

# Constraints of Outcome Measurement Perceived by Recreational Therapists in Physical Medicine and Rehabilitation

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## Abstract

This study examined constraints of outcome measurement as reported by recreational therapists working in physical medicine and rehabilitation (PM & R) settings. A total of 132 respondents were drawn from the mailing list of the American Therapeutic Recreation Association (ATRA) PM & R treatment network and on-site sample from the treatment network meeting during the ATRA conference. Findings indicated, with one exception, that most respondents disagreed that such things as being too busy, relative importance of other tasks, lack of staff, skills or interest in outcome measurement, or a lack of agency support were constraints to measuring outcomes. The only one item that appeared to be agreed upon as a constraint to outcome measurement was a lack of adequate outcome measurement scales. A discriminant analysis was used to further identify those variables that are most useful in discrimination of the sample population. Only three variables (i.e., too busy, other more important things to do, and lack of staff to help) discriminated the respondents who used outcome measures from those who did not.

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## Introduction

Twenty-first century health care can be characterized as an era of demonstrating outcomes and accountability. With the brave new world of capitation, managed care, primary care, efficacy, and efficiency, the health care system is becoming increasingly more serious about outcomes. Payers are demanding cost reduction without quality reduction. Rehabilitation managers are being asked to produce better outcomes with fewer resources. Consequently, measuring service outcomes has become a requisite skill in the current health care environment.

There are a number of reasons why current health care providers utilize outcome measurement. Outcome measures are applied to determine rehabilitation outcomes for both individual clients and programs/intervention. Further, they are used to determine functional progress or lack thereof and can be used (a) internally to improve the quality of programs and (b) externally by third-party payers for reimbursement and accreditation purposes (Dittmar, 1997).

Managing outcome data has important benefits. First of all, outcome data can be used in planning rehabilitation interventions, determining the effectiveness of treatment, maintaining continuity of care, and developing and improving treatment resources (Dittmar, 1997). Second, therapists can use outcome measures to determine clinical changes by comparing scores before and after interventions. Third, the data can also be used in utilization review to determine the most cost-effective levels of intervention. Those interventions that can demonstrate valued outcomes at a reasonable price are most likely to be valued and supported by both agencies and payers.

Given these trends and important benefits, therapeutic recreation (TR) professionals should embrace managing outcomes and develop a plan for the future of outcome measurement. In fact, doing so is not a new call. A decade ago, Riley (1991) cited the importance of outcome measurement noting that "the need to establish valid outcome measures and a reliable monitoring system is critical to the growth and continued acceptance of therapeutic recreation" (p. 53).

More recently, West (2000) reiterated "the imperative need" that TR professionals must embrace "outcome measurement in the context of the healthcare industry" (p. 80) and understand the management of TR outcomes. Pointing to the new shift of Joint Commission on Accreditation of Health Care Organizations' (JCAHO) focus on the use of outcome-related data as a part of the accreditation process, West further emphasized that "the success of the movement toward a continuous, data-driven accreditation with on-site surveys to validate performance will be significantly dependent upon the success of measuring outcomes of performance" (p. 81). Consequently, it is very important for the TR professional to revisit the concept of outcome measurement.

### Definition of Service Outcomes

An outcome is the end result of care provided (Hegyvary, 1991). Medical scientists define outcomes in conjunction with (a) clinical end point (e.g., symptoms, mortality), (b) functional status (physical, mental, social, and roles), (c) well-being (health perceptions, life satisfaction), and (d) satisfaction with care (convenience, access, financial coverage; Tarlov, Ware, Greefield, Nelson, Perrin, & Zubkoff, 1989). Shank and Kinney (1991) defined outcomes as "observed changes in a client's status as a result of our interventions and interactions. . . Outcomes can be attributed to the process of providing care, and this should enable us to determine if we are moving our clients that which we purport to do" (p. 76). As such, an outcome means that something has changed because of the action taken by the therapist with or on behalf of the client. While conducting outcome measurement is not a new concept in the health care environment, doing so often creates some constraints for therapists who are already busy with numerous other tasks.

### Constraints to Outcome Measurement

The term constraint can be defined as the state of being confined within prescribed bounds (The American Heritage Dictionary of the English Language, 2000). Using this definition, constraints of outcome measurement may be defined as those factors that prevent and restrict professional behaviors associated with measuring service outcomes. Identifying critical constraints to outcome measurement is important to the establishment of sound data. Unfortunately, no studies have empirically examined constraints to outcome measurement within therapeutic recreation, and, therefore, there is uncertainty about specific factors that inhibit outcome measurement. A small number of researchers have offered some ideas that relate directly and indirectly to outcome measurement constraints. In a sense, fundamental skills associated with the research process

parallel those of outcome measurement. Therefore, examination of the factors that inhibit practitioner involvement in research may offer some insights into the constraints on outcome measurement. Witt (1988) identified some inhibitors of TR research, including (a) the lack of a clear understanding of the value and necessity of undertaking research, and (b) the lack of training and skills either successfully undertaken or applied to available research. In nursing, researchers have identified (a) fear or lack of confidence, (b) uneasiness about the methodology, (c) lack of time, and (d) lack of financial support as some important barriers of nursing research (Hicks, 1993, 1995; Sheridan & Dowdney, 1997). Stumbo (2001) also identified some barriers that are directly related to the measurement of TR outcomes. The first barrier is a lack of an adequate number of assessment tools in TR. Stumbo noted that there is limited number of quality instrument commercially available. A lack of assessment resources was identified as a second barrier. Stumbo pointed out that it is difficulty for recreational therapists to locate information about available and usable assessments. The third barrier identified was a lack of specialist competence. In general, many recreational therapists lack competency associated with measuring clients' functioning and need for better training in assessment and research methods (Stumbo).

### Purpose of the Study

There has been much discussion about the needs and benefits of outcome measurement. Therefore, it appears that many TR professionals recognize the importance and the benefits associated with outcome measurement in daily practice. However, recognition of its significance does not mean that they are active participants in the process. The TR profession needs to identify the factors that constrain outcome measurement. Understanding these constraints will provide insight into ideas associated with professional preparation and continuing education. While some TR professionals have intuitively identified potential constraints of outcome measurement, no single study has been conducted to empirically examine this topic. The purpose of this study was to identify those constraints that are significantly related to both the use and non-use of outcome measurement with therapeutic recreation.

## Methods

### Sampling

A convenience sample was drawn from the mailing list of the American Therapeutic Recreation Association's (ATRA) Physical Medicine and Rehabilitation (PM & R)

Treatment Network. From this pool, a total of 75 names of recreational therapists who work in physical medicine and rehabilitation settings in the United States were identified. A packet containing a cover letter explaining the nature of the study, a consent form, research questionnaires, and a self-addressed, stamped envelope was sent to the 75 individuals. The cover letter informed potential respondents that participation in the study was voluntary. To protect anonymity, researchers did not ask the names of the respondents or their agencies on the questionnaires. A total of 68 responses (91%) were returned. In addition, this study employed an on-site survey. The same packet of questionnaires was distributed to recreational therapists during the Treatment Network Meeting at the 1998 ATRA Conference along with a cover letter encouraging their cooperation. The researcher clearly instructed those who responded earlier to discard the questionnaire. This on-site survey procedure added an additional 79 responses. Fifteen (15) responses were treated as unusable data due to incomplete forms, which resulted in a total of the 132 responses.

### Instrumentation

**Constraints to Outcome Measurement.** A total of eight (8) constraint variables associated with outcome measurement were identified from the literature review and discussion with TR practitioners working in rehabilitation settings. Some constraint items (i.e., lack of a clear understanding of the value/necessity of outcome measurement, lack of training and skills/confidence, lack of time, and lack of support) came from the literature that identified constraints to documented research (i.e., Hicks, 1993, 1995; Sheridan & Dowdney, 1997; Witt, 1988). The researchers also made phone calls to several TR practitioners who worked in PM & R settings and solicited further constraints for outcome measures. This process added additional constraint variables based on their own experience in the rehabilitation setting. After identification of possible constraint items, various items were consolidated and re-phrased into the following eight items: too busy, lack of assessment/measurement skills, lack of motivation and interest, lack of adequate instruments, no agency support, other important things to do, no perceived immediate needs, and lack of staff to help. Most items were, then, phrased in negative statements such as "I don't have...", "My agency does not ...," "I am not aware of ...," and "I have no ..." except one item (i.e., "I am too busy doing other things"). Using a 5-point Likert scale, respondents were asked to answer "Strongly Disagree" (1) "Strongly Agree" (5). Higher scores indicate a higher degree of constraints related to the outcome measurement.

### Service Characteristics

**Caseload** was measured simply through the following question: "What is your typical case load? The number of staff was measured by asking: "How many staff provide TR/RT services?"

**Use of Standardized Outcome Measures.** Use of a standardized outcome measure was assessed using two questions. Respondents were asked if they used either the Functional Independence Measure (FIM) developed by a team of rehabilitation researchers (c.f. Hamilton, Granger, Zielezny, & Tashman, 1987) in their TR department or if they used the Leisure Competence Measure (LCM) developed by Kloseck and her colleagues (i.e., Kloseck, Crilly, Ellis, & Lammers, 1996; Kloseck & Crilly, 1997). Those respondents who answered "yes" to either use constituted the group using a standardized outcome measure (n=74), whereas those answering "no" to both questions constituted the group not using outcome measures (n=44).

### Data Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) program. Descriptive statistics (e.g., means, percentiles, standard deviations) were used to examine the demographic characteristics of the sample. Pearson's Zero Order correlation coefficients were calculated to examine the relationships among demographic variables and a number of constraint items. Discriminant analysis (Klecka, 1980) was used to identify those variables that discriminated respondents who used a standardized outcome measure from those who did not. Discriminating variables included both service characteristics of caseload and number of TR staff, as well as all eight constraint items. A stepwise method was used to identify only those discriminating variables that were most useful in distinguishing those who used standardized outcome measures from those who did not.

## Results

The final sample consisted of 132 respondents working in PM & R settings. A majority of the respondents worked at the private non-profit agencies (56%), with others working in public agencies (17.8%), and private for-profit agencies (21.2%). Approximately 60% of the respondents worked at agencies that were accredited by both JCAHO and CARF, 30% were accredited by JCAHO only, and 8.5% by CARF only. In addition, respondents had an average caseload of almost 19 clients (see Table 1). However, this figure is somewhat skewed by the fact that four respondents reported caseloads greater than 50 clients. A more accurate representation of central tendency for the caseload variable is likely

the median (50th percentile), which was 14.0. In addition, on average there were 2.49 TR staff members per department. However, 40.7% of respondents indicated that they were the only TR staff members in their program.

Based on the sample described above, findings indicated respondents disagreed that such factors as being too busy, having more important things to do, a lack of staff, skills or interest in outcome measurement, or a lack of agency support were constraints to measuring outcomes (Table 1). The one variable that appeared to be agreed upon as a constraint to outcome measurement was a lack of adequate outcome measurement scales. Almost 47% of respondents agreed that they did not have access to adequate scales for measuring outcomes, whereas only 27% of respondents felt that they did have access to adequate scales (26% were undecided).

Although many of the attitudinal constraint items indicated significant correlations, only a few were significantly related to the use of standardized outcome measures. Table 2 displays the finding that as the caseload increased, respondents were less likely to employ standardized outcome measures in their practice. In addition, those respondents who perceived that they did not have enough staff, indicated that they had more important things to do (.35) and perceived no immediate need for measuring outcomes (.43), were also less likely to employ standardized outcome measures (-.22). Size of caseload was found to be significantly related with perceptions of outcome measurement as a lower priority than other tasks (.25). The number of TR staff was significantly correlated with the variables of lack of skills (-.21), interest (-.19), need (-.27) and agency support (-.22) for outcome measurement. However, it is worth noting that while the size of caseload was negatively correlated to the use of outcome measures, the number of TR staff was not.

In order to examine which of the service characteristics and constraint variables were most useful in distinguishing those respondents who used standardized outcome measures from those who did not, discriminate analysis was employed (Table 3). A step-wise process, using Wilks' Lambda as the selection criterion, was employed in order to identify only those variables most useful in discrimination (Klecka, 1980). The procedure concluded after three steps. Although the discriminate function was significant ( $c^2=16.47$ ,  $df=3$ ,  $p>.05$ ), the relatively small canonical correlation ( $r^*=.384$ ) indicated that only about 15% of the variance in the discriminate function was explained by the groups (Klecka, 1980). In other words, the service characteristic and perceived constraint items explain only a small portion why one

does or does not utilize standardized outcome measure instruments.

Although the analysis explained a small but significant portion of the variance, it did indicate that three variables were most useful in classifying respondents who used standardized outcome measures from those who did not. The variables of perceived busy-ness, greater importance of other tasks, and lack of staff to help were the most powerful variables in discriminating the groups (see Table 3). The relative importance of each of the three variables in determining the discriminate function score can be determined by examining the absolute value of the standardized function coefficients. The product-moment correlation between each variable and the discriminate function is indicated by the structure coefficients column in Table 3 and includes all variables originally entered into the analysis. As indicated by the structure coefficients, the three most significant items have a stronger relationship to the discriminate function than those that were excluded. In addition, while the standardized function coefficients indicate the variable's contribution to calculating the discriminate score, the analysis takes also into account the simultaneous contribution of the other variable. Since the structure coefficients do not account for the contribution of other variables, it can be observed that the variables of perception of more important tasks than outcome measurement, and the perception of a lack of staff contribute more, individually, to discriminating the groups than the individual contribution of perceived busy-ness. Overall, structure coefficients indicate that those respondents who used standardized outcome measures tend to perceive being busy as a constraint, but feel that they had adequate staff to help and that other items were not more important than outcome measurement. In contrast, those respondents who did not use standardized outcome measures tend to perceive that they have a lack of staff to help, and they perceive other tasks as more important, even though they did not perceive being busy as a constraint.

The purpose of discriminate analysis is to identify which variables best distinguish two or more groups, while classification analysis can be used to examine the adequacy of the discriminate function. The classification results section of Table 3 indicate that the discriminate function, comprised of the three significant variables above, correctly classifies 66.1% of the cases. Given that random assignment in this two-group situation would result in approximately 50% correct classification, the discriminate function offers only slight improvement.

Table 1  
Descriptive Statistics of Study Variables

Variable	n	Mean (sd)
<b>Service Characteristics</b>		
Reported Caseload	116	18.46 (20.84)
Reported number of TR staff	118	2.49 (2.48)
<b>Constraint Items</b>		
I am not interested in assessing TR outcome	121	1.51 (0.94)
Too busy to assess	121	2.24 (1.15)
I do not have assessment skills	120	1.91 (1.07)
I don't have adequate scales	118	3.27 (1.17)
My agency does not support	119	2.14 (1.28)
I have more important things to do	119	1.70 (0.94)
I have no immediate need	119	1.70 (0.91)
I don't have staff to help	120	2.75 (1.43)
<b>Standardized Outcome Instrument Use</b>		
% Respondents using FIM in TR Dept.	121	61.2%
% Respondents using LCM	120	7.5%
% Respondents using outcome measure	123	62.6%

Note: Constraint Items coded 1=Strongly Disagree, 5=Strongly Agree

This relatively weak classification is not surprising given the small canonical correlation coefficient noted previously. Further examination of the classification results indicates that the discriminate function is more accurate in classifying those who use outcome measures (89.2% correctly classified) as opposed to those who do not use an outcome measure (23.7% correctly classified).

### Discussion

The purpose of this study was to investigate barriers to conducting outcome measurement as reported by recreational therapists working in physical medicine and

rehabilitation settings. This study addressed the constraints identified in current practice of outcome measurement, with the hope that the findings of this study would offer insight into the development of strategies to overcome the constraints.

This study identified the lack of measurement scales or instruments as an important constraint for outcome measurement. Although approximately 64% of respondents were using some form of outcome measurement, only 27% of respondents felt that they had access to adequate scales. Since the majority of respondents were using the FIM as their outcome measure, most practitioners found this measure to be inadequate

Table 2  
Zero-order Correlation Coefficients Among Study Variables

	1	2	3	4	5	6	7	8	9	10	11
1. Use of Standardized Measures	1.00										
2. Caseload	-.20*	1.00									
3. No. TR Staff	ns	ns	1.00								
4. Too Busy	ns	ns	ns	1.00							
5. More Important Things to do	-.21*	.25**	ns	.42**	1.00						
6. Don't Have Staff	-.22*	ns	-.32**	.42**	.35**	1.00					
7. No Immediate Need	-.21*	.26*	-.27*	.57**	.56**	.43**	1.00				
8. Agency Doesn't Support	ns	ns	-.22*	.47**	.29**	.60**	.47**	1.00			
9. No Assessment Skills	ns	ns	-.21*	.37**	.34**	.37**	.40**	.24*	1.00		
10. No Adequate Scales	ns	ns	ns	.22*	ns	.28**	.27**	.35**	.36**	1.00	
11. Not Interested in Assessing outcomes	ns	ns	-.19*	.39**	.20*	.18*	.33**	.20*	.25**	ns	1.00

Note: \* p<.05; \*\* p<.01; Constraint Items coded 1=Strongly Disagree, 5=Strongly Agree

as a TR outcome measure. Additionally, the results of the statistical analysis did not find the item of available measurement as a significant discriminator. This finding further supports the interpretation that respondents who did and did not use a standardized outcome measure felt similarly about this constraint. This study also found that three constraint items (e.g., being too busy, having other important things to do, and lack of staff) were most useful in classifying users and non-users of standardized outcome measures.

Another significant finding was the relationship of caseload to outcome measurement and service priorities. The finding that those with higher caseloads were less likely to engage in outcome measurement may be explained by the relationship of caseload to other constraint items. As previously noted, those respondents with higher caseloads tended to perceive no immediate need for outcome measurement, and at the same time they perceived that there were other, more important matters to attend to. Since the majority of respondents worked at agencies employing 1-2 TR staff members, these findings are not surprising. It would appear that in those agencies where caseloads are very high (4 respondents indicated caseloads >49), service provision must take precedence over such things as outcome measurement.

### Implications to TR Practice

Based on the findings of this study, there do appear to be significant constraints to outcome measurement in TR practice. The first limitation is a perceived lack of TR outcome measurement tools. This finding is consistent with Stumbo's (2001) suggestion that there is an inadequate number of outcome measurement tools and resources. A second limitation appears to be service demands that overwhelm the resources of TR practitioners.

#### Outcome Measurement Tools

There are some possible approaches to deal with a lack of adequate outcome measurement scales. The first is to begin to develop assessment tools to measure outcomes unique to TR service. While there is a current emphasis within TR on outcome research, the profession should recognize the importance of instrument development to measure outcomes.

A second solution to overcome the shortage of outcome measurement tools in TR is the active use of existing instruments that are prevalent in the PM & R setting. One such instrument may be the Craig Handicap Assessment and Reporting Technique (CHART) developed

CONSTRAINTS OF OUTCOME

Table 3  
Stepwise Discriminate Function Analysis of  
Standardized Outcome Measurement Use

Function	Eigenvalue	Percent of Variance	Canonical Correlation	Wilks' Lambda	Chi-Square	df	p
1	0.17	100.0	.384	.853	16.47	3	>.05

Variables	Standardized Function Coefficients	Structure Coefficients
1. Too Busy to Assess	-.985	-.281
2. I Have More Important Things to Do	.829	.527
3. I Don't Have Staff to Help	.613	.468
4. I Have No Immediate Need		.147
5. Caseload		.143
6. Agency Doesn't Support Outcome Assessment		.106
7. No Assessment skills		.104
8. I Don't Have Adequate Scales		-.095
9. Number of TR Staff		-.073
10. Not Interested in Assessing TR Outcome		-.051

Group Centroid = No Outcome Measurement, 0.54; Outcome Measurement Used, -0.31

Classification Results for  
Use of Outcome Measurement

Actual Group	No. of Respondents	Predicted Group (percentage)	
		Outcome Measures Not Used	Outcome Measures Used
Outcome Measures Not Used	44	12 (23.7%)	32 (72.3%)
Outcome Measures Used	74	8 (10.8%)	66 (89.2%)

Percentage of groups correctly classified = 66.1%

by Whiteneck, Charlifue, Gerhart, Overholser & Richardson (1992). The CHART can be used to measure various functional improvements (e.g., physical independence, mobility, orientations), and yet measures important TR outcomes such as community integration (e.g., social integration, economic self-sufficiency). In addition, the Community Integration Questionnaire (Willer, Ottenbacher & Coad, 1994) may serve as an effective instrument to measure outcomes associated with community re-entry involving individuals with traumatic brain injury, spinal cord injury, stroke and other physical disabilities. It should be remembered that there is no one single measure that appears appropriate for all populations served in PM & R settings. Therefore, recreational therapists should be flexible in using various instruments available in rehabilitation settings.

A third approach to instrument development would be to actively share assessment resources among practitioners across agencies. There are numerous agencies that develop their own instruments to measure TR outcomes. Successful use of an outcome measurement process at one agency might offer good ideas to professionals at other agencies. However, practitioners should be cautious when adopting practices from one agency to another. First of all, recreational therapists should obtain a written release from an administrator at their facility before any other therapists outside the facility may use the assessment or other written material.<sup>1)</sup> Second, issues of the rigor in the development and use of "home-made" outcome instruments must be also considered. The use of a poorly designed or poorly administered outcome instrument is not likely to advance the quality of services. Another caution that is crucial when practitioners share standardized outcome measurement tools is an awareness of copyright issues. Practitioners should obtain a written consent from the developer or publisher before they use the tools.<sup>1)</sup>

A lack of available instruments to measure TR outcomes requires further discussion. While this constraint item may exist, it is paradoxical that only 7.5% of respondents were the users of the LCM. Considering the imperative need of outcome measurement instruments, TR professionals should be aware of the fact that the LCM has the potential to be used to measure TR-related functional outcomes (e.g., leisure skills, group interaction skills) as well as community integration (i.e., community participation). Of particular relevance is that the LCM was designed "to be consistent with the Functional Independence Measure ... to afford therapeutic recreation professional, employed in rehabilitation facilities" (Kloseck et al., 1996, p. 14).

### Managing Service Demands

The constraint item of being "too busy" warrants careful discussion. In the current health care environment, with emphasis on cost control, many rehabilitation settings are operating with a minimum number of therapists. This leaves little time for measuring client outcomes, and, in fact, this may be an unavoidable reality. However, being too busy also indicates an issue of relative priorities. In other words, being too busy with other things may mean that "outcome measurement is nowhere on my list of priorities." Part of this problem may lie in the way that TR personnel conceptualize their role. As noted elsewhere, the topics of outcome evaluation and research are typically presented as conceptually separate from issues of practice (McCormick & Lee, 2001). Until the profession begins to see outcome measurement as part-and-parcel of the practice of TR, it is likely that it will continue to be relegated to a low priority.

Concerning the caseload issue along with three constraint items that discriminated users and non-users of standardized outcome measures, collaboration may offer a practical and effective strategy. Collaboration involves complementing each other's knowledge and, therefore, maximizes the benefits of everyone's knowledge, experience, and resources. In fact, the value of the interdisciplinary collaborative practice has been widely noted (e.g., Dunbar & Bryan-Brown, 1988; National Institute of Health, 1983). Particularly, nursing scientists have documented that collaborative practice links to better patient outcomes, nursing retention, and staff moral and satisfaction (Baggs & Ryan, 1990; Baggs, Ryan, Phelps, Richeson & Johnson, 1992; Mitchell, Armstrong, Simpson, & Lents, 1989). Collaboration involves exchanging information about outcome measurement. Not having enough time and facing numerous tasks, one cannot keep up with everything. Informational support facilitates the ongoing sharing of information about new measurement resources as well as skills to use them.

Another consideration in terms of caseload has to do with practitioners' abilities to assert the nature of TR services. High caseloads not only constrain implementation of outcome measurement, they likely constrain quality individualized care. A number of practitioners in this sample reported caseloads so large that it seems physically impossible to provide quality individualized services that meet the criteria of active treatment (Thompson, 1996). As a profession, we must recognize and assert that not all clients need our services.

<sup>1)</sup>The authors appreciate thoughtful comments provided by Joan Burlingame on these issues.



## Conclusion

The findings of this study indicate that there are a number of important obstacles to the measurement of outcomes in therapeutic recreation practice. Despite the interesting results of this study, certain methodological issues must be considered. Specifically, this study was conducted with a convenience sample using correlational data analyses, so generalization should be done with caution and causality cannot be established. In addition, the survey instrument to assess constraints variables lacks validity and reliability, and, therefore, cautious interpretation should be in order. Further, this study only counted the use of FIM or LCM as a standardized measure of outcomes to determine the use of the outcome instrument. There should have been practitioners in the sample using other standardized outcome measures and agency-specific instruments. At the same time, this study represents an initial step to facilitating outcome measurement in TR practice. It seems imperative that if we are to advance outcome measurement, then the profession must devote energies to the development of valid and reliable outcome measures, and integrate outcome measurement into the nature of "practice." Further study warrants examining constraints associated with outcome measurement in other therapeutic recreation settings with appropriate sample strategies. Perhaps, application of the in-depth interviewing with recreational therapists working in diverse treatment settings may provide greater details in terms of understanding constraints related to outcome measurement. Based on the results from this type of qualitative data will help develop better instrument to measure various constraints variables.

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