

the measurement of rehabilitation outcome*

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The main tasks of psychiatric rehabilitation are: (1) to assist in reintegrating psychiatrically disabled persons into the community and (2) to maintain their ability to function independently, thus preventing the recurrence of disability. In other words, psychiatric rehabilitation practitioners attempt either to reduce the patient's dependence on the mental health system of people and facilities, or to reinforce whatever level of independence from the system the patient has been able to achieve (Anthony, in press).

In the early 1970s, the first comprehensive survey of the efficacy of psychiatric rehabilitation was attempted (Anthony et al. 1972). The present article, an attempt to expand upon the original 1972 review, has the following goals: (1) to update base rate figures for the outcome criteria of *hospital recidivism* and *posthospital employment*; (2) to evaluate the effects of various treatment strategies on these outcome criteria; (3) to identify the diagnostic correlates of outcome criteria; (4) to suggest additional outcome criteria that would be useful in evaluating psychiatric rehabilitation programs; and (5) to propose a training program capable of preparing the practitioners of psychiatric rehabilitation both to achieve and evaluate these desired outcomes.

Recidivism and Employment Base Rate Figures

In their initial review, Anthony et al. (1972) chose hospital recidivism and posthospital em-

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ployment as measures of the effectiveness of psychiatric rehabilitation efforts. At that time, these were the most commonly used and easily defined outcome criteria available. While Anthony et al. (1972) noted that there were problems inherent in using these criteria, they did seem to be legitimate, albeit gross, estimates of some of the psychological and economic benefits of a treatment intervention.

Recidivism

Anthony et al. (1972) defined recidivism as ". . . the percentage of psychiatric patients, receiving the traditional hospital regimen of drug treatment and perhaps some form of individual or group psychotherapy, who are unable to remain out of the hospital" (p. 448). The recidivism base rate was estimated to be 30 to 40 percent at 6 months, 40 to 50 percent at 1 year, and 65 to 75 percent at 3 to 5 years.

More recently, Bachrach (1976, p. 74) stated that the conclusions drawn by Anthony et al. were "roughly, but essentially, supported" by her own review. Newer studies referenced neither by Anthony et al. (1972) nor by Bachrach (1976) have given specific recidivism percentages for followup periods of 3 months to 10 years. While these studies were often not designed merely to investigate base rate recidivism figures, the data are reported in such a way that base rate figures can be computed. Table 1 presents the base rate recidivism data for all of the followup studies of which we are currently aware. Undoubtedly, there are some studies that have been inadvertently omitted.

An analysis of the recidivism percentages presented in table 1 reveals no significant dis-

Table 1. Recidivism rates by followup periods

Followup period	Recidivism (%)	Authors
3 months	10	Ellsworth et al. (1971)
	15	Orlinsky and D'Elia (1964)
	16	Johnston and McNeal (1965) ³
	11 to 22 ²	Moos, Shelton, and Petty (1973)
6 months	14	Angrist et al. (1961) ³
	27	Johnston and McNeal (1965)
	30	Orlinsky and D'Elia (1964)
	33	Friedman, von Mering, and Hinko (1966)
	33	Miller and Willer (1976)
	35	Morgan (1966) ³
40	Fairweather et al. (1960)	
9 months	29	Lorei (1964) ³
6 to 13 months ¹	33	Franklin, Kittredge, and Thrasher (1975)
7 to 10 months ¹	39	Cumming and Markson (1975)
1 year	35	Pishkin and Bradshaw (1960) ³
	36	Wolkon, Karmen, and Tanaka (1966)
	37	Johnston and McNeal (1965)
	37	Michaux et al. (1969) ³
	37	Katkin et al. (1975)
	38	Williams and Walker (1961)
	38	Freeman and Simmons (1963)
	39	Lorei (1967)
	40	Miller (1966)
	40	Miller (1967)
	41	Schooler et al. (1967) ³
	42	Bloom and Lang (1970)
	46	Orlinsky and D'Elia (1964)
	48	Savino and Schlamp (1968)
50	Friedman, von Mering, and Hinko (1966)	
1 to 2 years	20	Lewinsohn (1967) ³
15 months	45	Willder, Levin, and Zwerling (1966)
18 months	46	Wolkon, Karmen, and Tanaka (1971)

¹Length of followup period not the same for every patient in the study.

²Data were presented for individual hospital wards.

³Recidivism percentages for these studies were excerpted from a review by Clum (1975).

Table 1. Recidivism rates by followup—Continued

2 years	51	Johnston and McNeal (1965)
	55	Wolkon, Karmen, and Tanaka (1971)
	55	Katkin et al. (1975)
	75	Mendel (1966) ³
2½ years	60	Wolkon, Karmen, and Tanaka (1971)
3 years	56	Johnston and McNeal (1965)
	64	Sherman et al. (1964) ³
	65	Olshansky (1968)
5 years	67	Friedman, von Mering, and Hinko (1966)
	70	Freyhan (1964)
	70	Miller (1966)
	75	Miller (1967)
10 years	77	Gurel (1970)

³Recidivism percentages for these studies were excerpted from a review by Clum (1975).

crepancies from the Anthony et al. (1972) review. A gradually increasing rate of recidivism occurs as followup periods lengthen. When followup has extended 5 to 10 years, only about 25 to 30 percent of the patients have not been readmitted at least once. Despite the variety in populations, institutions, and geographical regions, the recidivism data continue to show remarkable consistency. The only change in the base rate percentages from the 1972 review is a slight widening of the range for the 1-year recidivism rate (the originally reported range of 40 to 50 percent becomes 35 to 50 percent).

Employment

In the 1972 survey, the outcome criterion of employment was defined as the percentage of ex-patients who either worked full time throughout the followup period or who were employed at the followup date. Employment outcome data

were relatively scarce, but, based on the data then available, it was concluded that 20 to 30 percent of the ex-patients were employed full time, regardless of the followup period. In addition, the employment data suggested that during the first 6 months after hospital discharge, 30 to 50 percent became gainfully employed or at least worked "some of the time." There continues to be a dearth of employment outcome data, and the new data that have been analyzed are reported rather vaguely. What new data there are, however, suggest that the 20 to 30 percent base rate figure for posthospital employment may be a slight overestimation of the percentage of discharged patients who are competitively employed. The best range might be 10 to 30 percent employed at followup. For example, Wolkon, Karmen, and Tanaka (1971) reported that at 1 to 2 years after discharge only 18 percent of their sample were receiving income from work. Lamb and Goertzel (1972) conducted a 5-year followup study of *long-term*

State hospital patients. At the 5-year followup period, approximately 15 percent of the total sample of patients were “. . . partially or fully self-supporting or functioning as a housekeeper for spouse or relative.” With respect to just those patients who were currently not in the State hospital, approximately 22 percent were functioning at a self-supporting level. In another recent study, Hume and Anthony (1975) reported a base employment rate of 12 percent for a sample of discharged State hospital patients at 1-year followup.

Effects of Treatment on Rehabilitation Outcome

Because the outcome criteria of recidivism and, to a lesser degree, employment are widely accepted and easily defined, a number of studies have used them to gauge various treatment approaches. Based on their 1972 review, Anthony et al. arrived at several tentative conclusions, which will be re-examined below in light of any new data.

Traditional Inpatient Treatment

Anthony et al. (1972) concluded that traditional inpatient treatment techniques (e.g., individual therapy, group therapy, work therapy, and drug therapy) do not differentially affect recidivism or posthospital employment. We know of no recent study that seriously disputes this conclusion.

Innovative Inpatient Treatment

The 1972 review concluded that innovative treatment techniques (e.g., token economies and nontraditional groups) can improve patients' behavior within the hospital. However, the introduction of one of these unique approaches to a hospital ward will not singularly affect posthospital adjustment. As suggested in the 1972 review, it appears that an inpatient program must have an extremely comprehensive and multifaceted design if it is to have an im-

pact on community functioning. Two recent studies have reconfirmed this conclusion (Becker and Bayer 1975; Jacobs and Trick 1974).

Jacobs and Trick (1974) refer to their program as an “in-patient teaching laboratory.” The teaching is conducted throughout the day and is structured primarily around small group interactions. One-year followup data obtained from approximately 60 percent of the total sample showed a recidivism rate of 21 percent. Furthermore, 74 percent of the patients “. . . had returned to their usual home and/or job responsibilities” (p. 147). The program of Becker and Bayer (1975) seems even more comprehensive. They combined elements of a token economy, milieu treatment, skills training, physical exercise, etc. These authors report a recidivism rate of 12 percent for patients discharged over a 3-month to 5-year followup period.

In addition to the positive results described above, comprehensive treatment programs can also make an indirect contribution by restructuring the hospital atmosphere (Heap et al. 1970). In this regard, two studies have reported differential recidivism rates as a function of ratings of ward atmosphere (Ellsworth et al. 1971; Moos, Shelton, and Petty 1973). Ellsworth et al. (1971) found that the hospital wards with the lowest recidivism were staffed by nurses who perceived themselves as participating in treatment planning and as receiving praise for their work. Nursing personnel on these low-recidivism wards viewed the professional staff as being motivated and nondominant. Somewhat similar findings were obtained by Moos, Shelton, and Petty (1973) who found that the wards with the least recidivism “. . . were seen as emphasizing autonomy and independence, practical orientation, order and organization, and the open expression of feelings, particularly angry feelings” (p. 291).

In summary, it would appear that current research has suggested a tentative formula for running an effective inpatient rehabilitation ward. Hospital-based rehabilitation programs should primarily focus on developing patient skills in a well-organized, active, and comprehensive treatment milieu. Moreover, an effort should be made to create a ward atmosphere in

which the treatment staff members feel themselves to be an important component of the treatment program.

Outpatient Drug Maintenance

Anthony et al. (1972) concluded that drug maintenance without periodic outpatient treatment contacts does not affect recidivism or employment. More recent studies have confirmed that this conclusion (Engelhardt and Rosen 1976; Franklin, Kittredge, and Thrasher 1975). Franklin, Kittredge, and Thrasher (1975), in their followup study of a random number of patients discharged from a State mental hospital, found ". . . no significant differences between those re-admitted and those not re-admitted in medications prescribed, uses of medications, length of prescription, dosages and current use of medication" (p. 751).

In terms of the ex-patient's vocational functioning, Engelhardt and Rosen (1976) stated that "evidence for a direct effect of pharmacotherapy on the work performance of schizophrenic patients is so far lacking" (p. 459). The failure to find a relationship between chemotherapy and productive community functioning should come as no surprise. Drug therapy simply cannot provide the psychiatrically disabled person with the skills, energy, and community opportunities necessary for seeking, obtaining, and retaining employment.

Another consideration relevant to drug therapy and rehabilitation outcome is the controversy surrounding the issue of maintenance medication for chronically disabled persons. A massive body of data supports the conclusion that drug withdrawal leads to behavioral deterioration in chronic patients. Whether these data are sufficiently sound, however, to warrant such a conclusion has been debated extensively (Davis, Gosenfeld, and Tsai 1976; MacDonald and Tobias 1976; Tobias and MacDonald 1974). What is of interest to the practitioner of psychiatric rehabilitation is the finding that approximately 20 to 50 percent of patients on placebo do *not* relapse and that 20 to 50 percent of patients on drugs *do* (Davis, Gosenfeld, and Tsai 1976;

Hogarty, Goldberg, and Schooler 1974). These findings are consistent with the review of outpatient maintenance medication conducted by Gardos and Cole (1976). These authors concluded that ". . . as many as 50% of such patients might *not* be worse off if their medications were withdrawn" (p. 36), either because they function well without medication or because, for a variety of reasons, they do not do well on drugs. These findings are critical to the rehabilitation practitioner, because the serious and often irreversible complications of prolonged maintenance medication can interfere with rehabilitation programs. Particularly distressing are the side effects, unexplained deaths, and problems in drug-state learning and transfer of learning to the nondrug state (Tarsy, Granacher, and Bralower 1977; Tobias and MacDonald 1974). While drug therapy can often support the initial rehabilitation intervention, long-term maintenance medication may actually hamper rehabilitation programming.

The relationship between drug therapy and rehabilitation can be viewed in a slightly different way. Rehabilitation intervention could be thought of as supportive to the withdrawal of drug therapy. That is, once drug therapy has prepared the patient for rehabilitation, a successful rehabilitation intervention might prepare the patient to function without medication. From yet another perspective, rehabilitation programming could be used in support of drug therapy by increasing the probability of drug therapy compliance. A review of noncompliance data indicates an average noncompliance rate of 48 percent for phenothiazines, 49 percent for antianxiety or antidepressant drugs, and 32 percent for lithium (Barofsky 1976). Following a drug regimen is a skill that can be taught the client as part of an overall rehabilitation program.

Providers of drug therapy might also wish to consider whether information relevant to the need for drug therapy can be provided by a "rehabilitation diagnosis." A rehabilitation diagnosis, in contrast to a psychiatric diagnosis, assesses the client's present level of skills and estimates the level that will be necessary for the client to function in his or her particular

living, learning, or working environment (Anthony 1977). It could be that the client's skill strengths and deficits may partially predict the response to chemotherapy.

Aftercare Clinics

In addition to the routine use of drug therapy, aftercare (or outpatient) clinics usually provide other services to the discharged patient (e.g., followup interviews, casework, and therapy). Anthony et al. (1972) concluded that while these clinics reduce recidivism, it is unclear whether this positive effect is due primarily to the medication administered, to the other kinds of services offered, or to the type of patient who attends.

More recent research has sought to identify the significant factors in aftercare clinic treatment. Hogarty, Goldberg, and Schooler (1974) investigated the contribution of drugs to the aftercare clinic recidivism rate. In support of the important role drugs play in aftercare clinic treatment, they found that the relapse rate for a placebo-treated group was almost twice as high as that for a comparable group of drug-treated patients.

Other researchers have studied whether there are different types of patients who use aftercare clinics. Anthony and Buell (1973) found no difference in demographic characteristics between clinic attenders and nonattenders. Kirk (1976) has considerably refined the study of the effects of aftercare clinic attendance by investigating the relationships among recidivism, patient chronicity, and number of clinic visits. He reported that the recidivism rate of aftercare clinic attenders who had a high level of chronicity decreased as the number of visits increased to above six. In contrast, the recidivism rate of aftercare clinic attenders who had a low level of chronicity was unaffected by an increased number of visits. Chronicity was measured using an index based on the number of previous hospitalizations, length of last hospitalization, psychotic versus nonpsychotic diagnosis, and employment status.

In an even more recent study, McCranie and

Mizell (in press) have partially replicated the findings of Kirk (1976). They found a relationship between an increasing number of aftercare visits and reduced recidivism among more chronic patients (i.e., psychotic) as opposed to less chronic patients (i.e., nonpsychotic). Based on the results of these two studies, it is tempting to conclude that aftercare clinic treatment, as currently practiced, is most effective with those chronic patients who use the services more heavily. Additional research is definitely needed to further identify the type of patient who is most helped by aftercare clinic services.

A related issue is the inability of the mental health system to convince many psychiatrically disabled clients to both begin and remain in outpatient treatment. Wolkon (1970) has reported one study in which approximately two thirds of patients referred to an outpatient setting failed to appear for treatment. Equally discouraging are the statistics provided by Sue, McKinney, and Allen (1976). These researchers reported that of the 13,450 clients seen in 19 mental health facilities, 40 percent terminated treatment after one session. Thus aftercare clinics must determine not only the type of patient who can most benefit from their services, but also how to ensure that this type of patient actually does appear and continue in treatment.

Because of the inadequate utilization of aftercare clinics, the introduction of such services may not always produce the expected reduction in communitywide recidivism rates. McNees et al. (1977) attempted to determine how recidivism had been affected by the development of aftercare programs in three Tennessee counties. Although countywide statistics revealed no clear reduction in recidivism rates, recidivism rates were substantially lower for individuals who contacted the aftercare program than for those who did not contact the program.

Transitional Facilities

Anthony et al. (1972) tentatively concluded that transitional facilities (e.g., halfway houses and daycare centers) are effective in reducing recidivism as long as the patients remain mem-

bers of the facility. More recently, Rog and Raush (1975) attempted to examine the efficacy of halfway houses—a difficult task in view of the almost total absence of controlled studies. Although it was impossible to draw firm conclusions, they believe that the data do suggest lower recidivism rates for residents of halfway houses. In one of the few controlled studies of transitional facilities, Wolkon, Karmen, and Tanaka (1971) examined the effectiveness of a nonresidential rehabilitation center. Recidivism rates for 12- to 30-month followup periods were significantly lower for rehabilitation center clients only at the 30-month followup period; no significant differences were found for full- or part-time gainful employment. Reminiscent of the results in studies of aftercare clinics was the finding that those who used the transitional facility 10 times or less were more likely to be rehospitalized than those who attended 50 times or more.

Another type of transitional service that shows promise in reducing recidivism employs a transitional *person* rather than a transitional facility. Katkin et al. (1971, 1975) have reported a series of studies which successfully used community volunteers to reduce hospital readmission rates for both a 1- and 2-year followup period. Weinman (1975) coined the term “enabler” to refer to the community members used in this study. Enablers provided skills training, assistance, and consultation to the patients assigned to them. Patients assigned to enablers had a significantly lower recidivism rate than control patients who had available to them the usual services of community aftercare facilities.

Diagnostic Correlates of Recidivism and Employment

A number of studies have attempted to identify the specific correlates of recidivism and employment. Knowledge gained from such studies can be used to identify high risk patients and to suggest interventions that might be successful in reducing recidivism and increasing employment. As usual, many more studies focus on the recidivism criterion than on the criterion of

employment. The kinds of correlates most often studied can be categorized into two classes: demographic characteristics and patient ratings.

Demographic Characteristics

Buell and Anthony (1976) and Anthony (in press) have reviewed studies that investigated the relationships between rehabilitation outcome and the demographic characteristics of age, sex, race, educational level, marital status, number of previous hospitalizations, length of previous hospitalizations, employment history, and occupational level. The most consistent results are as follows: (a) the best demographic predictor of rehospitalization is the number of previous hospitalizations (Anthony and Buell 1974; Arthur, Ellsworth, and Kroecker 1968; Lorei and Gurel 1973; Miller and Willer 1976; Rosenblatt and Mayer 1974); (b) the best demographic predictor of employment is previous employment history (Anthony and Buell 1974; Buell and Anthony 1973; Green, Miskimins, and Keil 1968; Hall, Smith, and Shimkunas 1966; Lorei 1967; Lorei and Gurel 1973; Olshansky, Grob, and Ekdahl 1960); and (c) the patient's psychiatric diagnosis is not related to recidivism (Anthony and Buell 1974; Buell and Anthony 1973; Cumming and Markson 1975; Freeman and Simmons 1963; Franklin, Kittredge, and Thrasher 1975; Hawk, Carpenter, and Strauss 1975; Lorei 1967; Lorei and Gurel 1973; Rosenblatt and Mayer 1974; Wessler and Iven 1970).

Patient Ratings

Ratings of patients' functioning are usually made by mental health professionals, by significant others, or by the patients themselves. The most consistent findings are listed below:

- In general professionals' ratings of the psychiatrically disabled clients' behavior are related to posthospital employment (Distefano and Pryer 1970; Ethridge 1968; Green, Miskimins, and Keil 1968; Gurel and Lorei 1972; Lorei 1967; Sturm and Lipton 1967; Wilson, Berry, and Miskimins

1969) but not to recidivism (Gurel and Lorei 1972; Lewinsohn 1967; Marks, Stauffacher, and Lyle 1963; Rosenblatt and Mayer 1974; Williams and Walker 1961). Only one study (Lorei 1967) has reported statistically significant but small correlations between professional ratings and recidivism. Post-hospital employment is related more to ratings of social effectiveness and work skills than to ratings of psychiatric symptoms. Examples of types of behavior that are correlated with employment are ratings of job motivation, ability to get along well with others, ability to work with others, and preference for social activity as opposed to social isolation. A study using multiple regression analysis (Gurel and Lorei 1972) identified the following two rating items which accounted for 25 percent of the variance in posthospital employment: (1) the rater's assessment that the patient either lacked goals or a method to attain goals; (2) the rater's prognosis that the patient's future psychosocial functioning would be restricted. In contrast to the studies successfully relating professional ratings of patient characteristics to posthospital employment is the lack of studies finding a substantial relationship between recidivism and professionals' ratings of patient behavior. Neither the patient's diagnostic label nor professional ratings of the patient's symptoms relate to recidivism. The recidivist does not seem to be characterized by any pattern of symptoms discernible to the professional (Gurel and Lorei 1972).

- Ratings made by significant others shortly after the patient's hospital discharge are significantly related to recidivism but not to employment (Freeman and Simmons 1963; Michaux et al. 1969). Ratings by significant others of the psychiatrically disabled patient's symptoms (Freeman and Simmons 1963) as well as ratings of their satisfaction with the patient's social and free time activities (Michaux et al. 1969) are significantly correlated with recidivism.

Similarly, Cumming and Markson (1975) found recidivism to be correlated with complaints by significant others about the patients' inability to care for themselves or to do what was expected in the community setting. Related to the issue of significant others' expectations, Carpenter and Bourstom (1976) reported patient rehospitalization to be a function of the differential expectations of significant others.

- Ratings made by the patients themselves of their own behavior have been found to predict recidivism. Michaux et al. (1969) reported that future recidivists were more dissatisfied with their performance of socially expected activities. The results of Franklin, Kittredge, and Thrasher (1975) indicated that outpatients who are eventually rehospitalized have poorer interpersonal relationships with significant others and engage in fewer social-leisure time activities. Miller and Willer (1976) administered a self-assessment measure 3 months after discharge. At 6-month followup, non-recidivists were characterized by higher self-ratings on such social factors as "ability to handle money, source of financial support, work behavior, job-seeking behavior . . . ability to deal effectively with anger" (p. 900). Of particular note in this study is that these social measures accounted for a much greater amount of the variance than the demographic characteristic of number of previous hospitalizations.

In summary, the studies that have investigated the correlates of recidivism and employment suggest the following tentative conclusions: (a) one of the best predictors of future recidivism and employment is prior recidivism and employment; (b) ratings of social-interpersonal and work-related skills and activities, rather than diagnostic labels and symptomatology, are the best predictors of rehabilitation outcome; and (c) accurate predictions of posthospital adjustment based only on inpatient data are impossible.

Additional Rehabilitation Outcome Criteria

Beginning with the initial review of rehabilitation outcome (Anthony et al. 1972), every succeeding review of rehabilitation or hospital outcome has called for the development of additional outcome criteria (Bachrach 1976; Clum 1975; Erickson 1975). We suggest a variety of outcome criteria that could be useful in evaluating psychiatric rehabilitation programs.

First, it is recommended that the traditional outcome criteria of recidivism and employment not be abandoned. Their continued use is important because they provide a data-based connection to many previous studies and thus provide a rough comparative yardstick for linking past studies to future studies. In addition, because these criteria are meaningful to both lay persons and professionals, findings based on these criteria do have an impact on the development of the mental health system. According to Ozarin (1976), one reason for the Federal Government's increased interest in aftercare and rehabilitation services is the recidivism data that clearly and objectively highlight the problem of the "revolving door" patient.

Traditionally, recidivism and employment have been reported in dichotomous categories. At followup, a patient was categorized as either employed or unemployed and as recidivist or nonrecidivist. While data of this type will continue to be useful for comparative purposes, it makes better sense to measure the degree of employment and the degree of recidivism (i.e., the degree of independent living). Walker (1972) has scaled employment outcome into six levels based on where the client is working (competitive versus noncompetitive employment) and the amount of the client's monthly earnings. Walker (1972) has also scaled living independence into six levels ranging from the best outcome of independent living, through various supervised living situations, to the poorest outcome of a locked ward environment.

In addition to the simple modification of the existing criteria of recidivism and employment, what is sorely needed is a consistent model for

future evaluations of rehabilitation outcome. We would recommend that a comprehensive evaluation of rehabilitation include measures of the following four types of rehabilitation outcome: (a) patient skill gain, (b) patient/society benefits, (c) patient quality of life, and (d) patient satisfaction with services. These categories are by no means discrete; they are used to ensure that the outcome evaluation effort is as comprehensive as is needed.

Patient Skill Gain

As previously discussed, research studies have reported a positive correlation between the client's level of skilled activities and the outcome criteria of recidivism and employment. In addition, almost all of the studies that have demonstrated positive effects on rehabilitation outcome have included skills training as an important component of their treatment (Anthony and Margules 1974). The primary focus of the rehabilitation approach is either on building patient skills or on modifying the environment so that patients can function more effectively at their present skill levels (Anthony 1977). Thus it would make ultimate sense to diagnose the patient's critical skill areas at the start of the rehabilitation intervention and to reevaluate these areas at the conclusion of services. Measures of client skill gain can provide an immediate and direct assessment of the rehabilitation program's impact on client behavior.

For an evaluation of client skill gain to occur, rehabilitation practitioners must be able to diagnose objectively the specific skills the client needs to function more effectively. There are myriad skills that may or may not be critical depending on the client's unique rehabilitation situation. Anthony, Pierce, and Cohen (1977a) have provided a training manual designed to teach rehabilitation practitioners how to diagnose client skills. Examples of critical patient skill behaviors are provided in table 2.

Patient / Society Benefits

A rehabilitation intervention, in addition to affecting patient skill level, should bring about

Table 2. Typical client skill behaviors categorized by community settings in which these skills might be needed

Community settings	Client skill behaviors		
	Physical	Emotional	Intellectual
Living	Being well groomed Losing weight Being punctual Playing a sport Being sexually active Housework Yardwork Driving a car Using public transportation Getting to sleep Getting up Making home repairs Eating nutritious foods Not engaging in "institutional behaviors"	Disciplining children Controlling temper with spouse Responding to spouse's feelings Making eye contact with others Making friends Talking on telephone Going to parties Having parties Explaining problems to others Differentially reinforcing others Teaching children manners Showing affection to family	Balancing a checkbook Reading a newspaper Writing letters to family Making decisions with family Learning a hobby Cooking Using services of public agencies Setting goals for self Reinforcing self Writing program for self Brainstorming alternatives
Learning	Being punctual Learning a new sport Learning a physical fitness regimen Sitting for long periods Attending to the instructor	Making friends Listening Making accurate observations Speaking during group discussion	Asking questions of teacher Following directions Giving a speech Learning a hobby Memorizing answers Studying a book Reading quickly Typing papers Writing papers
Working	Being well groomed Lifting heavy things Being punctual Driving a car Using public transportation Standing for long periods Climbing up stairs Finger dexterity Gross motor control	Controlling temper with co-workers Making friends Listening Making accurate observations Conversing with fellow workers Accepting criticism of boss	Remembering directions Giving directions Following directions Seeking a job Asking for a raise Choosing a job Listing realistic job alternatives Planning a career route

benefits to the patient and society alike. A benefit means some positive change in the client's living, learning, or working environment attributable to the rehabilitation program. A measure of skill gain, for example, might be an improve-

ment in the patient's self-control while on the job. The patient/society benefit of this skill gain might be the client's steady employment throughout the followup period.

The traditional outcome criteria of recidivism

and employment are measures of patient/society benefits. Other examples might be number of days hospitalized, number of times agency services are needed, cost of treatment, source of financial support, number of weeks employed, earnings per week, percent of course work still needed to achieve training or educational objectives, and number of contacts with police. It is crucial that evaluation data be collected on measures which clearly indicate the benefits to society of a rehabilitation approach. The growth of a rehabilitation model within the mental health system is in a large part dependent on the taxpayers and the politicians who represent them. If rehabilitation evaluation procedures avoid outcome measures that indicate the benefits to society of a rehabilitation approach, the proponents of rehabilitation will be hard pressed to justify the importance of increased public support.

Patient Quality of Life

Recent developments in the mental health field have focused increased attention on the patient's quality of life. The process of deinstitutionalization, ostensibly designed to improve patient/society benefit criteria (e.g., number of days hospitalized and cost of treatment) has been extensively criticized for not focusing on improvements in the patient's quality of life. Popular magazines and newspapers periodically detail the deleterious environments of many discharged patients, just as in years past they revealed the nightmare of institutionalization.

Quality of life measures are useful to ensure that any benefits to society that might occur as a result of a rehabilitation intervention are not gained at the patient's expense. Examples of such measures are: number of hours per week spent alone, number of social contacts per week, number of club or organizational meetings attended, number of recreational/sports activities per month, number of conversations per week, number of new items of clothing per year, and number of hot meals eaten per week.

Patient Satisfaction with Services

In the advent of the civil rights and consumer rights movements, the criterion of patient satisfaction has developed increasing credibility as an important measure of outcome. It is now common practice in many agencies to obtain *client* estimates of program efficiency and effectiveness. Information of this type can be used to identify problem areas as viewed from the patient's perspective, with the obvious goal being the removal of sources of patient dissatisfaction. In addition, the rehabilitation practitioner's knowledge that patient satisfaction is important and will be monitored may influence the way in which services are delivered to clients.

Patient satisfaction is typically assessed by asking patients questions related to specific elements of the rehabilitation program. Instead of relying on a simple yes-no answer, the evaluator usually has clients indicate their degree of satisfaction with each area. Some examples of patient satisfaction measures are that the practitioner: understood my feelings and viewpoints, helped me identify my rehabilitation goal, and helped me identify what I must do to reach the goal.

Perhaps the most relevant study of client satisfaction with rehabilitation treatment compared the impact of vocational rehabilitation and psychotherapy on psychiatrically disabled clients (Smith and Hershenson 1977). All 90 subjects studied were unemployed and had emotional problems of sufficient severity to preclude immediate job placement. The results indicated that the clients were more satisfied with the rehabilitation treatment than with the psychotherapeutic treatment, especially in terms of the rehabilitation approach's reported impact on such items as self-confidence, public image, and chances for success.

Measures of client satisfaction provide a different source of data than do measures of patient skill gain, patient/society benefits, and quality of life. Taken together, these four categories of rehabilitation outcome can provide a comprehensive assessment of rehabilitation effectiveness. Even more importantly, the outcome criteria

employed should provide a detailed diagnosis of the rehabilitation program so that the program strengths can be emphasized and deficiencies corrected. Clearly, a rehabilitation program should be evaluated on those outcome criteria it was specifically designed to address. But more comprehensive program evaluations also are needed; in this way, even the unintended effects of the program can be assessed. In addition, a comprehensive evaluation will be more likely to generate outcome data that can be used in comparing studies done at different times and in different places.

Training Rehabilitation Practitioners

Even more difficult than measuring rehabilitation outcome is *producing* rehabilitation outcome. Professionals from a wide variety of disciplines (e.g., nursing, social work, psychiatry, occupational therapy, psychology, and counseling) are involved in psychiatric rehabilitation. Yet for the most part representatives of these various disciplines have only the expertise developed in their own unique professions to bring to the field of psychiatric rehabilitation. The base rate outcome figures for recidivism and employment manifestly indicate that additional expertise is needed. The specific skills identified with the practice of rehabilitation must be those which are capable of producing a favorable outcome.

In essence, rehabilitation as presently practiced attempts either to increase the client's skill level or to modify the environment to accommodate the client's present skill level. Six basic practitioner skills have been identified as necessary to effect a favorable rehabilitation outcome.

Diagnostic Planning Skills

Making a rehabilitation diagnosis involves both *interviewing* and *assessment* skills. These skills enable the rehabilitation practitioner to explore the client's strengths and deficits, understand how these strengths and deficits affect the client's ability to function in specific environ-

ments, and objectively assess the level of client skill performance in relation to the particular demands of the client's environment. The outcome of the rehabilitation diagnostic planning process is a picture of the psychiatrically disabled client that *implies a treatment plan*; for the purpose of a rehabilitation diagnosis is to improve the efficacy of treatment services provided to the client (Anthony, Pierce, and Cohen 1977a).

Table 3 provides an illustration of a rehabilitation diagnosis. This client assessment chart quantitatively measures the client's present and needed level of functioning for each important environmental area. The extreme left-hand column indicates whether the skill activity is considered to be a physical (P), an emotional-interpersonal (E), or an intellectual (I) skill. The third column (+/-) indicates whether the skill activity was diagnosed as a strength or a deficit. If the present level of functioning is equal to or better than the needed level of functioning, the skill behavior is recorded as a strength (+); if the needed level exceeds the present level, the behavior is recorded as a skill deficit (-).

The client whose rehabilitation diagnosis is illustrated in table 3 is Mr. Jones, a recently discharged inpatient. Mr. Jones' immediate rehabilitation goal is to continue residing with his wife and children and to find work as a sales clerk in a department store. Examination of the client assessment chart reveals that the diagnostic interviewing and assessment process has culminated in a specific focus on 11 observably defined skill activities. This is not to say that other skills were not explored, only that based on Mr. Jones' situation, these skill behaviors were considered the most crucial ones to assess. In three skill activities (stigma reduction, punctuality, and job qualifying) Mr. Jones was already functioning at the needed level. Thus these behaviors can be considered strengths (+). The other eight behaviors constitute discrepancies between Mr. Jones' present and needed level of functioning. These skill behaviors must become the focus of rehabilitation treatment programs if Mr. Jones is to be successful in his present environment. The specific numerical

Table 3. Client assessment chart (for "Mr. Jones")

P,E,I¹	Skill activity	Strength or deficit	Skill behavior	Present	Needed
Living environment: Home with wife and two children.					
P	Physical fitness	-	Number of miles client can travel in 12-minute walk/run test	1.0	1.4
E	Stigma reduction	+	Number of positive and negative statements about self in response to questions about past hospitalization.	2 positive 0 negative	2 positive 0 negative
E	Self-control	-	Number of nonviolent methods used to express anger to spouse.	0	3
E	Relaxation	-	Number of minutes (average) it takes to fall asleep each night.	1 hour	30 minutes
E	Selective reward	-	Number of times per day client verbally praises children when they behave in a way which pleases him.	0	2
Learning environment: YMCA fitness class.					
P	Punctuality	+	Amount of time it takes client to get to exercise class dressed in appropriate attire.	45 minutes	45 minutes
E	Conversation	-	Number of times client initiates conversation in class.	0 per day	1 per day
Working Environment: Department store sales clerk.					
P	Job endurance	-	Number of hours client can stand consecutively without taking a break.	1	2
E	Job interviewing	-	Rated level of interviewing skills on 3-point Job Interviewing Skill Rating Scale.	1	3
I	Job qualifying	+	Rated level of performance when performing functions of sales clerk as detailed by a presently employed sales clerk.	"Acceptable"	"Acceptable"
I	Job seeking	-	Number of positions per month client can locate for which he is qualified.	0	3

¹ P = physical skill; E = emotional-interpersonal skill; and I = intellectual skill.

estimates of present and needed level were developed from a number of potential sources (e.g., the client, the rehabilitation diagnostician, interviews with other treatment personnel and significant others, direct testing, in vivo observations, and role playing and other simulation techniques).

The client assessment chart can also be useful if various types of community settings are under consideration. In this event, a chart can be developed for each potential community setting so that the different diagnostic charts clearly illustrate the different client skills necessary for effective functioning in different community settings. For example, if Mr. Jones were going to be placed initially in a sheltered workshop, he would need neither job-interviewing nor job-seeking skills; therefore, because these skills would not be of immediate concern, they would not be recorded on the diagnostic chart. Similarly, if Mr. Jones were planning on living in a satellite housing arrangement with several other psychiatrically disabled clients, then Mr. Jones' present level of cooking and cleaning skills would have to be assessed. In addition to evaluating the client, the psychiatric rehabilitation practitioner must be prepared to diagnose and record the deficiencies of significant others in the client's environment if these deficiencies can be predicted to detrimentally affect the client's skill development.

Two principles underlying the entire diagnostic process are *comprehensiveness* and *comprehensibility*. That is, the diagnostic process should be broad in scope and should also be presented in a way that maximizes the client's understanding of the diagnosis. To the greatest extent possible, the client should participate in developing the diagnostic picture, as this will encourage the client's involvement in the rehabilitation treatment procedures that flow out of the diagnosis. Client comprehension as well as diagnostic comprehensiveness can be facilitated by using the simple process of categorizing physical, intellectual, and emotional skills by living, learning, and working environments (Anthony, in press).

It must also be pointed out that the rehabili-

tation diagnostic process demands a highly skilled interviewer. Psychiatrically disabled clients typically do not readily acknowledge their most crucial strengths and deficits. The client often begins the interview with a victimized exploration of past events and must be guided by the diagnostician to an understanding of his or her personal responsibility in future rehabilitation activities. In essence, the rehabilitation diagnostic process develops from an external exploration of past situations to the client's awareness of personal responsibility for actively *learning* and *performing* specific skill behaviors in present and future situations (Anthony, Pierce, and Cohen 1977a).

Rehabilitation Programming Skills

It is not enough to identify exactly what skills the client needs, as few clients can acquire these skills on their own. The most efficient way to teach new skills is through a systematic program. Rehabilitation is not complete unless the clients learn to behave more skillfully; clients must experience personal growth—going from where they are to where they need to be (Anthony, Pierce, and Cohen 1977b). Mastery of programming skills enables the practitioner to outline a series of behavioral goals arranged in a hierarchy that the client can master in order to function in the community.

Practitioner Evaluation Skills

The need for improvement of psychiatric rehabilitation services has already been discussed. Improvement can only occur if the effectiveness of present efforts is documented and findings are intelligibly organized. Psychiatric rehabilitation practitioners must be able to assess and evaluate their own rehabilitation efforts (Cohen et al. 1977b). By mastering evaluation skills, the individual practitioner will be in a better position to objectively communicate results to fellow staff members for the purpose of program improvement.

Career Counseling Skills

The development of vocational skills has remained the primary concern of psychiatric rehabilitation practitioners. Practitioners must themselves master certain skills in order to promote the development of skills in others (Pierce, Anthony, and Cohen 1977). They must be able to use their career counseling skills first to expand the client's career alternatives, second to narrow those alternatives down to the most favorable, and finally to assess the client's ability to meet that career's requirements.

Career Placement Skills

It is not enough for the client to plan and decide on a career. The practitioner must often teach the skills of career placement that allow the client to achieve complete vocational rehabilitation (Pierce et al. 1977). Career placement skills enable the practitioner to teach clients the skills necessary to obtain a job, to retain the job, and to advance on the job.

Community Coordinating Skills

Obviously, if the rehabilitation goal is to improve community functioning, the rehabilitation practitioner must have the skills necessary to work in the community (Cohen et al. 1977a). Community coordinating skills include the practitioner's ability to: (1) systematically evaluate and decide upon the specific environment or community resource that will best allow the client to overcome deficits or accommodate existing strengths and deficits; (2) get the commitment of the environment or resource to provide specific services needed by the client; and (3) develop and implement a program to overcome potential client or environmental problems in using the environment or resource.

Conclusions

The survey of research relevant to rehabilita-

tion outcome has generated implications for both the training of rehabilitation practitioners and the measurement of rehabilitation outcome. The most potent ingredients positively affecting rehabilitation outcome seem to be the training of clients in the skills needed to function in the community and the development and use by the client of various community support facilities and persons. The use of one or both of these ingredients has been reported in a number of recent innovative mental health treatment approaches (Crawford, Robinson, and Vitale 1977; Goldstein, Sprafkin, and Gershaw 1976; Mosher, Menn, and Matthews 1975; Sanders et al. 1976; Test and Stein 1976). These programs were not reviewed in this paper either because outcome data are not yet available or because the focus of the report was a comparison of inpatient treatment to community treatment. However, these studies do lend credence to the belief that a rehabilitation approach to psychiatric treatment has the potential of becoming an important component of the mental health delivery system.

Unfortunately, however, the training programs now in use in most mental health disciplines were not specifically designed to teach the practitioner the skills needed to bring about a positive rehabilitation outcome. Thus it is incumbent upon the field of psychiatric rehabilitation to develop a training program that is specific to the goals and tasks of psychiatric rehabilitation.

With respect to the task of measuring the effectiveness of rehabilitation programs, it has been suggested that several types of measures be used to assess rehabilitation outcome. However, if rehabilitation evaluation is to occur routinely, the individual practitioner must be trained in evaluation skills (Cohen et al. 1977a). In this way practitioners can assist in evaluating their own cases and findings can be incorporated into overall rehabilitation outcome figures. The assessment of rehabilitation outcome must be more than a research activity; it must be an ongoing responsibility of each rehabilitation practitioner. An evaluation model that includes a self-evaluation component is preferable to an evaluation conducted solely by nontreatment

personnel. If the practitioners themselves contribute to the program evaluations themselves, the following beneficial results can be expected: (1) they will be more motivated to use the results; (2) they will be able to collect much of the needed information in the regular conduct of their jobs; (3) in order to collect outcome data, they will master skills (e.g., goal setting) that could enhance their rehabilitation efforts; (4) they will gain personal satisfaction from knowing how well they are doing and how they might improve; and (5) they will be able to further their own careers by documenting their professional accomplishments.

Data gleaned from the measurement of rehabilitation outcome have implications for the client, the administrator, the researcher, the politician, the taxpayer, and the individual rehabilitation practitioner. Rehabilitation outcome is truly everybody's business. Although tentative treatment and training guidelines have emerged from efforts of past and present investigators, much future work needs to be done.

Summary

The overall effectiveness of the field of psychiatric rehabilitation was first reviewed in 1972. In updating that review, the present survey reports essentially the same general figures as the initial review for the outcome criteria of hospital recidivism and post-hospital employment—the two criteria most commonly used to assess the efficacy of psychiatric rehabilitation. Various therapeutic and rehabilitation treatment strategies are examined, and tentative conclusions are advanced with respect to the impact of these treatments on rehabilitation outcome. The research which has studied the diagnostic correlates of recidivism and employment is also reviewed; the results indicate that rehabilitation outcome seems to be a function of the client's skill and activity level rather than client symptomatology. Suggestions are also made with respect to the broadening of rehabilitation outcome criteria, so as to include a number of factors other than recidivism and employ-

ment. Lastly, a set of professional skills capable of improving rehabilitation outcome is proposed.

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