

# **A New Phase for the NATSAP PRN: Post-Discharge Reporting and Transition to Network Wide Utilization of the Y-OQ 2.0**

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The NATSAP Practice Research Network (PRN) was established in 2007 in order to develop a foundation of outcomes-based evidence for programs providing support to youth facing emotional and behavioral challenges (Young & Gass, 2008). The NATSAP PRN was seen as a cost-effective tool to provide outcome data used to indicate the successes and shortcomings of NATSAP programs as an industry group. The outcomes were also accessible by individual programs, providing credible and confidential feedback on the effectiveness of that particular program relative to other programs. The NATSAP PRN has continued to establish support for the effectiveness of NATSAP programs in the past five years, but many questions still remain about the “true” outcomes achieved by these programs. As the PRN works towards helping to answer these questions regarding program effectiveness, the network seeks to demonstrate that the treatment models implemented by participating organizations may be considered evidenced-based practice (Young & Gass, 2010, Tucker, Zelov & Young, 2011).

During the past two decades, there has been an increased focus in the behavioral health community on delivering evidence-based practice (EBP). Some of those practices, such as motivational interviewing and psychoeducational-supported employment, are now common practice in many behavioral health settings (Surface, 2009). The term ‘evidence-based practice’ was originally used to describe a process. However, it has started to be used to refer to any practice that has some form of acceptable evidence that supports the treatment model (Surface, 2009). Consequently there is confusion in the literature and among mental health practitioners, and when the term is used, it is often the specific evidence-based practices, not the process that is being mentioned (Surface, 2009). In medical research—where

## POST-DISCHARGE REPORTING

the term EBP was first coined—randomized clinical trials are considered the gold standard of research (Stetler, 2001; Stetler, 2010). In therapeutic settings, where medicine is not the variable being examined, it becomes more difficult to directly test a particular intervention or model. In response to this, several organizations have created systems and rubrics (NREPP, 2012; Gass, Gillis, & Russell, 2012) that evaluate the reliability and generalizability of interventions.

The Substance Abuse and Mental Health Services Administration (SAMHSA) has developed a website that serves as a portal for their National Registry of Evidence-based Programs and Practices (NREPP, <http://www.nrepp.samhsa.gov>). Inclusion on this list is determined by six Quality of Research (QOR) factors shown in Table 1. Each of these is scored on a 0-4 scale by a team of reviewers and each outcome is rated separately as needed (NREPP, 2012). A successful review by NREPP is a significant milestone in the development of mental health and substance abuse treatment interventions. Submission for review requires one or more positive behavioral outcomes ( $p \leq .05$ ) using experimental or quasi-experimental designs that have been published in a peer-reviewed journal or documented in a comprehensive evaluation, as well as having implementation and quality assurance materials ready for use by the public (NREPP, 2012). NREPP registry programs enjoy a level of increased sustainability and recognition in the mental health field due to the rigorous evaluation that they undergo. This is tied to the fact that many government funding and insurance organizations require that any money used for treatment may only support interventions that have a proven impact on participants.

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**Table 1**  
*Quality of Research Rubric*

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Elements of Quality	
Reliability of measures	Outcome measures should have acceptable reliability to be interpretable. “Acceptable” here means reliability at a level that is conventionally accepted by experts in the field.
Validity of measures	Outcome measures should have acceptable validity to be interpretable. “Acceptable” here means validity at a level that is conventionally accepted by experts in the field.
Intervention fidelity	The “experimental” intervention implemented in a study should have fidelity to the intervention proposed by the applicant. Instruments that have tested acceptable psychometric properties (e.g., inter-rater reliability, validity as shown by positive association with outcomes) provide the highest level of evidence.
Missing data and attrition	Study results can be biased by participant attrition and other forms of missing data. Statistical methods as supported by theory and research can be employed to control for missing data and attrition that would bias results, but studies with no attrition or missing data needing adjustment provide the strongest evidence that results are not biased.
Potential confounding variables	Often variables other than the intervention may account for the reported outcomes. The degree to which confounds are accounted for affects the strength of causal inference.
Appropriateness of analysis	Appropriate analysis is necessary to make an inference that an intervention caused reported outcomes.

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In order to develop the level of professionalism and respectability seen in successful submissions to NREPP, the NATSAP PRN has continued to grow and evolve in its level of sophistication and the depth of analyses it is able to perform. While its initial studies provided a snapshot of the populations that were attending the programs (Young & Gass, 2010), more recent research shows that there are clinically and statistically significant positive outcomes gained during the course of treatment (Tucker et al., 2011). Continued data collection has enabled the researchers to add to the previous findings and include post-treatment data, which is a key component for demonstrating intervention effectiveness and is a necessary part of establishing an intervention as EBP. This level of research continues towards the goal of measuring outcome data from contributors to the NATSAP PRN and increasing confidence in past research and generalizability. The focus of this paper is on reporting one-year post discharge findings as well as continuing to report changes from admission to discharge for contributing NATSAP programs.

## Methods

### Measures

The NATSAP programs participating in this study gathered psychosocial client information from multiple sources. The NATSAP PRN currently employs the Outcome Questionnaire Family of Instruments (OQ) (Burlingame et al., 2005; OQ Measures, 2011; Wells, Burlingame, & Rose, 2003). The Y-OQ-SR 2.0 and the Y-OQ 30 SR are self-report instruments filled out by youth ages 11 to 19. The Y-OQ 2.0 and Y-OQ 30 instruments were also completed by parents and guardians at admission and discharge (Burlingame et al., 2005; Wells et al., 2003). The Y-OQ 2.0 weighs a variety of behavioral and emotional ranges and possesses a variety of subscales. Unlike the Y-OQ 2.0, the Y-OQ 30 does not have a differentiation of subscales but is a briefer version that provides a global index score of youth's behavioral and emotional distress (Burlingame et al., 2005; Wells et al., 2003). The OQ assessments possess established normative scores with documented validity and reliability (Holloway, 2004; Jones, 2004; Lambert et al., 1996; Mueller, Lambert, & Burlingame, 1998; Wells et al., 2003).

Programs participating in the NATSAP PRN previously had the option to use the Y-OQ 2.0 or the shorter Y-OQ 30 version; however, the decision was made to no longer use the Y-OQ 30. The Y-OQ 2.0 allows for clinicians, programs, and researchers to assess how treatment is impacting client functioning not only on a general level, but across six domains of functioning including: interpersonal distress; somatic; interpersonal relations; critical items; social problems; and behavioral dysfunction (Burlingame et al., 2005). The increased specificity of the YOQ 2.0 in comparison to the general functioning assessment provided by the YOQ 30 provides clinicians with a deeper understanding of the issues their clients are facing, and allows researchers to pursue more detailed investigations. In addition, the PRN transitioned during the past year from its use of CarePaths as a data management system to OutcomeTools, an online data-management system designed by

## POST-DISCHARGE REPORTING

the creators of BestNotes, a commonly used client management tool for NATSAP programs. Ease of data entry has increased; hence time needed to administer and enter data from the Y-OQ 2.0 was decreased. As of July 2011, the participating programs began the transition to using only the Y-OQ 2.0 for youth and parents.

In addition to the standardized instruments, customized questionnaires were completed by program staff (e.g., reasons for referral, referral source, admission date, gender, date of birth, and record of abuse), clients (e.g., attitude toward program and drug/alcohol use), and parent/guardians (e.g., previous treatment history, recent school performance, client drug/alcohol use). Copies of all questionnaires used can be viewed at the NATSAP website (<http://natsap.org/resources-for-natsap-research-and-evaluation-network-program-research-coordinators/>).

### The Sample

Data were collected on 2,669 clients admitted to 22 residential programs between December 2007 and May 2012. All 22 of the programs were predominantly private-pay facilities and were all NATSAP members. Of the 2669 clients, 1723 of these clients originally completed the Y-OQ 30 at admission, all of whom were Outdoor Behavioral Healthcare clients. As discussed by Tucker, Zelov & Young (2011), approximately 886 of these clients also completed discharge data with an attrition rate of 48%. This study is a continuation of Tucker et al. (2011) presenting the post-discharge data for this sample. In addition, it presents the admission and discharge data for all of the Y-OQ 2.0 youth and parent data collected to date.

The clients in this study came predominantly from RTC programs (63.0%) and the remainder from Therapeutic Boarding Schools (19.8%), and OBH (16.4%). The majority of the study sample was male (49.8%,  $n = 464$ ) with 45.8% ( $n = 433$ ) of the clients being male. The average age of the clients in this study sample was 15.8 years ( $SD = 1.6$ ), with 95.2% of the clients between the ages of 13 and 18 years of age. For the 946 clients for whom there is admission data via the Y-OQ 2.0 the most common primary presenting issues were depression 24.4% and attention issues (Attention Deficit Hyperactivity Disorder or Attention Deficit Disorder), followed by learning disabilities (15.9%), anxiety (14.3%), and alcohol and substance abuse (14.0%) (see Table 2).

## Findings

### Discharge Data

**Youth self report.** As discussed previously, the PRN is transitioning away from the Y-OQ 30 and utilizing the Y-OQ 2.0 for all participants regardless of program type. Table 3 reports the findings of all the Y-OQ 2.0 YSR matched pairs of data as of May 2012. Discharge data was collected from both RTC ( $N = 132$ ) and OBH ( $N = 74$ ) participants at the end of their programs; Table 3 provides a complete description of the mean scores at admission and discharge on Y-OQ 2.0 measures for youth in both treatment

**Table 2**  
*Presenting Issues of Residential Participants (N=964)*

Issue	n	%
Depression	231	24.4
Attention Issue (ADHD/ADD)	208	22.0
Learning Disabilities	150	15.9
Anxiety	135	14.3
Alcohol and Substance Abuse	132	14.0
Other	100	10.6
Oppositional Defiant Disorder/Conduct Disorder (ODD/CD)	62	6.6
Trauma	62	6.6
Autism	10	1.1
Two or more issues	455	48.1
Missing Data re: Presenting Issues	503	53.2

groups. OBH data is limited due to the recent change over from the Y-OQ 30 to the 2.0. Paired samples t-tests were completed as well as effect sizes (*d*) and their confidence intervals for each analysis. Effect sizes measure the strength of a relationship across groups and are used to make numeric comparisons between different findings and their overall treatment effects. Effect sizes are considered to be small when .20 or less, medium at .50 and large when greater than .80 (Cohen, as cited by Gillis & Spielman, 2008). When looking at youth self reports, statistically significant differences as well as large effect sizes were found on all measures (see Table 3). Higher scores correlate with higher levels of dysfunction in the lives of the youth.

To help track client outcomes as well as client progress, clinical cut-off scores were calculated by the instrument developers who compared scores from a normative sample to two clinical samples of inpatient and outpatient populations (Burlingame et al., 2005; Wells et al., 2003). Based on these cut-offs, all of the mean admission scores for the Y-OQ 2.0 SR for youth from OBH as well as RTC programs were within the range of clinical dysfunction for the participants; however, after participating in their residential programs, all of the discharge means were considered to be within the non-clinical range of functioning, except for the mean post score for Social Problems for OBH youth, which was just above the clinical cut off of 3.0. In addition to cut-off scores, a reliable change index (RCI) (Jacobsen & Truax, 1991) was derived for all Y-OQ measures (and subscales) to determine if clients had made significant changes in their symptoms, because statistical significance does not always equate with clinical significance. For an individual's total score to be considered clinically recovered according to the Y-OQ 2.0 SR the change for the total score must be 13 points or greater (with varying levels for the subscales) in addition to post treatment scores falling below the clinical cut-offs for each score (Burlingame et al., 2003; OQ Measures, 2011). As shown in bold on Table 3, total scores for RTC and OBH youth reflect scores of significant clinical recovery. In addition, all subscales for

## POST-DISCHARGE REPORTING

**Table 3**  
Y-OQ YSR 2.0 Mean Scores at Admission and Discharge

	$M_{Admission}$ (SD)	$M_{Discharge}$ (SD)	$t$	$d$	95% CI (lower - upper)
<b>Residential Treatment Centers (N=132)</b>					
Total Score	82.5 (35.8) <sup>a</sup>	<b>35.0(31.6)</b>	14.24***	1.58	-4.53 - 6.97
Critical Items	9.0 (5.6) <sup>a</sup>	<b>3.9(3.3)</b>	9.41***	1.22	0.26 -1.78
Behavioral Dysfunction	18.0(11.5) <sup>a</sup>	<b>8.4(7.5)</b>	8.68***	1.10	-0.86 - 2.38
Social Problems	9.0 (8.5) <sup>a</sup>	<b>1.3(4.4)</b>	10.33***	1.38	-0.07 - 2.13
Interpersonal Relations	9.1 (8.0) <sup>a</sup>	<b>1.0(6.6)</b>	12.49***	1.41	0.05 - 2.54
Somatic	8.6(5.2) <sup>a</sup>	<b>4.9(4.3)</b>	8.40***	1.04	0.15 - 1.77
Intrapersonal Distress	29.7(13.6) <sup>a</sup>	<b>14.1(10.8)</b>	13.0***	2.46	-0.86 -3.30
<b>Outdoor Behavioral Health- care (N=74)</b>					
Total Score	70.5(38.6) <sup>a</sup>	<b>36.9(32.3)</b>	7.94***	1.31	-7.48 - 8.67
Critical Items	8.5(6.4) <sup>a</sup>	5.0(4.9)	5.28***	1.90	-0.56 - 2.02
Behavioral Dysfunction	14.9(7.7) <sup>a</sup>	9.2(8.1)	6.21***	1.02	-0.74 - 2.86
Social Problemas	8.2(5.2) <sup>a</sup>	3.1(4.9) <sup>a</sup>	7.52***	1.24	0.05 - 2.35
Interpersonal Relations	6.1(5.7) <sup>a</sup>	<b>1.9(5.4)</b>	5.74***	0.93	-0.37 - 2.16
Somatic	8.2(5.8) <sup>a</sup>	<b>4.4(4.0)</b>	5.88***	0.99	-0.33 - 1.90
Intrapersonal Distress	25.0(15.1) <sup>a</sup>	<b>13.6(11.7)</b>	7.03***	1.18	-2.26 -3.84

\*\*\* $p < .001$

<sup>a</sup>Scores above the clinical cut-off which reflects dysfunction.

**Bold scores** represent changes considered to be clinically recovered.

RTC youth (Social Problems, Interpersonal Relations, Intrapersonal Distress) reflected clinical recovery. Youth in OBH had changes reflecting recovery on the subscale for Intrapersonal Distress, Somatic, Interpersonal Relations and approached this level for the Social Problems subscale.

**Parent reports.** Similar to the youth self-report data, parents of youth at RTCs and OBH programs used the Y-OQ 2.0 with its subsequent subscales. Overall, admission and discharge data were available from 112 parents of youth in RTCs and 39 parents of youth in OBH programs for a total of 151 parents reporting. OBH parent data is limited due to the recent change over from the Y-OQ 30 to the 2.0. Table 4 provides a complete description of the mean scores at admission and discharge for OBH and RTC youth. Paired samples t-tests were completed and statistically significant differences were found on all measures, as well as high effects sizes (see Table 4).

Based on the clinical cut off scores for the parent forms, at admission parents reported their children to be functioning at a level of clinical concern or deviant from a non-clinical population of peers on all of the measures. After participating in residential programs, however, all of the discharge means were considered to be within the non-clinical range of functioning. Unlike what youth reported, parents reported not only statistically significant changes, but changes that were large enough to be

## POST-DISCHARGE REPORTING

considered clinically significant according to the measure's reliable change index (RCI) on almost all measures (Wells et al., 2005; OQ Measures). As shown in bold on Table 4, the means of all of the scores except Somatic for OBH youth were considered to reflect areas of functioning as reported by the parent in which the youth had shown clinically significant changes.

**Table 4**  
*Parent Y-OQ Mean Scores at Admission and Discharge*

	<i>M</i> <sub>Admission</sub> (SD)	<i>M</i> <sub>Discharge</sub> (SD)	<i>t</i>	<i>d</i>	95% CI (lower - upper)
Y-OQ 2.0 Parent Scores for RTC Youth (N=112)					
Total Score	99.1(32.9) <sup>a</sup>	<b>30.8(29.4)</b>	17.83***	2.38	-3.71 - 7.82
Critical Items	11.8(5.9) <sup>a</sup>	<b>2.7(4.4)</b>	14.17***	1.89	0.80 - 2.72
Behavioral Dysfunction	27.4(12.1) <sup>a</sup>	<b>8.8(5.7)</b>	14.04***	2.58	0.34 - 6.64
Social Problems	8.8(5.6) <sup>a</sup>	<b>2.3(4.2)</b>	10.12***	1.38	0.35 - 2.16
Interpersonal Relations	14.0(6.7) <sup>a</sup>	<b>1.6(6.0)</b>	16.90***	2.26	1.02 - 3.37
Somatic	8.7(5.3) <sup>a</sup>	<b>3.6(3.3)</b>	10.97***	1.56	0.57 - 2.17
Intrapersonal Distress	28.7(12.2) <sup>a</sup>	<b>10.2(8.2)</b>	13.78***	1.87	-0.39 - 3.39
Y-OQ 2.0 Parent Scores for OBH Youth (N=39)					
Total Score	95.6(27.3) <sup>a</sup>	<b>28.8(36.9)</b>	10.75***	2.49	-6.08 - 14.07
Critical Items	8.8(4.8) <sup>a</sup>	<b>3.8(4.7)</b>	7.27***	1.68	0.17 - 3.15
Behavioral Dysfunction	22.0(6.5) <sup>a</sup>	<b>6.7(8.4)</b>	10.70***	2.47	0.43 - 5.11
Social Problems	12.9(5.5) <sup>a</sup>	<b>2.7(5.1)</b>	8.87***	2.02	0.29 - 3.62
Interpersonal Relations	14.4(5.9) <sup>a</sup>	<b>2.4(6.3)</b>	9.85***	2.22	0.37 - 4.20
Somatic	7.1(4.4) <sup>a</sup>	2.7(3.5)	5.78***	1.32	-0.06 - 2.42
Intrapersonal Distress	30.5(11.0) <sup>a</sup>	<b>10.6(12.8)</b>	8.57***	1.95	-1.50 - 5.97

\*\*\**p* < .001

<sup>a</sup>Scores above the clinical cut-off which reflects dysfunction.

**Bold scores** represent changes considered to reflect clinical recovery.

### Post-Discharge Data

**OBH.** Post-discharge data were also collected from students (*N* = 98) and parents (*N* = 39) from OBH programs using the Y-OQ 30 six months or more after the end of their programs (see Table 5). A repeated measures ANOVA determined that mean Y-OQ 30 scores for both YSR and parents differed statistically significantly between time points. Mauchly's Test of Sphericity indicated that the assumption of sphericity had been violated for both Total Scores, hence a Greenhouse-Geisser correction was used on those items. Bonferroni post hoc tests revealed that youth and their parents reported a decrease in youth's level of dysfunction from admission to discharge and that it did not change significantly from that discharge to post-discharge, suggesting that this change was maintained over time. It is important to note that of the 886 pairs of YSR reported by Tucker et al. (2011), only 98 youth reports were collected at post-discharge reflecting an attrition rate of 89.9% and out of the original 171 paired admission to

## POST-DISCHARGE REPORTING

discharge data for parent reports, data was only collected post-discharge from 39 parents with an attrition rate of 77.1%

**Table 5**

*Admission, Discharge and Post-Discharge Mean YOQ 30 Scores for OBH Participants*

	$M_{Admission}$ (SD)	$M_{Discharge}$ (SD)	$M_{Post-Discharge}$ (SD)	F	Partial $\eta^2$
Youth SR (N=98)	40.0 (16.5) <sup>a</sup>	<b>23.4(15.2)</b>	24.8 (14.6)	51.73***	0.35 <sup>†</sup>
Parent (N=39)	55.9 (19.8) <sup>a</sup>	<b>28.6(16.0)</b>	28.0 (16.4)	35.81***	0.49 <sup>†</sup>

\*\*\* $p < .001$

<sup>a</sup> Scores above the clinical cut-off which reflects dysfunction.

**Bold scores** represent changes considered to reflect clinical recovery.

<sup>†</sup> Indicates that sphericity was violated and that a Greenhouse-Geisser correction was used.

**RTC.** For participants in RTC programs, YSR data were collected from 29 youth post-discharge, reflecting an attrition rate of 72.1% of 104 pairs of Y-OQ 2.0 YSR admission and discharge data reported by Tucker et al. (2011). For this data, repeated measures ANOVA analyses reported that the means for the total score and the subscales differed significantly across time points (see Table 6). Mauchly's Test of Sphericity indicated that the assumption of sphericity had been violated for several subscales (Critical Items, Social Problems, and Behavioral Dysfunction) therefore a Greenhouse-Geisser correction was used on those items. Post-hoc analyses highlighted significant differences in mean scores between admission and discharge, but no significant differences between discharge and post-discharge suggesting maintenance of change across time.

**Table 6**

*Y-OQ 2.0 Scores from Youth in Residential Treatment Centers (N=29)*

	$M_{Admission}$ (SD)	$M_{Discharge}$ (SD)	$M_{Post-Discharge}$ (SD)	F	Partial $\eta^2$
Total Score	84.5(34.3) <sup>a</sup>	<b>37.0(31.2)</b>	<b>41.1(34.0)</b>	28.56***	.51
Critical Items	9.8(6.1) <sup>a</sup>	<b>4.1(3.2)</b>	<b>4.4(3.9)</b>	19.17***	.41 <sup>†</sup>
Behavioral Dysfunction	20.0(17.2) <sup>a</sup>	<b>10.2(8.1)</b>	<b>10.9(9.4)</b>	7.08**	.20 <sup>†</sup>
Social Problems	11.6(11.2) <sup>a</sup>	<b>1.7(3.7)</b>	<b>2.8(4.8)</b>	19.66***	.41 <sup>†</sup>
Interpersonal Relations	10.2(8.3) <sup>a</sup>	<b>1.6(7.5)</b>	<b>2.9(6.7)</b>	21.39***	.43 <sup>†</sup>
Somatic	7.5(5.5) <sup>a</sup>	4.4(4.0)	3.8(3.1)	8.59***	.24
Intrapersonal Distress	29.2(13.4) <sup>a</sup>	<b>14.8(11.0)</b>	16.8(12.0) <sup>a</sup>	1.71***	.44

\*\*\* $p < .001$

<sup>a</sup> Scores above the clinical cut-off which reflects dysfunction.

**Bold scores** represent changes considered to reflect clinical recovery.

<sup>†</sup> Indicates that sphericity was violated and that a Greenhouse-Geisser correction was used.

## Discussion

Based on the current findings, programs that are contributing to the NATSAP PRN continue to show a trend toward positive changes from admission to discharge for participating youth. This trend is substantiated by the youth who are self-reporting as well as parents who are submitting data regarding their children. Based on the Y-OQ 2.0 and Y-OQ 2.0 SR measures,



not only did the youth exhibit marked improvement from admission to discharge, all of their subscale scores were considered above the cut off for clinical dysfunction at intake, and all but one (OBH Social Problems, cutoff = 3.0 and score was 3.1) were below this cut off at discharge. In most instances youth scores also improved enough to be considered clinically significant as well, which indicates that on average, youth entered NATSAP programs with clinically significant levels of dysfunctional behavior and reported behaviors within the normal range of functioning at discharge. For youth self-report and parent report Y-OQ 2.0 from RTC programs, all subscales decreased to a level that reflected healthy, non-deviant behavior. The same was true for parent assessment from OBH programs. These clinically significant changes determined according to Y-OQ benchmarks were also supported statistically by large effect sizes; all were above 1.0.

Regardless of setting (RTC or OBH), youth reported on average to be significantly and clinically improved at discharge, however, self-report scores in OBH programs did not show the same clinical changes observed in other groups. Differences with the parent report data has been attributed in the past to differences in reporting tendencies between parents and youth (Achenbach & Edelbrock, 1991; Behrens & Satterfield, 2006; Gass, 2005; Russell, 2003; 2005; Young & Gass, 2010), but could also be due to differences in the participants who are attending the two types of programs. The admission self-report scores from OBH and RTC programs differ significantly on the total score and the Behavioral Dysfunction, Interpersonal Relations, and Intrapersonal distress, with OBH scores being lower at admission. At discharge those same items are no longer significantly different. Hence, both OBH and RTC clients were functioning at similar levels of positive functioning at discharge. Research comparing OBH and RTC program participants and their relative admission scores is non-existent. Even though this is a pattern that has been reported on in previous iterations of this study (Tucker et al., 2011), it is not clear what significance they hold. It appears based on this data that individuals going to RTC programs were more acute in their level of dysfunction and therefore had more room to improve during the course of treatment.

The post-discharge data showed that on average the significant improvements during the course of treatment discussed above are maintained; neither youth nor their parents reported post-discharge scores that indicated a significant difference from discharge. All of the subscales except one (Intrapersonal Distress) stayed below the clinical cutoff level at six months or more. It is of note that all of the subscales showed statistically large effects sizes (partial  $\eta^2$ ) that were greater than .20. At this time there was not sufficient parent data in order to make meaningful comparisons, because only parent data from OBH programs was available for analysis with low responses from RTC parents.

### **Limitations and Future Directions**

The findings of this study and others by the NATSAP PRN continue to

## POST-DISCHARGE REPORTING

demonstrate consistent clinical improvements in clients according to both youth and parents. Although the findings remain positive, it is important to be aware of the limitations among these outcomes. As the previous study addressed (Tucker et al., 2011), issues of large variances and their impact on effect sizes continue to appear during analysis. Although the trend is towards success, it should be noted that it was not achieved for all of the participants and these findings should not be applied universally to all youth in these programs.

The NATSAP PRN still faces challenges common to similar organizations regarding recruitment and generalizability, measurement validity, managing relationships with members, and ongoing program support (McMillan, Lenze, Hawley, & Osborne, 2009). In terms of recruitment and generalizability, it is important to point out that the data included in this study came from 22 of the NATSAP member programs and represents only a small sample of the field. Hence, these findings should not be considered representative of all NATSAP programs. In fact, the outcomes may be more due to one or two programs than as an overall model. The findings that have been observed continue to be positive, but they are only able to point towards the possibility that these programs may be successful enough to qualify for model treatment status. It is anticipated that this will improve now that the transition to OutcomeTools as the data collection software is complete. For example, the number of complete admission entries increased twofold within the first six months after the transition to Outcome Tools.

One of the primary limitations of these findings involves the validity and reliability of data. While the OQ measures have shown to have consistently strong reliability and validity, a lack of consistent data entry in terms of demographics and presenting issues at intake by participating programs limited the ability to truly understand how these independent variables impacted changes in youth functioning. Less than half of the participants in the study sample had this basic information, which is provided by the program. Despite this, during the past year there has been a dramatic shift in this trend, as with the use of OutcomeTools total numbers of complete entries has risen. It is anticipated that this limitation will be minimized in the future.

Attrition at discharge limited the size of the matched data and the confidence in the findings. Since it was unclear why discharge assessments were not completed, it cannot be ruled out that those participants who did not complete discharge assessments were more acute or did worse than others for whom this data were collected. Another possibility is that some of the participants are still in treatment since the PRN is an ongoing process rather than a completed study. This is particularly salient for those that are in RTCs, which tend to have a significantly longer average length of treatment. A third option is lost data; one of the negatives that was discussed in switching to OutcomeTools was the potential loss of data during the transition from one system to the other. This certainly does not

## POST-DISCHARGE REPORTING

account for all the attrition observed, but it may account for a significant portion. While it is regrettable to lose any data it appears that it will be mitigated by the increases that will be seen in the long term due to ease of entry.

If the goals of the NATSAP PRN are to be fully realized, these issues need to be addressed. Significant progress in these regards has been made with the implementation of OutcomeTools. Significant increases have been seen in the number of admission assessments submitted to the database, with similar increases in the number of complete demographic information forms submitted since the move to the new online assessment package in July 2011. This development has addressed some of the previous concerns discussed regarding PRNs and the challenges they face (McMillan et al., 2009; Tucker et al., 2011).

Another key element for success is continued PRN recruitment and development. Many individual organizations are eager to join and participate with the initiative, but when it comes to implementation on an individual level it becomes necessary to develop the protocol for this as they go. Having increased resources in the form of outlines or models for implementation could help programs that do not have a significant research presence develop their own method for gathering data in a more efficient manner.

The NATSAP PRN has continued to show the potential to produce significant network-wide program outcomes and is closer to becoming a valid method for evaluating change. While it has areas where growth is still needed, the positive nature of the post-discharge outcomes reported here was a significant step. Future areas of growth should focus on continuing to improve the consistency of data entry, particularly discharge and post-discharge data, and increasing the rate of participation of programs. The growth of the NATSAP PRN shows great promise and only with proper care and guidance will the tokens of greater success be redeemed for the full return.

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