

Therapeutic Recreation Outcomes in Mental Health Practice

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Abstract

Mental illness and mental health constitute an important component of health care, and the use of recreation in the treatment of mental illness has an arguably longer history than the use of recreation in any other health care setting. Although mental health care represents a substantial portion of health services, it has been one of the slowest settings to develop and to implement outcome measurement. This paper provides an overview of outcome measurement in mental health services, identifies examples of outcomes in TR practice in this setting, and provides guidelines for the development of outcome measurement practices. In acute mental health settings, interventions have been found to produce outcomes related to depressive symptoms, anxiety, and self-efficacy. In settings serving clients with severe and persistent mental illness, documented outcomes have been demonstrated related to symptoms of psychosis, appropriate behavior, physical fitness, cognitive and social functioning, and self-efficacy. In addition, although no recent outcome studies have documented a relationship between leisure functioning and well-being, correlational research indicates such a relationship. Finally, issues related to the measurement of outcomes are discussed with recommendations for future directions to enhance outcome measurement in therapeutic recreation.

Approximately 20% of the adult population in the US experiences some form of mental illness in a given year (US Department of Health & Human Services, 1999). In addition, the burden of mental illness, including suicide, to industrial economies is second only to that of cardiovascular disease (USDHHS, 1999). Thus, mental illness and mental health constitute an important component of health care. The use of recreation in the treatment of mental illness has an arguably longer history than the use of recreation in any other health care setting (Skalko, Van Andel, & DeSavatore, 1991). Although mental health care represents a substantial portion of health services, it has been one of the settings slowest to develop and implement outcome measurement (Blankertz & Cook, 1998). Unlike physical medicine and rehabilitation settings, where such standardized outcome measures as the Functional Independence Measure (FIM) are frequently used, uniform outcome measurement in mental health settings is rare, and no gold standard measure exists (Eisen, 2000). At least part of the reason for this difficulty in identifying a uniform outcome measure is that mental health disabilities are more difficult to document than physical disabilities due to their multi-faceted nature (Blankertz & Cook, 1998). Psychiatric disorders often have both positive and negative symptoms but they can also produce disabilities in many other life areas. Regardless of the difficulties faced in measuring the results of mental health services, there are no fewer demands for accountability than in any other realm of health services (Berman, Rosen, Hurt, & Kolarz, 1998). Therefore, the identification and collection of outcome data has become a key indicator of quality care (JCAHO, 1997a). The challenge for therapeutic recreation practitioners in mental health services is to develop and implement outcome measures that track the effectiveness of care. The purpose of this paper is to provide an overview of outcome measurement in mental health services, identify examples of outcomes in TR practice in this setting, and provide guidelines for the development of outcome measurement practices. Finally, the scope of this paper has been limited to empirical work published since

1990. This roughly coincides with the period since the publication of Skalko et al.'s review.

Outcomes and People with Mental Illness

In the most generic sense, an outcome refers to change in a client's status over time. Moreover, the study of outcomes is more routinely related to examinations of effectiveness as opposed to examinations of efficacy. Efficacy studies examine the validity of an intervention in controlled environments, whereas effectiveness studies examine the validity of an intervention in "real world" settings (Andrews, 1998; Berman et al., 1998). Thus, outcomes can be used to monitor, evaluate and improve service performance.

In addition, outcomes can be measured in a variety of domains including outcomes related to systems of care, results of care on clients, and service recipient satisfaction (Berman, et al. 1998; Dunn, Sneegas, & Carruthers, 1991; JCAHO, 1997a, 1997b). Although outcomes related to systems of care such as timeliness, appropriateness, and cost of care are clearly important outcomes in the present health care environment, this paper focuses on outcomes related to results of, and satisfaction with, care as it relates to clients.

Results of Care

In general, outcomes related to the results of care can be grouped into three broad classifications. The first class of outcomes determines if there has been clinical change as a result of care. Outcomes can be classified according to changes in clinical status. Clinical changes are measured principally at the organ level of performance (Granger, 1984; Ware, 1997) and include such indicators as changes in psychiatric symptoms and physiological functioning (fitness, blood pressure, etc.).

However, as noted by Lehman (1995a), "assessments that focus strictly on the signs and symptoms of disease are recognized as essential but not sufficient outcome monitors" (p. 94). A second class of outcomes determines whether care results in changes in functional status. The measurement of functional change expands the collection of effectiveness information to include measures on such things as tasks, skills, and social roles (Granger, 1984; Ware, 1997). Granger asserted "the functional perspective in health care means identifying how people perform activities that are relevant to personal expectations and social norms" (p. 16). The inclusion of functional outcomes in the examination of the effectiveness of care represents an important evolution in evaluating health care. It moves beyond the impact of service at the organ level of functioning to include the results of care on personal and social functioning. Domains that

might be considered in assessing functional status include performance in school, work, marriage, parenting, interpersonal relations, and self care (Lehman, 1995b).

The final category of outcomes related to the results of care is changes in subjective well-being. This final category recognizes that people make an evaluative assessment of their life situation and activities. As such, it begins to directly include recipients' perceptions of the impact of care on their lives. Deiner (1994) defined subjective well-being as:

the global experience of positive reactions to one's life, and includes all of the lower-order components such as life satisfaction and hedonic level. Life satisfaction refers to a conscious global judgment of one's life. Hedonic level or balance refers to the pleasantness minus unpleasantness of one's emotional life. (p. 108)

The inclusion of indicators of well-being are relatively new in mental health services (Katschnig, 1997). For example, Angermeyer & Katschnig (1997) stated that quality of life outcomes, which include subjective evaluations of one's life, were not assessed as an outcome in psychotropic medication trials until 1990. Prior to that time, clinical effectiveness was the only routinely examined outcome of psychotropic medication. Examples of measures of subjective well being that have been included in evaluations of psychiatric care include work satisfaction (Holcomb, Parker, & Leong, 1997), family satisfaction (Marks, et al., 1994), and life satisfaction (Ackerson, 2000; Jerrell, 1999).

Satisfaction with Care

In addition to collecting information on the results of care on service recipients, the perceptions of services by service recipients is an important outcome (JCAHO, 1997a; Ruggeri, 1996; Sluyter, 1998). Satisfaction with care can be considered both an outcome of services as well as a factor in the process of care. This is so because consumers' use of services is related to their perceived satisfaction with services (Davies & Ware, 1988). That is, consumers who are dissatisfied with the care received are unlikely to continue care. Berman et al. (1998) stated that satisfaction with care represents an important overall outcome measure that can be used to generate information valuable for quality improvement efforts. Specifically, satisfaction with service outcomes provides the program, unit, or agency with information on care recipients' perceptions of such process dimensions of quality as reliability, timeliness, assurance, and empathy of the services provided.

Demonstrated Outcomes

Although Skalko et al. (1991) chose to review literature on outcomes of therapeutic recreation interventions in psychiatry according to intervention groupings, the present approach will organize findings according to diagnostic groupings. This organizational structure is consistent with a recent review of efficacious interventions in mental health service (Nathan & Gorman, 1998), as well as the structure of practice. That is, practitioners identify the characteristics of the client and then identify appropriate interventions, as opposed to vice-versa. Although studies should ideally be presented by diagnosis, in the present review they are grouped according to diagnostic categories due to the uneven coverage of different diagnoses and the inclusion of multiple diagnoses in some studies. In addition, major diagnostic categories were developed to be consistent with practice settings that typically serve either acute mental illness or serious and persistent mental illness.

Finally, the published findings included in this paper include randomized clinical trials, effectiveness studies conducted in naturalistic environments, and case studies/histories. While case histories may not contain the rigor of other forms of research (Coyle & Bullock, 1995), they at least provide insight into potential outcomes in mental health services (McCormick, 2000). Given the paucity of empirical studies available, the authors felt that exclusion of case studies and case histories would be too restrictive. Although case examinations are included in this review, findings generated through case examinations are clearly identified as such.

Diagnostic Grouping: Acute Mental Illness

Therapeutic Recreation specialists working in settings serving those with acute mental illnesses work under different environmental constraints than those serving clients with severe and persistent mental illness (SPMI). Although acute mental illness is not a recognized categorization such as SPMI (c.f. Lefley, 1996), mental health services are typically organized around level of severity and chronicity of mental illness (Borchardt & Garfinkel, 1991; Gold, Shera, & Clarkson, 1993). Thus practitioners in acute care settings work in both public and private institutions, but tend to see clients for a shorter period of time. In addition, typical diagnoses in these settings are related to mood, anxiety and personality disorders.

Clinical Status

Depressive Symptoms. One focus of interventions in

acute settings has been to address symptoms of depression. A number of studies have been conducted to examine the impact of physical exercise and activity on depressive symptomatology among people diagnosed with depression (Tkachuk, & Martin, 1999). Results appear to be consistent across studies. First, among clients diagnosed with depression, exercise has been found to significantly reduce depressive symptomatology (North, McCullagh, & Tran, 1990; Paluska, & Schwenk, 2000; Tkachuk & Martin, 1999) using standard measures of depression such as the Beck Depression Inventory (BDI). However, Paluska and Schwenk (2000) summarized that effects of exercise were most effective among people with mild to moderate depressive symptoms.

In addition to exercise, ropes course activities have been examined for their impact on depressive symptoms. Chakravorty, Trunnell, and Ellis (1995) examined the effects of participation in ropes course activity sessions on transient depressed mood of hospitalized adult patients with major depression. The assessment used to measure depressed mood in this particular study was the Lubin's Depression Adjective Checklist (DACL). Measures were taken from each of the 25 patients on six occasions. It was found that a significant interaction existed between participation in ropes course activities and time of observation in terms of transient depressed mood. The findings supported the study hypothesis that participation in ropes course activities decreased transient depressed mood of clients with major depression.

Anxiety. In addition to the impact of exercise on depressive symptoms, aerobic exercise has also been shown to reduce anxiety levels. The anxiolytic effect of exercise has been demonstrated in both depressed clients (Pelham, Campagna, Ritvo, & Birnie, 1993; Veale, et al., 1992) as well as those with a principal diagnosis of anxiety disorder (Broocks, et al., 1998; Martinsen, Hoffart, & Solberg, 1989).

Functional Status

Self-Efficacy. Self-efficacy relates to the extent to which people believe that they will be able to effectively influence an outcome through their behavior (Bandura, 1997). To the extent that people perceive themselves as able to influence their environment, they are more likely to act. One of the characteristic symptoms of depression is a lack of motivation (Schwartz & Schwartz, 1993). Ellis and others have conducted studies to examine the impact of self-efficacy theory in therapeutic recreation interventions.

In the first study, Maughan and Ellis (1991) examined the impact of four sources of efficacy information on efficacy judgments of clinically depressed adolescents following a recreation activity. Subjects involved in this study were 32

adolescent inpatients residing at a private psychiatric hospital, all of whom were diagnosed with major depression. The treatment group was exposed to four sources of efficacy information (vicarious experience, verbal praise and persuasion, performance accomplishments, and emotional arousal) based on Bandura's (1984) social cognitive theory before and during the process of playing a video game. The control group played the game without receiving the efficacy information from the recreation therapist. Results indicated that the sources of information demonstrated a positive impact upon self-efficacy.

In another study of self-efficacy outcomes, Ellis, Maughan-Pritchett, and Ruddell, (1993) examined the effects of using attribution-based verbal persuasion and guided imagery on self-efficacy judgements of adolescents with major depression. The intervention consisted of video gameplay coupled with verbal feedback and guided imagery. Analysis revealed that participants in the internal persuasion condition had significantly higher scores on the collection of dependent variables (efficacy judgements, outcome judgement, generality of efficacy judgement, and performance), as compared to the other persuasion groups. There was also evidence of an effect of success imagery on level of self-efficacy.

Finally, Tate and Ellis (1997) examined the effects of different facilitation techniques on self-efficacy, self-affirmation, and performance using challenge initiative activities among adolescents in mental health facilities. Forty-five adolescents with a variety of psychiatric diagnoses participated in the study. Findings suggested that adaptive training and fixed training were more effective than whole training for facilitation of positive psychological outcomes related to self-efficacy. Only the adaptive training technique was more effective than whole training in increasing self-affirmation.

Diagnostic Grouping: Severe and Persistent Mental Illness

Practitioners serving people with severe and persistent mental illness typically practice under different structures than those serving clients with acute mental illnesses. Serious persistent mental illness is characterized by an illness of longer duration (≥ 1 year), may have multiple disabilities, and their disabilities are such that they interfere with role performance in occupation, family responsibilities, self care or community living (Lefley, 1996). Typical diagnoses among within this diagnostic grouping are schizophrenia, bi-polar disorder, and chronic major depression. As a result, these clients tend to be served over a longer duration, and frequently in publicly funded programs.

Clinical Status

Psychotic Symptoms & Behavior. A series of five investigative case studies were conducted to test recreational therapy effects on managing the behaviors of severely impaired patients at Camarillo-UCLA Clinical Research Unit (Corrigan, Liberman, & Wong, 1993). Patients were assessed on a variety of symptomatic and disabling behaviors. The studies focused primarily on patients with a diagnosis of schizophrenia who were demonstrating the following behaviors: self-talk, ruminations, hallucinatory mumbling and laughter, posturing and grimacing and "inappropriate" behavior. Results of the study showed that patients who participated in directed recreational activity showed significant decrease in the frequency of antisocial and other inappropriate behaviors and an increase in the frequency of pro-social behavior. The study also implied that the positive effects of recreational therapy are likely to be enhanced when patients are given a choice in activity participation.

In a series of studies, Card, Menditto and others examined the impact of therapeutic recreation sessions on the exhibition of appropriate behaviors by people with schizophrenia. Findings of these studies indicated that a) a therapeutic recreation social learning program was effective in increasing appropriate behaviors over time (Pestle, Card, & Menditto, 1998), b) that clients engaged in therapeutic recreation services exhibited higher levels of appropriate behaviors than when engaged in vocational rehabilitation services (Finnell, Card, & Menditto, 1997), and c) that state hospital residents with schizophrenia scored above reference group norms on appropriate behavior regardless of whether they were engaged in passive or active therapeutic recreation activities (Morris, Card, & Menditto, 1999).

Physical Fitness. In addition to the impacts of therapeutic recreation activities on behaviors of people with schizophrenia, a number of studies have examined the effectiveness of exercise and fitness programs on people with schizophrenia. Skrinar, Unger, Hutchinson and Faigenbaum (1992) found that a 10-week supervised exercise program was effective in increasing cardiovascular fitness and reducing blood cholesterol in young adults with schizophrenia or bi-polar disorder. However, the exercise program did not affect clients' body self-image.

Functional Status

Cognitive and Affective Skills. Dowla (1997) examined the impact of a computer-based recreational activity on cognitive and affective skills of clients with schizophrenia. Findings indicated that four 45-minute sessions using computerized story-writing software "positively affected" concentration and self-esteem related to computer utilization.

Social and Global Functioning. Mitchell (1998) studied the outcomes of a leisure education program on group home residents with "chronic mental illnesses." The study included a control group and outcomes examined included leisure behavior, social avoidance and distress, social self-efficacy, global function and negative symptomatology. Based on pre- and post measures of outcomes findings indicated significant improvement in social self-efficacy, global functioning, quality of leisure behavior, and significant decreases in negative symptomatology, and social avoidance.

Self-Efficacy and Self Esteem. Kelley and Coursey (1997), examined the outcomes of a therapeutic adventure program on symptomatology, self-efficacy, self-esteem, trust and locus of control among people with diagnoses indicating serious and persistent mental illness. The intervention consisted of a 9-week program of day-long adventure activities, and self-instruction training. Self-instruction training is a process that aids clients with cognitive limitations to remain focused on tasks, management of fear and anxiety, and enhance self-confidence and efficacy expectations. Findings indicated that the adventure group increased in self-efficacy and self-esteem from pre-test to post-test, while the control group showed decreased scores over time. Furthermore, females in the adventure group demonstrated decreases in anxiety as compared to the female subjects in the control group. No effects were noted among males. Finally, improvements in trust were restricted to participants with affective disorders. No changes were found related to locus of control or psychiatric symptoms.

Perceptions of Care

Although most approaches to perceptions of care by clients have used client satisfaction (Ruggeri, 1996), social validation has also been offered as an evaluative approach to service outcomes (Halle, Boyer, & Ashton-Shaeffer, 1991). At its essence, social validation seeks to determine, from the service recipients' perspective, if a program is targeting socially significant outcomes, uses acceptable procedures, and provides results that meet identified deficits (Halle, et al., 1991). Mahon, Bullock, Luken, and Martens (1996) used social validation to evaluate the Reintegration Through Recreation (RTR) program. The RTR was a leisure education program designed to assist individuals with severe and persistent mental illness who were in an institutional setting or living in the community, to be successful in participating in recreation and community living. Results suggested that, in general, consumers, family members, and service providers involved in the study considered the RTR program to be socially valid. The study sample rated the

goals, intervention, and outcomes of the leisure education program as important in the lives of persons with severe and persistent mental illness

Implicated Outcomes

The emphasis of this paper so far has focused on documented outcomes of services. However, there are a number of studies within the mental health literature that provide implications or direction for future outcome studies in therapeutic recreation services. For example, there has been an increasing call for the use of quality of life (QOL) indices as outcome measures in mental health services (Holloway, 1999). Lehman (1983) was one of the first researchers to begin to develop the measurement of QOL among people with mental illness, arguing that QOL was comprised of both objective resources in various life domains and subjective reports of satisfaction with those domains. Furthermore, these objective and subjective components were indicative of a subjective sense of global well-being. Worthy of note is the fact that all measures of QOL developed for use in mental health services include social relationships, and to a large majority, include measures of leisure or recreation (Lehman, 1996).

Overall, QOL studies have identified a consistent link between subjective measures of leisure and global subjective well-being (Lehman, 1983; McCormick, 1999; Rosenfield, 1992; Trauer, Duckmanton, & Chiu, 1998). In addition, this pattern of relationship between leisure and global well-being has also been found in international samples of people with mental illness (e.g., Evans, Huxley, & Priebe, 1999). In contrast, objective measures of "activities" have been found to be equivocal predictors of global well-being (Lehman, Ward, & Linn, 1982; Rosenfield, 1992). In other words, most QOL measures have included objective counts of activities or hobbies, and these measures have typically not been significant predictors of global well-being. The implication of these findings for TR outcome studies is that interventions that impact on clients' satisfaction with leisure are also likely to impact on their sense of global well-being. In addition, although previous measures of objective leisure functioning have been minimally related to global well-being, two facts should be noted. First, most objective measures of QOL (e.g., monthly income, # of social relationships, # of illnesses, etc.) have been found to be considerably less effective in predicting global well-being than their subjective counterparts. Thus, objective measures of leisure activities do not appear to be particularly different from other QOL domains. Second, the level of measurement of objective leisure in most QOL instruments is a simple

activity count without regard to the nature of the activities. Given what is known about the quality of activity on subjective experience such as boredom (Iso-Ahola & Weissinger, 1987), mood (Csikszentmihalyi, 1990), and self-efficacy (Bandura, 1997), simply aggregating activity is likely to blur the underlying qualities of activity. Before discounting objective measures of leisure in QOL, further study is needed to determine if the quality of leisure activities is indicative of global well-being. Skalko (1990) has already shown that the quality of an activity is amenable to modification through TR intervention.

Measuring Outcomes in TR Service

As noted almost a decade ago, TR practitioners face continued demands for accountability of services (Dunn, et al., 1991). At the same time, this review of demonstrated outcomes in TR practice indicates that few outcome studies have been published since the time of the Temple University publication (Coyle, Kinney, Riley, & Shank, 1991). Given the shift in accountability over the past two decades to outcome-based documentation, the lack of published outcome studies is somewhat troubling. Witt (1988), in reviewing TR research, argued that one explanation for the lack of published research was a failure to socialize both educators and practitioners about the skills and need of research. The same may be true in relationship to outcome studies. Patrick (1997) stated that program evaluation provided one avenue through which "clinical research" could happen. Yet, a review of the most recent statement of competencies in therapeutic recreation curriculum planning (Kinney & Witman, 1997), indicates that while evaluation of individual treatment intervention is an identified competency, evaluation of a program of services is not. Thus, it may be true that we as a profession are failing to socialize members to the skills and values of outcome evaluation, and by extension, outcome research. In addition, as noted previously, outcome measurement in mental health has been particularly slow to develop. A contributing reason is that no "gold standard" exists in mental health such as the Functional Independence Measure (FIM; Keith et al., 1987) in physical rehabilitation, or the Minimum Data Set (MDS) in geriatric settings.

Developing Measurement Strategies

One of the first issues in the measurement of outcomes has to do with the choice of measurement strategies. Here, two basic strategies are possible. The first strategy can be characterized as idiosyncratic. An idiosyncratic approach to measuring program outcomes is based on the aggregation of individual achievement of treatment goals. This approach

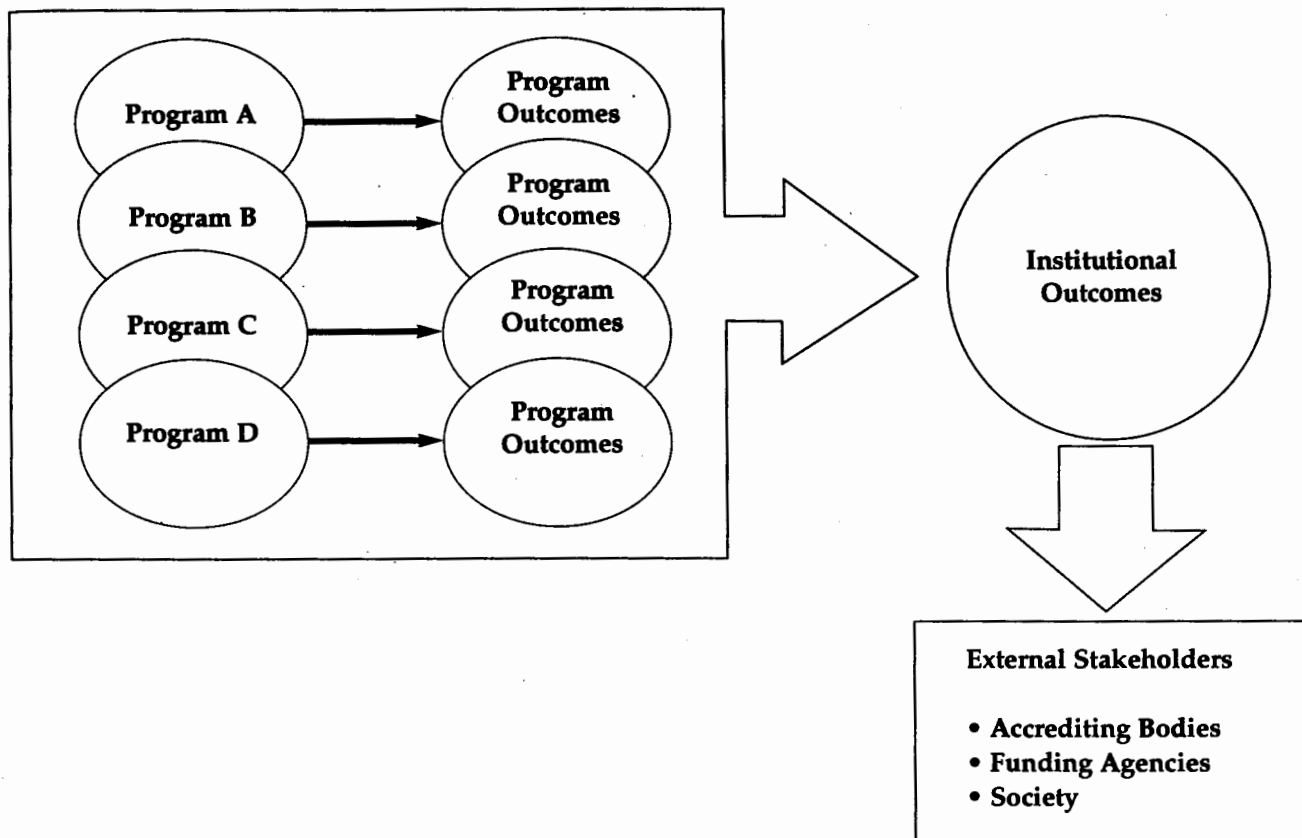
should be familiar to most practitioners as it can be based on treatment goals and related performance objectives (Dunn et al., 1991). Increased precision may be achieved through the use of a technique known as Goal Attainment Scaling (Kiresuk, Smith, & Cardillo, 1994). Briefly, through goal attainment scaling (GAS), treatment goals are developed using ordinal scales to identify less than desired goal attainment, desired goal attainment, and better than desired goal attainment. Through the scaling of goals, a higher precision of treatment outcome measurement can be achieved. However, GAS requires training and practice in order to develop appropriate scales for goals. One advantage to idiosyncratic methods is that the effectiveness of a program area (such as TR service) can be identified across clients with relatively diverse treatment goals. In other words, the outcome that is being measured is the effectiveness of the service in meeting treatment goals. The drawback is that idiosyncratic methods do not directly address the effectiveness of the service in achieving valued outcomes.

By contrast, standardized outcome measurement is based on the collection of outcome data on a uniform measurement instrument for all clients, regardless of individual treatment goals. In this strategy, other issues come to the forefront. First, two types of measures may be used: a standardized approach or agency developed instruments (Blankertz & Cook, 1998). If standardized measures are to be used, selection of measurement instruments may become an issue. It may be that, as a result of the lack of an accepted standardized outcome measure, the number of outcome measurement instruments in mental health is extensive. Eisen (2000), noted that in the past two decades almost 1500 outcome measures have been identified in mental health practice. For the practitioner choosing to use standardized measures, the problem is one of selecting an appropriate instrument. A number of authors have developed guidelines for the selection of outcomes measures (Blankertz & Cook, 1998; Eisen, 2000; Newman & Ciarlo, 1994), and practitioners would be well advised to consider all selection criteria. Finally, although agency-developed measures may afford a better opportunity to connect outcomes to services provided, without adequate psychometric testing these measures are questionable with respect to validity and reliability.

Programmatic vs. Institutional Outcomes

Another issue in the measurement of outcomes has to do with the relationship of programmatic outcomes with institutional outcomes. One of the principal accrediting bodies in health care has begun to phase in the requirement of outcome measures as a condition of accreditation

Figure 1.
Program Outcomes and Institutional Outcomes



(JCAHO, 1997a). These outcome measures are collected at the institutional or agency-wide level, and may or may not include items related to TR interventions. Thus, the link between program outcomes and institutional outcomes is often indirect (Figure 1). One challenge for TR professionals is to tie outcomes of TR services to valued institutional outcomes.

Overall, this review has identified that a number of interventions have been found to be effective in producing desired mental health outcomes through TR services. However, as is often seen with reviews of research in TR, the volume of published studies is small and there are few identifiable related "lines" of research. At the same time, there are indications that outcome evaluation and research is gaining interest among practitioners. Observation indicates the number of outcome-related sessions at national therapeutic recreation conferences appears to have increased in recent years. Although there appears to be interest in demonstrable outcomes in the field, the published body of knowledge related to TR outcomes remains tenuous. As a result, a num-

ber of recommendations are warranted.

First, one issue that may be raised is simply a reiteration of Witt's (1988) indication of the lack of socialization to skills of research. Arguably, one of the greatest obstacles to outcome study in therapeutic recreation is the conceptual separation of research from practice. In virtually all presentations of TR practice, research and evaluation either receive minimal attention or are identified as issues of "professionalization" as opposed to issues of "practice" (c.f., Compton 1997). Such separation tends to present the examination of the effects of interventions as an "add on" to practice. This conceptual division contributes to the failure to socialize and train practitioners in the attitudes and skills related to outcome study. If TR is to increase its knowledge base, the profession must begin to accept that research and evaluation are valuable tools for demonstrating accountability and must be viewed as part-and-parcel of therapeutic recreation practice.

Second, valid, reliable and useable outcome measures must be available for TR practice in mental health.

Although such measures as the Leisure Competence Measure (Klosek, & Crilly, 1997) have been developed in other areas of practice, the usability of this measure in mental health settings is as yet unknown. In addition, although other standardized assessment measures have been available for some time (e.g. Burlingame & Blaschko, 1997), the psychometric properties of most measures and the connection of such measures to global outcomes remains based on very limited psychometric testing. Thus the development and refinement of measures should be a priority in TR research and evaluation.

Finally, outcome measurement is a key component in the present view of quality services. If TR practitioners are to provide high-quality valued services, then TR practitioners must be able to connect outcomes of services to those outcomes valued by healthcare stakeholders (Schalock, 1995). These stakeholders include the clients TR serves, the institutions in which TR is employed, the agencies paying for such services, and ultimately, the society at large. Finally, the development of TR interventions must begin with specific and designated outcomes of service, and these interventions must be subjected to studies of both efficacy and effectiveness.

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