressing, the individual must be assessed as to ability to put on and remove clothes, open and close zippers, fasten and unfasten snaps, etc. Again, certain facets of the Schwab (1981) self-care evaluation extend into other areas of functioning such as mobility (manual skills) and cognitive-intellectual (money management, recipe reading, etc.).

The final health care assessment approaches extend the behavioral specificity theme. The Functional Capacity Areas (Crumpton, et al., undated) presents behavioral strands or hierarchical lists of related behaviors. Crumpton, et al. (undated) described the system as including several continua of functional skills grouped into strands. Each strand begins with "the most primary skills and progresses developmentally toward more complex skills" (p. 2). The strand relevant to assessment of health concerns includes grooming, eating, and dressing. For example, the eating/drinking strand extends from "holds finger foods" to "takes meals in socially acceptable manner."

Maintaining a similar level of behavioral specificity but not employing the strand concept, Walls, Zane, and Thvedt (1979) describe multiple behaviors in the areas of self-care skills, home maintenance and safety skills, and food skills germaine to health functioning. In each of the areas, the authors describe certain target behaviors, conditions under which the behavior should be displayed, and standards of behavioral competency. An example of the format follows (Self-care skill, #53-Medicine, p. 49).

Medicine

Condition: Given a filled prescription and a prescribed dosage

Behavior: Client takes the medicine as scheduled and then stores it

Standard: Behavior over the period prescribed. Medicine must be taken according to the instructions (doctor or label), and must be stored in the proper place.

Social-attitudinal functioning. According to the Sigelman, et al. (1979) scheme, key areas in social-attitudinal functioning include level of self-acceptance, social relationship capabilities, and motivation to improve self. One can look at social-attitudinal outcomes in much the same progression regarding behavioral specificity as was found with health outcomes. For example, the Functional Assessment Profile (Ehrenworth, et al., 1980) discusses interpersonal relationship skill as the ability to establish and maintain positive personal, family, and community relationships. The rater indicates whether this area represents an asset or a limitation for the individual.

If rating the area as a limitation, the reviewer must indicate how the client might compensate for or overcome problems in interpersonal relationships.

The Functional Assessment Inventory (Crewe & Athelstan, 1980) also calls for general ratings of the client's social-attitudinal capabilities. These general ratings include the following: judgement, persistence, congruence of behavior with rehabilitation goals, accurate perception of capabilities and limitations, and effective interaction with people and social support systems. In the Crewe and Athelstan (1980) measure, these six areas fall in the personality and behavior area. However, they are similar to the concerns included in the social-attitudinal area described by Sigelman, et al. (1979). The basic decision for the rater to render is whether the individual has a significant impairment in each of the personality and behavior areas.

Carey and Posavac's (1977) Level of Rehabilitation Scale presents more concrete indicators of client level of social functioning. In the area of social interaction, the Level of Rehabilitation Scale enables raters to indicate the extent to which an individual actually participates in games and home, church, work, and community social activities. Change on these dimensions over time would be relevant to the goal of increasing social relationship capabilities.

The functional capacity areas presented by Crumpton, et al. (undated) include several behavioral strands relevant to social-attitudinal functioning, e.g., interpersonal relationships, sex education, and social speech. For example, interpersonal relations is defined as the ability "to initiate and maintain interaction with others in a cooperative, participative, supportive fashion ...." The interpersonal relations behavior strand begins with "watches the movements of others-shows interest" and ends with "able to initiate and maintain interaction with others in a cooperative, participative, supportive fashion and can be comfortable alone." The behavioral strand regarding sex education is defined as "understands and has practical knowledge concerning sexual practices and assumes responsibility for all actions." Functional skills included in this strand range in complexity from the capability to differentiate between males and females to an indepth understanding and knowledge of sexual practices coupled with assumption of personal responsibility. The

final strand pertaining to social-attitudinal relationships is labeled social speech. Social speech reflects the individual's capability to use "socially acceptable language with regard to time, place, situation, and persons involved." Proceeding developmentally, functional behaviors in the strand begin with "maintains appropriate social distance when speaking to others" and ends with "able to use socially acceptable language with regard to time, place, situation and persons involved."

As the authors noted in discussing the Functional Capacity Areas (Crumpton, et al., undated), the functional skills in each strand can be used several different ways. During the intake process, assessment of the individual's level of performance on a given strand is an indication of the person's initial level of performance. During the adjustment phase, functional skills on the strands can be viewed as target behaviors for training. Finally, during the termination phase, the behavioral strands can be employed as measures of client post-treatment status.

Walls, Zane, and Thvedt (1979) provided multiple behavioral skills in the social-attitudinal area. Again, these skills are presented in the condition-behavior-standard format. Important social skills include making introductions, greeting others, starting and maintaining a conversation, staying on topic, etc. An example of an important social skill relevant to maintaining positive social relationships is accepting criticism. The condition-behavior-standard presentation of accepting criticism is as follows (Social and Communication Skills, #30, Criticism, p. 122):

Criticism

Condition: Given a role play or natural situation in which the client is constructively or destructively criticized for a behavior or a performance.

Behavior: Client accepts the criticism and remains calm (e.g., asks for suggestions for improvement, speaks in a normal tone of voice)

Standard: In the role play or natural situation, all persons interviewed must independently state that the client reacted reasonably and was not verbally or physically abusive.

Another valuable resource for identifying behavioral criteria relevant to social functioning is The Ideabook: 550 indicators for use in setting goals (Garwick & Brintnall, 1977). Areas included in the Ideabook relevant to social functioning include aggression, anxiety, depression, family/marital, interpersonal relations and communication, psychopathological symptoms, self-reference, sexuality, and work. For each of these concerns, Garwick and Brintnall (1977) present multiple goals scaled as to different behavioral levels of performance. To use the Ideabook, program staff and client could identify goals for independent living services in the social functioning area as well as current (preservice) level of functioning. After a given time interval or completion of services, staff member and client could assess whether any changes in performance level have occurred.

One area in the Ideabook particularly relevant to social functioning as defined by Sigelman, et al. (1979) is self-reference (p. 159), a category including goals (indicators) related to clients' feelings about themselves. Specific examples of self-reference include self-definition; comments about self, talents or abilities; feelings about accomplishments or mistakes; overconfidence/accepting imperfection; self-worth in relation to others; problem-solving and expressing needs; and judgement of appearance. Within each of these subareas, a list of behaviorally scaled indicators is provided. For example, an indicator and set of performance levels for "self-worth in relation to others" would be:

Self-valuation

Levels

1. Feels that everyone else is worth more than he/she is
2. Feels he/she is worth as much as one other specific person (list the person _____)
3. 2 other specific people
4. 3 other specific people
5. 4 other specific people
6. Etc. (5-15 or more)
7. Feels that everyone is worth no more than the client

Mobility functioning. Mobility limitations include impaired capabilities to manipulate objects, move about home and work place, and participate in the affairs of the community (Sigelman, et al., 1979). Mobility limitations, therefore, include not only basic skills such as upper and

lower body capabilities but the broader effects of loss of these capabilities, i.e., noninvolvement in the affairs of the community. Emphasis on movement in the home and work place and participation in the community, therefore, makes mobility a central outcome to seek in independent living services.

The Functional Assessment Profile (Ehrenworth, et al., 1980) includes both mobility considerations--a) object manipulation and b) physical and psychological ability to move from place to place inside and outside the home. Ratings in both areas indicate the extent to which the client is limited and whether or not compensation is possible.

Specific behavioral indicators of object manipulation capability are provided in the Functional Assessment Profile. Questions regarding the individual's ability to dress, maintain personal appearance, use tools and implements, and operate mechanical equipment yield information regarding functional limitations of hands and arms. Raters are directed to focus on more than whether or not the individual has the capability but also on the amount of time required to complete the task and on the quality or accuracy with which the task is completed.

As a result of disability, many individuals are restricted in their movement in their homes and communities. Furthermore, their mobility restrictions are often compounded by environmental barriers. Hence, an independent living center should focus both on improving individual skills as well as on removing specific environmental barriers. For this particular section, the emphasis is on assessing mobility in terms of changes in the individual's range of activities in the home and community. A later section on environmental change addresses the problem of architectural barriers.

Somewhat more specific mobility ratings are called for on the Functional Assessment Inventory (Crewe & Athelstan, 1980), e.g., ambulation, upper extremity functioning, hand functioning, coordination, and motor speed. Specific services such as prostheses/orthotics, physical/occupational therapy, and surgery could significantly increase an individual's capabilities in those areas.

In the Level of Rehabilitation Scale (LORS), Carey and Posavac (1977) focused less on functional capabilities such as object manipulation and ambulation and more on involvement in home and community activities. The only

specific functional ratings included are in the Activities of Daily Living area, e.g., ability to walk and speed of walking. Their ADL dimension includes many of the self-care items previously discussed in the health area.

Considerable attention is devoted in the Level of Rehabilitation Scale to the second aspect of mobility emphasized by Sigelman, et al. (1977), movement in the home, work place, and community. Mobility outcomes in these areas can be traced through ratings in the LORS areas of home activities, outside activities, and social interaction. Social interaction pertains to attendance and participation in games, social functions, and school and work activities.

Focusing primarily on self-care issues, Schwab's (1981) independent living assessment deals with implications of mobility limitations such as problems in dressing, cooking, and home care. These items were discussed as self-care aspects in the health area. Little attention is given to the second aspect of mobility, involvement in the home, work place, and community.

Behavioral strands relevant to mobility included in the Functional Capacity Areas (Crumpton, et al., undated) are gross motor, ambulation, and wheelchair use. Representing a sequential approach to eye-limb coordination and balance, the gross motor strand proceeds from basic considerations such as "shows protective behavior (e.g., extends arms when falling)" and "lowers self to sitting from standing (instead of falling to sitting)" to more complex actions such as jumping rope, catching and throwing a ball, and demonstrating "eye-limb coordination and balance using large muscle groupings" (pp. 11-13). Ambulation refers to capability to "use own means to move within the environment." Simple behaviors such as lifts head while lying on stomach to complex behaviors such as "able to use own means to move within the environment" comprise the strand (pp. 14-16). Wheelchair use reflects a series of behaviors incorporated in the ability "to use a wheelchair to move safely from one place to another in the environment" (p. 17).

Other mobility related behavioral strands include special considerations for individuals with visual impairments. For example, several behavioral strands focus on orientation, movement, and travel in "familiar and unfamiliar environments." Not only is each strand

presented developmentally, but the total group of behavioral strands in the orientation and mobility section is arranged in terms of increasing complexity. The behavioral goal for the first strand is "able to demonstrate an awareness of one's position in relation to the environment . . .." While the last strand in the group emphasizes the ability "to travel alone, safely, and efficiently to known and unknown locations . . .."

Mobility behaviors are presented in the condition-behavior-standard format in the Independent Living Behavior Checklist (Walls, et al., 1979). Acts related to locomotion, entry, movement in the home, use of kitchen appliances, house cleaning, and movement about the community are included. Behavioral criteria included in the list have obvious implications for evaluation and teaching aspects of independent living. Use of an escalator provides a concrete example of a mobility skill (Mobility skills, #37, Escalator, p. 24).

Escalator

Condition: Given an escalator

Behavior: Clients steps onto the escalator, rides up or down, and steps off

Standard: Behavior within 1 minute. The next level must be reached without falling.

Cognitive-intellectual functioning. Cognitive capabilities of importance include intellectual manipulation of symbols and objects, acquisition and storage of new cognitions, and transfer of learning to other contexts (Sigelman, et al., 1979). Defining these concepts is, of course, required if they are to be useful in program evaluation, hence, the importance of functional rating scales which include cognitive sections.

Although it contains no specific cognitive section, the Functional Assessment Profile (Ehrenworth, et al., 1980) includes ratings in three related areas--problem-solving, time management, and self-direction. Problem-solving skills include functions of memory, attention, reasoning, and application of information. The individual's use of each of those subcomponents can be evaluated through responses made in an interview and through an analysis of the individual's past history of solving problems. Again, the Functional Assessment Profile calls for only a general evaluation of problem-solving limitations and capacity for compensation.

Time management and self-direction, manifestations of the cognitive functions of memory, attention, reasoning, and application of information, are also included in the Functional Assessment Profile. Time management represents the ability to assess one's needs and manage time efficiently in order to meet those needs. Self-direction is defined as the application of problem-solving skills, i.e., the initiation of goal-oriented behavior which follows necessary logical steps. Improvement in these areas should appear as a result of compensations planned in the service program.

Crewe and Athelstan's (1980) Functional Assessment Inventory adds several dimensions to the cognitive area. In addition to learning ability and memory, they also include perceptual organization, language functioning, literacy (reading and writing), and speech. Changes in these areas along a scale of severe impairment to no impairment could result from independent living services.

The Level of Rehabilitation Scale (Carey & Posavac, 1977) provides observable behavioral criteria for a comprehensive set of cognitive dimensions (time oriented, understands speech, uses "yes" and "no" appropriately, quality of speech, speed of speech, use of gestures, reads, writes, computes, can monitor own behaviors, and can correct own errors). Ratings in each area reflect the individual's level of performance. For example, in the category of writing, the following levels are provided: "does not write; writes own name; writes more than name but only minimally; writing approaches normal quality; and rate and quality of writing is equivalent to premorbid ability" (p. 20).

Although not addressed directly, cognitive skills are implicit in several of the areas of independent living assessed by Schwab (1981). The most obvious area including cognitive skills is money and time management. However, the preceding measures provide more specific dimensions of cognitive functioning.

Cognitive assessment is possible through selective use of the Functional Capacity Areas (Crumpton, et al., undated). For example, the education area contains behavioral strands for basic skills, reading, math, writing, and reasoning. Behaviors demonstrating the capability to deal with time, space, and quantity are included in the basic skills strand. The reading, writing, and math strands are self-explanatory. As an

example, the reading strand ranges from entering behaviors of "looks at pictures in book" and "identifies pictures in book" to "reads at average for minimum adult level" and "able to translate written symbols into their respective sounds and words" (pp. 51-53).

In the Independent Living Behavior Checklist (Walls, el al., 1979), cognitive skills are subsumed in the functional academic skills area. Specific behaviors in the condition-behavior-standard format are provided which range from the capability to provide social history information in response to questions to the ability to fill out income tax forms. The focus in the functional academic skills segment is on the application of cognitive processes in certain situations, e.g., using clocks and calendars, measuring, counting, etc. Given the concrete behavioral presentation of the skills, it is possible to identify deficiencies, select training approaches, and assess gain from the information in the manual.

Indicators in the Ideabook (Garwick & Brintnall, 1977) apply to assessment of cognitive gain. For example, the category labeled cognitive ability includes multiple goals reflecting "general mental abilities, orientation, concentration, and attention-related abilities" (p. 49). Episodes of confusion, following 3-step directions, knowing address, and knowing hour of day are but a few of the goals scaled in this section. Other cognitive related indicators are also available in the section labeled decision-making.

Communication functioning. Sigelman, et al. (1979) define communication functioning as including capabilities to send and receive messages and exchange information and ideas. Difficulties in these areas typically occur for individuals with hearing and/or visual impairments. The most frequent communication problems cited by Sigelman, et al. (1979) were "receptive communication problems, particularly those involving the sense of sight" (p. 111).

Reflecting the distinction made by Sigelman, et al. (1979), the Functional Assessment Profile (Ehrenworth, et al., 1980) defines communication as both expressive and receptive. The communication rating using the Functional Assessment Profile, therefore, focuses on individual capability to hear and process sounds and see and process the environment. The emphasis is on disability related communication problems (visual or hearing impairments) not on cultural or language related communication problems.

Extent of limitation and potential for compensation are the primary issues of concern. To overcome limitations in the communication area, independent living programs can assist clients in securing speech therapy, hearing aids, braille training, manual communication, lip reading, and TTY's.

Communication is not singled out as an area for rating on the Functional Assessment Inventory (Crewe & Athelstan, 1980). However, two ratings are included on the scale for extent of impairment of vision and hearing. Hence, the Functional Assessment Inventory does not provide any information in addition to that which could be secured through the communication rating on the Functional Assessment Profile.

Similar comments regarding measurement of communication skills can be made about the Level of Rehabilitation Scale (LORS) (Carey & Posavac, 1977). Communication related items on the LORS are listed under cognition, e.g., understands speech, and quality and speed of speech. Again, the rating of communication called for on the Functional Assessment Profile deals more directly with the receptive/expressive skills of communication.

Stressing homemaking and self-care dimensions, Schwab's (1981) independent living assessment has no direct measures of communication skill. The Functional Capacity Areas (Crumpton, et al., undated) refers to communication skills but only for individuals with hearing impairments. The behavioral strand, "able to communicate with sign language," presents a developmental sequence of behaviors beginning with "communicates by pulling another to show him object, person, or situation" to multiple behaviors indicative of the ability to communicate with sign language (pp. 87-89). The Functional Capacity Areas does not include a communication strand for the visually impaired.

The social and communication skills index of the Independent Living Behavior Checklist (Walls, et al., 1979) and the interpersonal relations and communication section of the Ideabook (Garwick & Brintnall, 1977) deal more with issues of social-attitudinal or cognitive functioning, i.e., social skills. No behaviors or indicators are provided for evaluating an individual's capability to send and receive information. Hence, the behavioral strand on sign language, the Functional Assessment Inventory ratings of vision and hearing, and the Functional Assessment Profile overall rating of communication limitations and potential for compensation provide the only ratings of this dimension.

Environmental Change

Historically, efforts in rehabilitation have primarily reflected the medical model which emphasizes the need to change or "cure" the individual. The limitations resulting from disability were viewed as properties of the person which could be worked around or removed by restoration, counseling, or training services. In recent years, this "person" focus has given way to a more comprehensive model of disability and its effects. As Sigelman, et al. (1979) pointed out, functional capacities may or may not constitute handicaps depending on the nature of the environment.

Viewing the environment as the locus of the problem for people with disabilities, DeJong (1979) and Roberts (1977) described how architectural barriers, social attitudes, and gaps in human services create handicapping conditions. Reiterating the previous categories of architectural, attitudinal, and service gap barriers, Sigelman, et al., (1979) also added economic disincentives and deficiencies as yet another negative feature of the environment. Contending that environmental factors can cause individuals with similar disabilities to have vastly different outcomes, Sigelman, et al. (1979) recommended that measures of environmental characteristics and forces also be developed. Independent living programs must, therefore, include services designed to resolve problems created by barriers in the physical, social, economic, and human service environments.

Physical Environment. In discussing problems emanating from the physical environment, Muzzio, et al. (undated) stressed that, in the past, few, if any, programs have worked to create adaptive barrier free housing, accessible and affordable transportation, barrier free public/private facilities, and special communication and information services. Because of the lack of these services, individuals with physical and sensory disabilities are denied access to full participation in society in many ways. Indeed, Mace (1980) indicated that the meaning of accessibility differs for each of these groups. Accessibility for individuals in wheelchairs includes "hard surfaces, gradual slopes, lower fountains, and wider doors." Individuals limited in the capacity to walk may need "hand rails, a place to sit and rest, or extra time to move about." Individuals with visual impairments require "contrasting tactile or audible information displays and warnings, someone to give directions, or permission to bring a guide dog along." Finally, individuals with hearing impairments need "visual information displays or someone to interpret" (Mace, 1980, pp. 131-132).

Independent living programs could undertake programmatic efforts in any or all of these problem areas--housing, transportation, public and private facility accessibility, and communication and information services. Outcomes in these areas could be monitored in terms of concrete objective sought, date to achieve objective, number of services or service contacts required, amount of time devoted, cost of services, problems encountered, completion date, and actual outcome.

In the housing area, outcomes such as housing referral directories, number of home inspections, number and type of home modifications, and referrals to other agencies for housing assistance could be monitored (Stoddard, 1980). Effects of efforts to initiate needed legislation or financial benefits for housing modification services could also be assessed. Wright (1979) cited several outcomes needed in the housing modification area, e.g., availability of 1) home evaluation teams to assess housing needs, 2) quality design and construction experts to assist in housing modifications, 3) funds for making needed changes, and 4) training of independent living personnel to conduct home evaluations. Of course, several of the above recommendations overlap needed changes in the economic or human service environments.

According to Turem and Nau's (1976) comprehensive needs study, the greatest concern of severely disabled people is getting from point A to point B. Part of this problem could be resolved by modification of the home itself, e.g., elimination of stairs and redesign of the kitchen and bathroom areas. But, another facet of the mobility issue is public transportation. Independent living programs should concentrate on specific objectives such as developing a subsidized and properly staffed van service; decreasing problems involved in getting to public transportation areas; providing a secure, safe place to wait for transportation; and relieving problems in getting on and off public transportation.

Social Environment. Plans for changes in the social environment should be described in a community impact statement (DeJong & Hughes, 1980). Through advocacy and community education efforts, programs in independent living could do much to reduce stigma and prejudice against individuals with disabilities. Efforts of these programs could be evaluated in terms of number of people reached, changes in audience attitudes, problems identified and resolved, and indications of increased involvement of

people with disabilities in society. Problems identified and resolved may fall in legal, financial, employment, and social areas. Organizations affected might include state and federal agencies, county and municipal offices, state and federal legislatures, and private employers or community groups. Clear evidence of the effectiveness of these programs would be increased options and benefits within the social environment, e.g., jobs, social activities, services, and financial benefits.

Economic Environment. Negative environmental effects stem from insufficient financial support and economic disincentives. Gaps in financial coverage for the needs of severely disabled individuals have historically resulted in poor or non-existent attendant care, medical, transportation, and housing modification services. Hence, severely disabled people have subsisted on a narrow economic base. Moreover, financial disincentives resulting from returning to work confine these individuals to this narrow economic base. For example, Social Security benefits for maintenance and medical services are decreased or eliminated if the individual becomes employed.

In the economic sphere, programs in independent living have several responsibilities. The first, of course, is to the individual. Through financial counseling, program staff should help the individual increase his/her economic base. Outcome criteria could include considerations such as increases in monthly financial support and number of agencies providing assistance. Moreover, programs could demonstrate that, as individuals are provided resources to live independently, costs in other areas such as institutional care decrease.

Secondly, program efforts should be directed toward initiating legislation to increase financial benefits needed for transportation, housing modification, attendant care, and medical services. For example, Frieden and Frieden (1980) reported on a program in Sweden which provides up to $10,000 for a one-time housing modification. Finally, programs must work on eliminating certain financial disincentives for returning to work such as those in Social Security. Results of interest in the legislative area include number of people contacted, types of legislation written and sponsored, type and number of existing provisions changed, and economic benefits available in new legislation.

Human Service Environment. Gaps in human services for severely disabled people were implicit in the preceding discussion of physical, social, and economic factors. As Muzzio, et al. (undated) indicated, too few service programs exist to provide adaptive barrier free living, accessible and affordable transportation, barrier free public and private facilities, and specific communication and information services. In addition to these problems, economic deficiencies and disincentives confine severely disabled individuals to a narrow economic base and to limited services in attendant care and medical services.

Advocacy and community education efforts are continually needed to encourage human service agencies to establish new service programs. Positive outcomes of efforts to change the human service environment might include a) number of successful linkages with service agencies, b) new service components initiated, and c) problems identified and resolved in securing new services.

As an example of a needed service, Frieden and Frieden (1980) and Dickerson (1979) noted the benefits of centralized locations for displaying assistive devices. In Sweden (Frieden & Frieden, 1980), each county provides a location in which county residents can see and try out such devices. Dickerson (1979) spoke of providing a similar service through a card catalogue approach in independent living centers. Each card would include a picture of an assistive device and a description of its use. Individuals could then order devices of potential value and try them out on a temporary basis before purchasing them. Of course, client response to any new services should be assessed through client satisfaction measures.

Client Satisfaction

Multiple problems have been identified with assessment of participant satisfaction. In fact, Scheirer (1978) stated that a basic proposition for interpreting satisfaction data is as follows: "Participants like social programs, evaluate them favorably, and think they are beneficial, irrespective of whether measureable behavioral changes take place toward stated program goals" (p. 55).

Several reasons were advanced for the bias implicit in satisfaction data. Initially, a social desirability response set operates. Since the desired answers to satisfaction questions are obvious, individuals tend to

comply with the presumed intent of the measure. Related to the social desirability set, an ingratiation phenomenon occurs. By evaluating a program positively, participants believe that they can please the sponsors of the program. Finally, there is the "Hawthorne effect" or reactivity to extra effort. Because something new is occurring, participants, both staff and clients, tend to believe that the program is achieving its objectives. Moreover, participants do not wish to jeapordize their chances to receive more of the benefits, a perceived outcome of rating the program negatively. For the above reasons, Scheirer (1978) concluded that satisfaction measures are inappropriate for assessing primary program effects if the program is intended to influence client behavior.

And yet, other authors (Larson, Attkinsson, Hargreaves & Nguyen, 1979) have stated valid reasons for securing client satisfaction data. With consumer ratings of the program, the researcher avoids biasing results "toward the provider's or the evaluator's perspective" (p. 197). Moreover, data on consumer outlook is required for many programs by federal legislation. This requirement reflects the importance attached to providing those individuals who typically are somewhat powerless in society with a voice in policy development and program direction. Finally, Reagles, Wright, and Butler (1970) described client satisfaction as a function of the degree to which services meet the consumer's needs. They found that satisfaction was related to the number of client contacts with the counselor, the amount of time spent in counseling and the total cost of the client's rehabilitation. "In general, the more intensive the intervention, the greater the client's expressed satisfaction with services received" (Reagles, et al., 1970, p. 37). Moreover, as time passes and as clients attempt to apply their service experiences, reported satisfaction begins to vary by the way in which services have helped them meet their needs.

Client satisfaction measures can be specifically developed for the assessment of services in an independent living center. Areas that might be tapped include the ease of contacting and finding the independent living center, the extent to which the center and its employees are able to help the individual, the extent to which workers can identify other valuable resources, the speed with which services are provided, the adequacy of services, and overall satisfaction with the attitudes of the staff and the help received (Cook, 1977; Roessler & Mack, 1975). However, pilot studies will be required to establish the reliability and validity of these measures.

A good case can also be made for a standardized measure of client satisfaction yielding normative data regarding performance of similar programs. With its reliability and validity established in prior research, the instrument could be used with some degree of confidence. Table 1 presents items for one such instrument developed by Larson, Attkinsson, Hargreaves, and Nguyen (1979). High internal consistency coefficients for the scale were reported for multiple administrations (.90 or better).

Table 1

Sample Items from the
Client Satisfaction Questionnaire (CSQ)

1. How would you rate the quality of service you received?

2. Did you get the kind of service you wanted?

3. To what extent has our program met your needs?

4. If a friend were in need of similar help, would you recommend our program to him/her?

5. How satisfied are you with the amount of help you received?

6. Have the services you received helped you to deal more effectively with your problems?

7. In an overall, general sense, how satisfied are you with the service you received?

8. If you were to seek help again, would you come back to our program?

Project Operation

Program evaluation of independent living centers should also focus directly on project operations. The major consideration is the extent to which management is operating effectively and efficiently in accomplishing project goals and objectives. For example, were programs implemented as projected; e.g., peer counseling, transportation and housing referral, equipment repair, etc.; and are they performing as expected?

Another significant concern is the extent to which the program is serving the appropriate target groups (Muzzio, 1981). Client data such as age, education, diagnostic category, and severity of disability can be used to demonstrate that the program in serving severely disabled individuals who are overlooked by other human service programs.

A list of specific project operation criteria was developed by the New York State Office of Vocational Rehabilitation (1979). To assess the operation of its independent living programs, the New York agency focused on dimensions such as the 1) number of handicapped individuals on staff; 2) movement of handicapped staff and clients to jobs or positions outside of the center; 3) extent to which severely disabled consumers play a role in policy making; 4) number of handicapped individuals on the Board of Directors and advisory committee; 5) level of staff performance, retention, and staff turnover; 6) progress toward non-federal grant support; e.g., commitments from private foundations, development of fee for service agreements and third party agreements, fund raising, decrease in grant support required for continuation; and 7) service components developed--individual group counseling, ADL training, mobility training, and personal adjustment training and number of clients served by each (New York State Office of Vocational Rehabilitation, 1979).

Other facets of center operation could also be monitored. Information regarding the most effective and cost-efficient staffing patterns for centers would be valuable. Centers should also keep track of the units of service rendered, the cost of the various services, and the extent to which different funding sources contributed to individual service costs (Muzzio, et al., undated). Other data of importance include the number of individuals served, the kinds of disabilities served, the number of referrals made to other agencies or providers, the number accepted in those programs, and the number for services were not provided (Arkansas Division of Rehabilitation Services, 1980).

SECTION VI

A Model for Evaluation of Independent Living Rehabilitation

Purpose

The purpose of this paper is to present criteria for use in evaluating independent living programs. To identify appropriate dimensions and evaluation strategies, one must first understand the basis for the movement itself. As noted in the initial section, independent living rehabilitation has grown out of recognized deficiencies in society's response to individuals with severe disabilites. In other words, through the independent living movement, severely disabled individuals are not only expressing certain inalienable human rights but also seeking the services they need to exercise those rights.

The paper stresses the role of independent living services in enhancing individual functioning and environmental accessibility. Individual functioning includes concerns in the health, social-attitudinal, mobility, cognitive-intellectual, and communication areas. Outside forces requiring attention originate in the physical, social, economic, and human service environments.

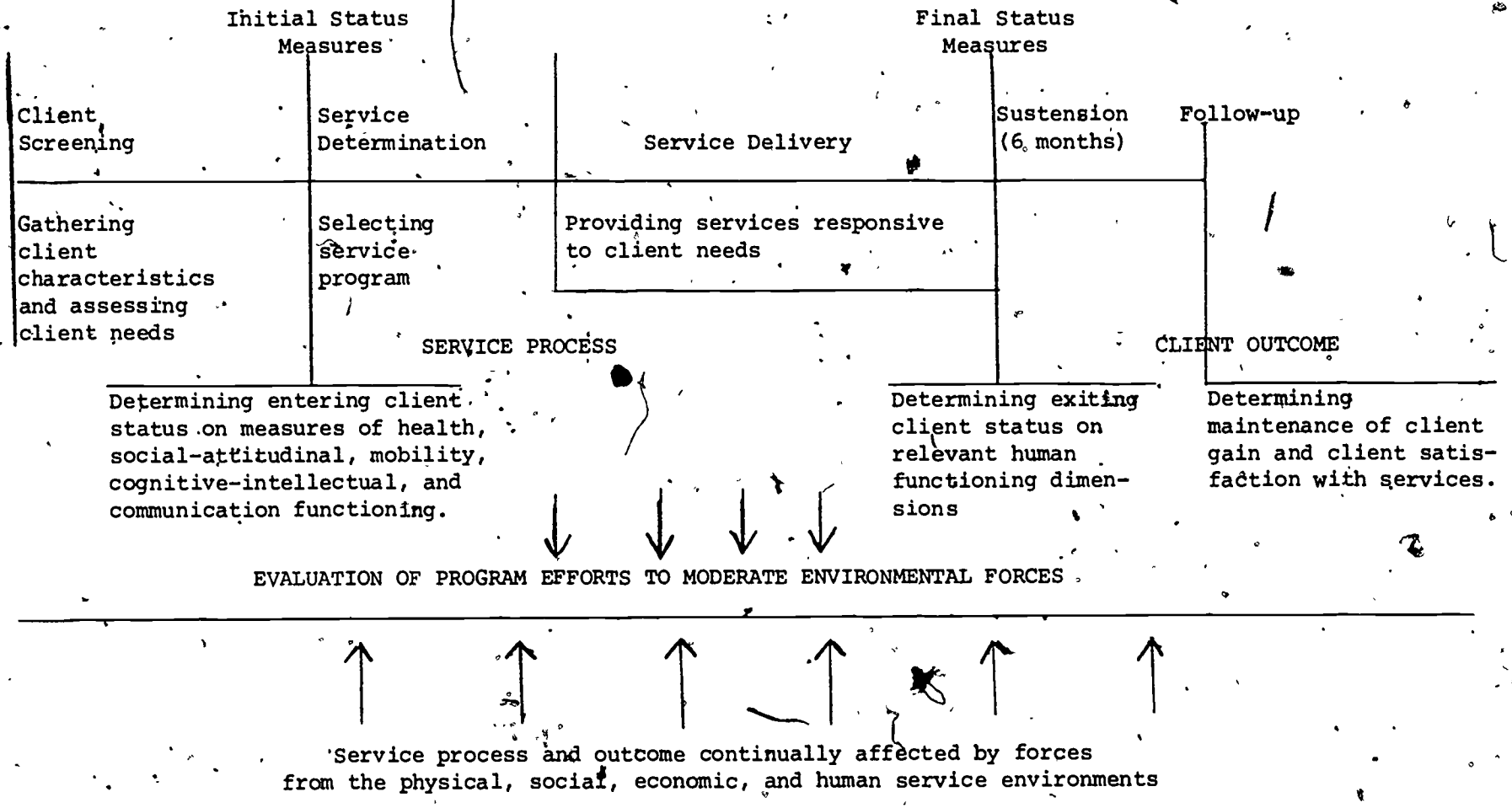
Simply describing target areas for program evaluation does not, however, provide information as to when to gather the data. In the next section, a model of the independent living service process is provided which identifies stages for collecting client screening (input), service outcome, satisfaction, and project operations data.

Independent Living Process and Outcome Model

Figure 1 presents a model of the independent living process as it relates to client outcome. Sections of the model include client screening, service determination, service delivery, and follow-up. In describing each of these components, it is possible to highlight the program evaluation issues which should be addressed.

Figure 1

Independent Living Process and Outcome Model for Clients



1. Client screening. Client screening information such as background data, severity of disability indicators, psychological characteristics, and need profiles can be used to determine whether the independent living program is serving the proper target group. Moreover, the information could be used to identify needed services and to determine later what type of client benefits from what type of services. Information from the screening phase can also be related to outcome data to establish client difficulty indices.

2. Initial status measures. Measures of the client's entering status in human functioning identify important targets for services. This pre-status profile then becomes a comparison point for similar profiles generated during the sustension and follow-up statuses.

3. Service determination and service delivery. Independent living services provide the means for achieving desired outcomes. Records of the nature and amount of services rendered, when linked with indications of positive client outcomes, yield evidence of program effectiveness. These same records can also be used to estimate the program's ability to achieve management objectives such as implementing core services by specific dates.

4. Final status measures. Post-treatment measures assess the client's exiting or termination status on relevant human functioning measures. Termination status can then be compared with pre-status to determine a) did clients gain from independent living services and b) who gained, who lost, and who did not change? Explanations for differential gains can come from comparing these groups along several dimensions. For example, clients who gained from independent living services could be compared with those who did not change and with those who lost ground along such dimensions as a) background characteristics, b) service needs, c) behavioral capabilities, d) differential service programs, and e) factors emanating from the physical, social, economic, and human service environments.

5. Follow-up. Follow-up is needed to assess maintenance of gain after completion of program services.

Clients could again be rated on human functioning measures used during earlier stages. The follow-up period also provides an opportunity to gather data regarding client satisfaction with the independent living program.

6. Environmental factors. As Figure 1 illustrates, every aspect of the process and outcome model is affected by external factors in the physical, social, economic, and human service environments. Individual gains in independent living may be hampered or enhanced by these forces. Hence, it is the program's responsibility to identify problems encountered in providing effective services and seek to resolve them for the benefit of the entire community of severely disabled individuals. Continued evaluation of efforts to moderate environmental forces should be planned.

7. Ongoing monitoring of project operations. Throughout the operation of the program, evaluators should determine the extent of involvement of individuals with severe disabilities on the staff and the Board of Directors. Other issues pertinent to project efficiency and effectiveness should be monitored continuously, e.g., movement of the program away from dependence on federal funds.

SECTION V

Conclusions and Recommendations

1. Conclusion

Program evaluation is not done solely as a response to a legislative mandate. Many reasons exist for evaluating programs in independent living.

Recommendation

Information regarding program outcomes is important because it:

a. Justifies the need for independent living programs.
b. Indicates whether services are effective or ineffective.
c. Indicates the extent to which the program is serving the proper clientele.

2. Conclusion

Although many abstract goals are espoused for independent living, the essential outcomes sought are "adaptation and integration within residential, social, and community units" and "participation in productive activities inside or outside the official labor force." Therefore, programs in independent living should be held accountable for having an impact on multiple criteria.

Recommendation

Brevity and simplicity should be hallmarks of evaluation of independent living service programs. At the same time, these principles should not be used to obscure the need for comprehensive evaluation. Important areas to include in evaluating independent living programs are person change, environmental change, client satisfaction, and project operations.

3. Conclusion

As with all types of behaviors, independent living is a function of both person and environment factors.

Recommendation

Independent living programs must increase human functioning and modify negative environmental forces. Key areas of human functioning include health, social-attitudinal, mobility, cognitive-intellectual, and communication. Negative aspects of the physical, social, economic, and human services environment must be modified. Projects must accomplish these ends effectively and efficiently. Therefore, program evaluation in independent living should focus on four questions;

a. Are program services increasing the functional capabilities of individuals with severe disabilities?
b. Is the program initiating changes in the environment which enhance the freedom of individuals with severe disabilities?
c. Are clients satisfied with program services?
d. Are programs managed effectively and efficiently?

4. Conclusion

Improvement in health functioning is an important "person" outcome for independent living services.

Recommendation

Programs could assess health functioning in terms of ratings of self-care capability and stability of condition. More specific concerns would be strength, endurance, and loss of time from work due to treatment or medical problems. Finally, behavioral capability for Activities of Daily Living Skills could be assessed.

5. Conclusion

Psychosocial (social-attitudinal) changes are valid outcomes for independent living services.

Recommendation

Psychosocial outcomes can be characterized in terms of ratings of interpersonal relations capabilities and specific measures of participation in games; involvement in home, church, work, and community social activities; and social skills, e.g., making introductions and starting and maintaining a conversation.

6. Conclusion

Mobility limitations include impaired capacity to manipulate objects, move about home and work, and participate in the affairs of the community. Due to its emphasis on movement in home and work and participation in the community, mobility is a central concern of independent living programs.

Recommendation

Range of use of upper and lower extremities is reflected in object manipulation capabilites. Important considerations include whether or not the individual has the capability, the amount of time required to complete the task, and the quality or accuracy with which the task is completed. Ambulation, upper extremity functioning, hand functioning, coordination, and motor speed are dimensions of mobility which can be rated. At the same time, outcomes of mobility skills can be evaluated, e.g., involvement in home, social, and work activities. It is also important to incorporate mobility assessments appropriate to the needs of individuals with visual impairments.

7. Conclusion

Cognitive-intellectual capabilities represent important means for coping with life demands. For example, poor adjustment often results from not understanding or not knowing how to respond in a given situation.

Recommendation

Programs in independent living should institute training to improve cognitive functioning, e.g., problem-solving, time and money management, literacy,

and language functioning. Specific behaviors in understanding speech, appropriate use of gestures, speed of speech, reading, writing, and computation are indicators of cognitive-intellectual functioning. Cognitive capabilities can also be assessed by examining how the individual applies the skills in daily life situations such as giving social history data in an interview and completing income tax returns.

8. Conclusion

Problems in communication functioning fall in either the receptive or expressive areas, i.e., in the capability to send and/or receive messages. Independent living services should focus on enabling the individual to compensate for communication difficulties.

Recommendation

Gains in manual communication, braille, and speech skills would be evidence of the positive impact of independent living services. Moreover, beneficial effects of devices such as hearing aids and TTY's could also be documented.

9. Conclusion

On the one hand, participants have a vested interest in reporting high satisfaction with service programs. No one wants to run the risk of losing benefits. And yet, an argument can be made for gathering satisfaction information.

Recommendation

Satisfaction instruments should be included in evaluation of independent living services for several reasons. Consumer input provides a check against biases introduced by the provider or evaluator. In addition, satisfaction data is often required by federal legislation. Finally, evidence exists indicating that client satisfaction varies over time depending on whether services contribute to meeting personal needs. A standardized satisfaction measure used across centers with provision for individual comments would yield valuable comparative data.

10. Conclusion

Movement away from the medical model in rehabilitation has resulted in greater awareness of the handicapping features of the environment. Independent living programs must direct their services at changing these negative environmental factors.

Recommendation

Independent living services should be targeted at moderating negative effects of physical, social, economic, and human service environments. Architectural barriers, prejudicial attitudes, financial disincentives, and service gaps are but a few concrete examples of significant environmental problems.

11. Conclusion

Barriers in the physical environment deny individuals with severe disabilities access to fuller participation in society. Independent living services should result in barrier removal.

Recommendation

To modify the physical environment, independent living programs must concentrate on developing adaptive barrier free housing, accessible and affordable transportation, barrier free public and private facilities/buildings, and special communication and information services. Evidence of success in these areas can be documented in terms of objectives sought, number of services or service contacts required, amount of time devoted, cost of services, problems encountered, beginning and ending date for services, and actual outcomes. In the housing area, specific objectives could be set for development of housing directories, number of home inspections, number and type of housing modifications, and number and type of referrals to other agencies for housing assistance.

12. Conclusion

Interventions to change social practices and attitudes should be detailed in community impact statements prepared by independent living programs.

These interventions would largely be of the advocacy and community education nature.

Recommendation

Evidence of effectiveness in changing negative social practices in legal, financial, employment, and social spheres is needed. Extent and effectiveness of such efforts would be reflected in data such as the number of people reached, changes in audience attitudes, problems identified and resolved, and indication of increased involvement of people with severe disabilities in society.

13. Conclusion

Insufficient financial support and economic disincentives have historically limited the potential of individuals with severe disabilities. Inadequate financial support results in a narrow economic base and poor or nonexistent attendant care, medical, transportation, and housing modification services.

Recommendation

Through financial counseling with individuals, independent living staff should help the individual increase his/her economic base as evidenced by increases in monthly support and number of agencies providing assistance and decreases in overall institutional care cost. Efforts to change economic policy on a state or federal level could be assessed by number of people contacted, types of legislation written and enacted, and type of economic benefits available in new legislation.

14. Conclusion

Gaps in human service programs for severely disabled individuals are obvious. Too few services exist to provide adaptive barrier free living, accessible and affordable transportation, barrier free public and private facilities, and specific communication and information assistance.

Recommendation

Advocacy and community education efforts aimed at encouraging human service agencies to create new

service programs are needed. Indicators of positive change would be number of successful linkages with service agencies, new service components initiated, and problems identified and resolved in securing new services.

15. Conclusion

Independent living programs must attend to person and environment change goals in an effective and efficient manner. Management practices, therefore, are another area for evaluating programs in independent living.

Recommendation

Sample evaluation questions regarding program operations include:

a. Were programs implemented as projected?
b. Is the program serving the proper target groups?
c. Are individuals with severe disabilities substantially involved in program planning and service provision?
d. To what extent has the program moved toward non-federal grant support?

16. Conclusion

Independent living programs can be depicted in a model including phases of client screening, service determination, service delivery, and short and long-term outcome evaluation. Of course, this model does not operate in isolation. Every facet of service determination and delivery is affected by factors in the physical, social, economic, and human service environment.

Recommendation

Independent living programs should view program evaluation in terms of questions which can be answered with information from client screening, service determination, service delivery, and follow-up. Client screening data relate to questions as to a) whether the proper groups are being served, b) the nature of presenting problems in independent living, and c) the types of clients best served by

the program. Information from the service determination phase indicates the type of services needed and problems encountered in establishing service linkages. Service delivery data apply to issues related to the type, extent, cost, and duration of independent living services. Information from follow-up indicates both the short and long-term success of the program in resolving individual needs as well as client satisfaction with services. Throughout its operation, the program should evaluate its progress in accomplishing concrete environmental change and program management objectives.

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