

Running Head: CLINICIAN DEMOGRAPHICS AND PROMS

**Patient reported outcome measures in child and adolescent mental health services:
Associations between clinician demographic characteristics, attitudes, and efficacy**

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Abstract

Background: Policy recommends using patient reported outcome measures (PROMs) yet their use is persistently low. Our aim was to examine the association between PROM use and clinician demographic characteristics, attitudes, and efficacy. **Method:** A sample of $N=109$ clinicians completed an online survey. **Results:** Clinicians who reported higher levels of use of cognitive behaviour or humanistic approaches had higher levels of PROM use than clinicians who reported lower levels of use of these approaches. Clinicians who reported having received training had higher levels of self-efficacy regarding PROMs than clinicians who reported not having received training, but the effects of training on PROM attitudes and use were not significant. Still, clinicians with more positive attitudes or self-efficacy regarding PROMs had higher levels of PROM use than clinicians with less positive attitudes or self-efficacy regarding PROMs. **Conclusion:** Clinicians should be supported to have the knowledge, skills, and confidence to effectively use PROMs in their clinical practice.

Keywords: Outcome, Qualitative methods, Implementation, Demography

Key practitioner message:

- There remains a persistent gap between policy drivers to use patient reported outcome measures (PROMs) and feedback and actual use in clinical practice.
- In an online survey, positive attitudes or self-efficacy regarding PROMs, and cognitive behaviour or humanistic approaches, were associated with higher levels of PROM use. Effective technology and information systems and the opportunity to gain practical experience of using PROMs and feedback may support clinicians to use measures when it is clinically meaningful to do so.

**Patient reported outcome measures in child and adolescent mental health services:
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The use of patient reported outcome measures (PROMs) to review treatment progress is an evidence-based intervention recommended by healthcare systems internationally, particularly in child and adolescent mental health services (CAMHS) in England (Department of Health, 2011; SAMHSA's National Registry of Evidence-based Programs and Practices, 2015).

PROMs may help to identify patients who are not responding to therapy as expected—and consequently may be more likely to disengage with treatment—by promoting communication between the patient and the clinician (Carrier, Meuldijk, Van Vliet et al., 2012; Chen, Ou, & Hollis, 2013; Wolpert, Ford, Trustam et al., 2012). Evidence suggests that regularly reviewing feedback from measures may be associated with higher levels of treatment effectiveness, treatment efficiency, and collaborative practice—in particular, greater awareness of children and young people's perspectives (Bickman, Kelley, Breda et al., 2011; Gondek, Edbrooke-Childs, Fink et al., 2016; Knaup, Koesters, Schoefer et al., 2009; Oanes, Anderssen, Borg et al., 2015). Still, evidence suggests that the routine use of PROMs in clinical practice remains persistently low (Batty, Moldavsky, Foroushani et al., 2013; Johnston & Gowers, 2005; Mellor-Clark, Barkham, Connell et al., 1999).

Recent evidence has found that the use of PROMs and feedback from measures may be more likely when children present with more common problems such as anxiety and mood problems but less likely with more complex cases, such as those involving youths under state care or those in need of social service input (Edbrooke-Childs, Gondek, Deighton et al., 2016; Moran, Kelesidi, Guglani et al., 2011; Wolpert, Curtis-Tyler, & Edbrooke-Childs, 2014). The use of PROMs and feedback may be less likely with complex cases as measures may not be perceived to capture the complexity of presenting difficulties. In addition, establishing a

therapeutic rapport is an important facilitator to the use of PROMs (Stasiak, Parkin, Seymour et al., 2013), which may be more challenging in complex cases, and therefore PROMs may be less likely to be used. Moreover, parents are less likely to routinely complete measures when their child has high comorbidity, they have weaker therapeutic alliance, or they are a single parent or have higher educational attainment (Lamers, van Nieuwenhuizen, Siebelink et al., 2015). Nevertheless, evidence on clinician characteristics associated with the use of PROMs is still needed.

PROMs can be used during three phases of treatment (Law & Wolpert, 2014). First, during assessment or choice, PROMs can be used to help clinicians understand patients' reasons for attending CAMHS, their presenting problems, and their goals for therapy, potentially providing useful information; evidence suggests that young people, parents, and clinicians may have different perceptions of reasons for attending services and presenting problems after an initial assessment (Yeh & Weisz, 2001). Second, PROMs can be used during ongoing treatment sessions to review therapeutic alliance and to monitor change in symptoms (Law & Wolpert, 2014) or in other words, "Without direct feedback on how their clients are progressing, clinicians are essentially wearing a blindfold while shooting at a target" (Sapyta, Riemer, & Bickman, 2005) (p.152-153). Third, in the closing stages of therapy, PROMs can be used to review symptoms and progress to determine whether further interventions are required and to examine patients' experience of care and services.

Evidence suggests that the use of feedback from measures in at least one of these phases of treatment may be beneficial. In particular, the majority of clinicians believe that providing patients with feedback based on assessment measures benefits patient insight, experience, and involvement (Smith, Wiggins, & Gorske, 2007). As primarily assessment tools, clinicians report that PROMs could be used to help target treatment to the needs of the family (Wolpert et al., 2014). Clinicians in adult mental health services report being initially anxious and resistant to using PROMs but nevertheless, that PROMs facilitate the patient-

clinician relationship by promoting communication, suggesting that experience of using measures may help ameliorate negative attitudes (Unsworth, Cowie, & Green, 2012).

The mechanisms by which feedback may be effective are still largely unclear. However, theory suggests that for PROMs to inform treatment, feedback first needs to be accepted by a clinician and/or patient as valid and then a comparison can be made between actual and desired performance, such as between current progress and expected recovery (Kluger & De Nisi, 1996). A discrepancy may trigger cognitive dissonance, motivating clinicians and/or patients to alter their behaviour; discrepancies should mainly occur when patients are not responding to treatment as expected and therefore, therapy with these patients is expected to benefit the most from feedback (de Jong, 2014; Riemer, Rosof-Williams, & Bickman, 2005). To reduce this discrepancy, a change in treatment may be needed, such as re-formulating therapeutic goals (Carlier et al., 2012; Greenhalgh, Abhyankar, McCluskey et al., 2013).

Despite these positive attributes, a number of barriers to using PROMs have been identified (Boswell, Kraus, Miller et al., 2013; Douglas, Button, & Casey, 2014; Mellor-Clark, Cross, Macdonald et al., 2014). Barriers pertain to three main areas (Badham, 2011; Batty et al., 2013; Martin, Fishman, Baxter et al., 2011; Moran et al., 2011; Norman, Dean, Hansford et al., 2013; Stasiak et al., 2013; Wolpert et al., 2014). First, the content of measures in terms of their structured format, the focus on problems or deficits, and the inability to capture the complexity of the young person's experience and context. Second, the process of using measures, which may be seen as interfering with therapeutic engagement. Third, the outcome of using measures whereby data obtained from measures may be more relevant and useful to services than to patients.

Research suggests that clinicians may have predominantly negative attitudes towards PROMs. In particular, clinicians report feeling anxious and resistant toward outcome

measures (Unsworth et al., 2012) and being unwilling to use them even if doing so improved patient care (Walter, Cleary, & Rey, 1998). Survey and case note audit studies have found the use of measures at one time point to range from 65-87% but at more than one time point from only 16-40% (Batty et al., 2013; Johnston & Gowers, 2005; Mellor-Clark et al., 1999).

Evidence suggests that approaches to improving the use of PROMs may be effective, including support from a learning collaboration and training. In particular, a study found that the use of measures at more than one time point doubled from 30% to 60% with support from a learning collaboration (Hall, Moldavsky, Baldwin et al., 2013). Training clinicians in the use of measures and feedback has been shown to be associated with more positive attitudes and higher levels of self-efficacy related to using measures (Edbrooke-Childs, Wolpert, & Deighton, 2014). Alongside subjective norms—perceptions about peer approval of a behaviour—theory states that attitudes are an important predictor of intention and behaviour (Ajzen, 1985; Fishbein, 1975). Similarly, perceived behavioural control or self-efficacy—a person's beliefs about their ability to perform a behaviour—is also an important predictor (Bandura, 1995). In terms of PROMS, self-efficacy refers to beliefs about one's ability to administer, use, and interpret measures (Edbrooke-Childs et al., 2014).

Evidence supports these associations, and in a North American study, clinicians were found to be more likely to use outcome measures when they held positive attitudes to measures (Jensen-Doss & Hawley, 2010). Similarly, in a study from the Netherlands, clinicians were more likely to use feedback from outcome measures when they held a positive attitude to feedback (de Jong, van Sluis, Nugter et al., 2012). Moreover, in a qualitative study, clinicians reported being unlikely to use measures if they were uncertain over what they assessed or had low levels of self-efficacy about how they should be used (Norman et al., 2013).

Aims of the present research

Recent evidence has demonstrated an association between patient and parent characteristics with the use of PROMs (Edbrooke-Childs et al., 2016; Lamers et al., 2015; Moran et al., 2011; Wolpert et al., 2014). Nevertheless, evidence on the association between clinician characteristics and the use of PROMs is still needed. To this end, the aim of the present research was to examine the association between PROM use and clinician demographic characteristics, attitudes, and efficacy.

METHODS

Participants and procedure

The Tailored Design Method (Dillman, Smyth, & Christian, 2008) was used to develop and administer an online clinician survey. The survey was distributed using email circulation lists, with reminders sent two and four weeks after the initial request. Overall, the survey was distributed to 431 clinicians from six Trusts (organisations providing healthcare services) in the South of England with a 25% response-rate, slightly lower than the 33% expected from email surveys (Shih & Fan, 2009). The final sample therefore comprised $N = 109$ clinicians (85% female, median age = 35-44 years). A favourable ethical opinion was received from University of Hertfordshire Research Ethics Committee and the project was registered with local Trusts.

Measures

Therapeutic approaches. To measure therapeutic approaches, the Therapeutic Approaches Questionnaire (Skjulsvik, personal communication) was used. Clinicians were asked the initial question stem: "To what extent do you use the following therapy approaches?". Next, five approaches were then listed: "Psychodynamically oriented treatment methods; CBT, cognitive or behavioural treatment methods; Humanistic; Systemic; Other". Clinicians responded to each therapeutic approach on a five-point scale from never (0) to always (4). Internal consistencies for all measures were acceptable and are shown in Table 1.

PROM use. To measure PROM use, a bespoke measure of clinical use of PROMs was developed as we were unable to find an existing measure. Five items asked about the ways in which clinicians used PROMs in clinical practice. Clinicians were asked the initial question stem: “Below is a list of some of the ways Patient Reported Outcome Measures may be used. How often do you use measures in these ways?” Next, a list of activities was presented related to PROM use in clinical practice (e.g., “Reflecting on a patient’s problem or progress by looking at their scores”). Clinicians responded on a four-point scale from never (0) to always (3). Cronbach’s alphas for all measures are shown in Table 1, and they were all acceptable.

PROM attitudes. To measure PROM attitudes in clinical practice, the 23-item attitudes to Routine Outcome Assessment (ROA)² (Willis, Deane, & Coombs, 2009) questionnaire were used. The ROA captures general PROM attitudes to administering and using PROMs (e.g., “Outcome measures do not capture what is happening for my patients” reverse scored). Clinicians responded on a seven-point scale from strongly disagree (1) to strongly agree (7). The ROA has been used in previous studies and demonstrated acceptable reliability (Willis et al., 2009).

PROM self-efficacy. To measure PROM self-efficacy, an eight-item modified Routine Outcome Self-Efficacy (ROSE) questionnaire was used (Edbrooke-Childs et al., 2014). Clinicians were asked the initial question stem: “How well do you feel able to perform the following activities?” Next, a list of activities was presented related to PROM self-efficacy, which regards how outcome measures are used and administered (8 items; e.g., “Introduce the ideas around service user feedback and outcomes to children, young people and carers”). Clinicians responded to the activities on a six-point scale from not at all well (1) to extremely well (6).

Analytic strategy

To explore the associations between PROM use and clinician demographic characteristics, attitudes, and efficacy, two sets of analyses were conducted using the Statistical Package for the Social Sciences (SPSS Inc., 2009). First, to examine possible differences in PROM attitudes and self-efficacy between clinicians who reported having received training and those who did not, independent samples *t*-tests were computed. Second, to examine whether PROM attitude, self-efficacy, and training were associated with PROM use after controlling for demographic characteristics, hierarchical linear regressions were computed with PROM use as the dependent variable. In Step 1, demographic characteristics were entered, which included four dummy coded age variables (representing 18-24 years, 25-34 years, 35-44 years, and 45-54 years, with 55-64 years as the reference category), gender (coded 1 for female), years in role, and the five therapeutic approaches. In Step 2, PROM characteristics were entered, which included PROM attitudes, self-efficacy, and training (coded 1 for receipt of PROM training).

RESULTS

Differences associated with training

Table 1 shows the results of the independent samples *t*-tests. Mean scores for PROM use and PROM self-efficacy were higher for clinicians who reported having received training in the use of PROMs than for clinicians who reported not having received training. The effect sizes were medium (Cohen, 1988). However, there was not a significant difference in PROM attitudes between clinicians who reported having received training and those who reported not having received training.

[TABLE 1 HERE]

Hierarchical regressions

Demographic characteristics explained 23% of the variance in PROM use, as shown in Table 2. Clinicians who reported higher levels of use of CBT or humanistic approaches had higher levels of PROM use than clinicians who reported lower levels of use CBT or humanistic approaches ($F[11,97]=2.58, p=0.007$). Adding PROM in Step 2 explained an additional 31% of the variance in PROM use ($F[3,94]=21.05, p<0.001$). Clinicians with more positive attitudes or self-efficacy regarding PROMs had higher levels of PROM use than clinicians with less positive attitudes or self-efficacy regarding PROMs. However, despite clinicians who reported having received training having higher levels of PROM use than clinicians who reported not having received training, the effect was no longer significant after controlling for clinician demographic characteristics, PROM attitudes, and PROM self-efficacy.

[TABLE 2 HERE]

DISCUSSION

The aim of the present research was to examine the association between PROM use and clinician demographic characteristics, attitudes, and efficacy. Clinicians who reported higher levels of use of cognitive behaviour or humanistic approaches had higher levels of PROM use than clinicians who reported lower levels of use these approaches. This finding may highlight the emphasis of these therapeutic approaches on training in outcome measurement and the role of the individual's perceptions and values, meaning that the use of PROMs may be more in line with the underlying epistemology. Moreover, clinicians who reported having received training had higher levels of self-efficacy regarding PROMs than clinicians who reported not having received training, but the effects of training on PROM attitudes and use were not

significant. Still, clinicians with more positive attitudes or self-efficacy regarding PROMs had higher levels of PROM use than clinicians with less positive attitudes or self-efficacy regarding PROMs, and these effects accounted for a large portion of the variance in the regular use of PROMs in clinical practice.

Findings of the present research are in line with evidence that clinicians are more likely to use outcome measures when they hold a positive attitude to using measures (Jensen-Doss & Hawley, 2010) and that clinicians are more likely to use feedback from outcome measures when they hold a positive attitude to feedback (de Jong et al., 2012). Moreover, the finding that clinicians who reported having received training in the use of PROMs had higher levels of PROM self-efficacy is in line with evidence that training clinicians in the use of measures and feedback has been shown to be associated with higher levels of self-efficacy in using measures (Edbrooke-Childs et al., 2014).

The use of PROMs and feedback from measures may be more likely when children present with more common problems such as anxiety and mood problems but less likely with more complex cases, such as those involving youths under state care or those in need of social service input (Edbrooke-Childs et al., 2016; Moran et al., 2011; Wolpert et al., 2014). Moreover, parents are less likely to routinely complete measures when their child has high comorbidity, they have weaker therapeutic alliance, or they are a single parent or have higher educational attainment (Lamers et al., 2015). The findings of the present research add to the current literature by providing evidence on clinician characteristics associated with the use of PROMs. Findings of the present research should be considered in the context of limitations. First, the sample comprised clinicians from six Trusts, and although there was an active attempt to obtain data from a wide range of different Trusts, not all types of Trusts that exist in England were included in the study. Therefore, the findings of the present research may not be generalizable to clinicians working in CAMHS in other Trusts. Future research should

aim to capture a nationally representative sample of CAMHS clinicians. Second, the response rate was 25%, and clinicians who responded to the survey may have had different PROM use, attitudes, and self-efficacy than clinicians who chose not to participate. Future research should seek to capture a heterogeneous range of responses using random sampling. Similarly, another possible limitation is self-selection bias of the clinicians in regards to training; clinicians with more positive attitudes to PROMs may have been more likely to select to attend training in the first instance. There may also be discrepancies between clinicians' self-reported and actual use of measures, with findings from audits in CAMHS suggesting that self-reported use is higher than actual completion rates (Edbrooke-Childs, Calderon, Wolpert et al., 2015). Without a prospective controlled trial, inferences about causality cannot be made, and future research should examine if PROM training, attitudes, and self-efficacy predict actual use of PROMs in clinical practice over time. Finally, as discussed in the introduction, there are a range of barriers to using PROMs and feedback (e.g., patient motivation, technology, time) in addition to the clinician characteristics explored in the present research.

CONCLUSION

Notwithstanding the above limitations, the findings of the present research add to the extant literature by showing that clinicians who reported higher levels of use of cognitive behaviour or humanistic approaches had higher levels of PROM use than clinicians who reported lower levels of use of these approaches. In addition, clinicians with more positive attitudes or self-efficacy regarding PROMs had higher levels of PROM use than clinicians with less positive attitudes or self-efficacy regarding PROMs. Effective technology and information systems (e.g., Hall, Taylor, Moldavsky et al., 2014) and the opportunity to gain practical experience of using PROMs and feedback may support clinicians to use measures

when it is clinically meaningful to do so. Findings of the present research suggest that clinicians should receive ongoing support to have the knowledge, skills, and confidence to effectively use PROMs in their clinical practice, which in time may increase the sustained uptake of PROMs in CAMHS in England.

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Informed consent: Informed consent was obtained from all individual participants included in the study.

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Endnotes

¹ As the measure was developed in Australia, the word “client” was changed to “patient” to make the items more applicable to clinicians in mental health services in England, without changing the meaning of the items.

Table 1*Descriptive statistics for PROM use, attitudes, and self-efficacy*

	<i>M</i>	<i>SD</i>	<i>t</i>	<i>d</i>	α
PROM use					
1. Not trained ^a	1.89	0.49	2.82**	0.54	0.83
2. Trained ^b	2.19	5.81			
PROM attitudes					
3. Not trained	4.61	0.91	1.22		0.95
4. Trained	4.73	0.99			
PROM self-efficacy					
5. Not trained	3.16	1.34	2.36*	0.46	0.91
6. Trained	3.66	1.09			

Note. $n^a = 50$. $n^b = 59$. PROM = patient reported outcome measure.

* = $p < .05$, ** = $p < .01$.

Table 2

Hierarchical multiple regressions predicting use of PROMs with demographic characteristics and PROM attitudes, self-efficacy, and training

Steps and variables	PROM use	
	ΔR^2	β
Step 1: Demographic characteristics	.226**	
Age 18-24		-0.85
Age 25-34		-0.36
Age 35-44		0.50
Age 45-54		0.38
Female		0.07
Years in role		-0.12
Psychodynamic		-0.04
CBT		0.35***
Humanistic		0.36***
Systemic		-0.15
Other		-0.14
Step 2: PROM characteristics	.311****	
PROM attitudes		0.41***
PROM self-efficacy		0.32***
PROM training		0.13

Note. $N = 109$. PROM = patient reported outcome measure. CBT = cognitive behaviour therapy.

* = $p < .05$, ** = $p < .01$, *** = $p < .001$.