



UNIVERSITY *of* LIMERICK

OLLSCOIL LUIMNIGH

DEPARTMENT OF
CLINICAL THERAPIES



MSc Occupational Therapy

OT 6054: Occupational Therapy Project 4

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Year 2

Word Count: 4999

April 23, 2014

Title: Trends in Outcome Measure Use within Forensic Occupational Therapy

Abstract

Background: Previous studies have identified outcome measurement in forensic settings as a top priority for occupational therapy research. **Objectives:** This study aimed to examine the use of outcome measures by occupational therapists working in forensic settings. The primary aims are: to determine what outcome measures are used by occupational therapists, and the frequency of their use, and to identify reported strengths of, and limitations or barriers to use of outcome measures. **Methods:** Questionnaire links were sent via email invitation to forensic occupational therapy researchers and department managers and snowball sampling was encouraged. The questionnaire link was also posted on forensic-specific OT Forums, and a Forensic OT Facebook page. Participants included occupational therapists currently working in a range of forensic settings and countries. Quantitative data was analysed via SPSS, and open-ended questions were analysed via content analysis. **Results:** All participants used outcome measures in their practice; the majority of participants used them with the majority of their clients, and the most commonly used outcome measure was the MOHOST. The most commonly cited strength of outcome measures was their ability to track progress, whereas the most commonly cited limitation was time. **Conclusion:** There are recognisable trends in the frequency and specificity of outcome measures that are used by occupational therapists in forensic settings, and commonalities exist in relation to reported strengths of, and limitations or barriers to use. Knowledge about these trends can serve as an impetus for further research into how outcome measures can be more meaningfully used in forensic services.

Introduction

Historically, mental health and incarceration have been inextricably linked (Stelter and Whisner 2007). The relationship, however, is complex and bi-directional, as forensic clients may have been living with a diagnosis prior to offense, develop a mental illness while incarcerated, or experience stress and anxiety from their experience committing the crime or being imprisoned (Hills 2003). Fundamentally, imprisonment consists of removing a person from their environment and restricting their choice as an act of penance and retribution for committing a societal grievance. Occupational science terminology refers to this as “occupational deprivation”, which is described as a state in which a person’s occupations have been restricted by an external force (Wilcock 1998). A core belief of occupational therapy is that engaging in occupation is both beneficial and necessary for an individual’s

mental health (Wilcock 1993). Extrapolating from this acknowledgement of the need for humans to engage in meaningful occupations, the forensic population is in particular need of occupational therapy services. Engaging in meaningful occupations promotes a sense of health and achievement amongst participants in secure settings (Craik 2010). Moreover, it has been argued that greater opportunities for occupational engagement for forensic clients will lead to more successful community reintegration upon release (Molineux 1999). Successful community reintegration can reduce recidivism, thus justifying the often heavily scrutinized rehabilitation services which are enmeshed within the moral and ethical dilemmas facing offender treatment debates. For many offenders, imprisonment may be the first time they are presented with mental health services (Farnworth and Muñoz 2009) and occupational therapists play an important role within the multi-disciplinary team by collaborating with offenders to develop goals and address meaningful outcomes (Scaffa 2001). These outcomes must be measured to allow for evidencing the influential impact of occupational therapy on health and well-being for clients in secure setting. With this in mind, a contextual understanding of the trends in outcome measure use within forensic occupational therapy is necessary, thus the current study held the following research aims:

- 1.) Identify outcome measure choice and frequency of use.
- 2.) Identify occupational therapists' attitudinal views on the importance of outcome measures.
- 3.) Identify occupational therapists' reported strengths, limitation, and barriers to use of currently used outcome measures.

Literature Review

Occupational therapy is generally reported to have shifted to a more mechanistic view of occupation with an emphasis on precise measurement in the late 1980's (Duncan 2011). During this time, the term 'evidence-based medicine' was being implemented within the medical profession and gradually infiltrating clinical disciplines, including occupational therapy (Duncan 2011). Evidence-based practice is "the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individuals" (Sacket *et al* 1996, p. 71). Within occupational therapy it is commonly considered the process by which clinical reasoning and judgement combine with current evidence to ensure that the best care is given to clients (Taylor 2000). Outcome measures serve to provide quantifiable data on effectiveness of treatments, validate the role of the occupational therapist, and as a means of self-evaluation and reflective practice (Antonowicz 2008). Documentation of efficacy through measuring outcomes makes evidence available for clinicians to benchmark their

intervention plans. Coster (2006) argues that emphasis needs to be paid to how appropriate measures are in identifying outcomes rather than the uni-dimensional focus on the psychometric properties of the measure. Zur *et al* (2012, p.245) asserts that “best assessment practice involves acknowledging the need to draw on empirical evidence of validity, using measures for the purposes they were intended for, and being continually mindful of the social consequences of the actions based on score interpretation.” Forensic occupational therapy, however, has a relatively sparse evidence base to which practitioners can refer, making it difficult to provide best practice for the client (Duncan *et al* 2003). The increasing emphasis on measuring effectiveness of interventions positions examination of outcome measures as a top priority for research in order to justify the unique and valuable skills that occupational therapy can provide to forensic clients.

There has been limited research into the use of specific standardised outcome measures in forensic settings. A gap in literature also remains regarding overall frequency of outcome measure use and practitioners’ opinions in relation to their appropriateness and suitability to the setting and client group. In 2003, a survey-based study was conducted by Duncan which sought to illuminate the priorities within forensic occupational therapy, and a portion of the survey was designated to information regarding the use of outcome measures in practice. The results from that study found that only 62% of occupational therapists used outcome measures (most of which were based on Kielhofner’s (2008) Model of Human Occupation) and that for those that didn't, the primary barrier was time (Duncan 2003). Additional research was recommended, however, regarding further specificity into the intricacies of outcome measure use in forensic occupational therapy. Outside the domain of occupational therapy the literature identifies the use of 450 instruments to measure a total of 1038 outcome variables within forensic mental health services (Chambers *et al* 2009). This type of systematic review should be conducted within the field of occupational therapy specifically. The College of Occupational Therapist's Research and Development plan in both 2002 and 2012, as well as Duncan's 2003 survey of occupational therapists all highlighted the need for research into forensic-specific occupational therapy outcome measures as the top priority, yet little relevant research has been published in the 10 years since these publications originally identified this need. This study sought to explore the trends of outcome measure use within forensic occupational therapy.

Methods

Methodology

A quantitative methodology was employed based on the aims of the study being descriptive in

nature. The primary constructs of interest referred to capturing information from a sample in order to make inferences regarding overall trends within a population, thus a quantitative approach using surveys was more appropriate than a qualitative, interview methodology.

Questionnaires

Questionnaires were utilised as the sole source of data collection. Methods allowing for self-administration are considered highly effective for obtaining accurate responses from participants due to their anonymous and non-judgmental nature (Fowler 2002). The 15-item questionnaire was developed on the *KwikSurveys* website and the link remained active for a total of 4 months. The questionnaire was piloted with two non-forensic occupational therapists and revisions were made prior to sending invitations. Multiple choice, Likert-scale, and open-ended questions were included to elicit information regarding commonly used outcome measures, their frequency of use, and the strengths, limitations, and barriers to their use. Commonly used outcome measures in mental health and forensic occupational therapy were identified from textbooks, research articles and from a systematic review contained within the Practice Guidelines for Forensic Occupational Therapy (COT 2012). Participants were also asked about their general attitudes regarding outcome measures. Each question was specifically designed to provide a meaningful contribution to the research question and was structured in accordance with recommendations regarding survey design (Fink 2002; Fowler 2002).

Sampling Techniques

Participants were recruited using two non-probability sampling methods: purposive sampling and snowball sampling. Purposive sampling (also known as judgment sampling), refers to actively seeking out study participants based on certain affiliations or characteristics in order to serve a distinct and explicit purpose (Bernard 2000). Invitation emails were sent to occupational therapists in the field of forensic mental health, as identified from: published articles, internet searches for occupational therapy departments in forensic services in the United Kingdom, Australia, and Ireland, key note speakers from the annual National Forensic Occupational Therapy (NFOT) Conference from years 2009-2012, and from the Guideline Development Group for the 2012 COT *Occupational therapist use of occupation-focused practice in secure hospitals: Practice Guideline* publication. A link to the questionnaire was included in the email, as well as a request to send link to colleagues, thus a snowball sampling method was encouraged. Snowball sampling relates to the dissemination of participant recruitment through recruiting several key members of the population of interest and is often used for

populations that are difficult to locate (Bernard 2000). The questionnaire link was also uploaded to a Forensic Occupational Therapy Facebook page (<https://www.facebook.com/ForensicOT>), and to a forensic-specific occupational therapy forum on the OT Expert website (<http://otexpert.co.uk/forensic-occupational-therapy-2/>).

Participants

The population of interest was occupational therapists working in forensic settings (prisons, jails, correctional facilities, low/medium/high security hospitals and community services). Demographic categories such as age, gender, or ethnicity were not collected, however participants were asked to specify in what country they currently practice so as to establish the geographic parameters of the sample. The single criterion for inclusion was that participants must be currently working as occupational therapists within a forensic setting, and no additional exclusion criteria were implemented. As sampling error statistics were difficult to ascertain, the final sample will be described and discussed in relation to generalisability to the population of interest. A total of 37 occupational therapists completed the online survey. Four participants worked in low security hospitals, 16 worked in medium security hospitals, 9 worked in high security hospitals, 4 worked in the community, and 4 responded with 'other' which included academia (research and tertiary education) and occupational therapy service provision. Number of years reported working in forensic services ranged from 1 to 19 years (mean: 7.9 years, standard deviation: 6.1 years). The majority of participants were Senior clinicians (12) followed by Basic Grades (9), Heads of Departments (6), four participants were Clinical Specialists, and six participants classified their job title as 'other' (OT Assistant, Lead AHP, and Band 5 Experienced/Senior 2 Equivalent). The majority of participants worked in the UK (21), while 15 participants worked in Australia, and 1 participant worked in Ireland.

Data Analysis

Data was analysed using the computer software program Statistical Package for the Social Sciences (SPSS). Primary analysis was descriptive and aimed to portray the frequency of use of a list of 15 established and standardised outcome measures. Open-ended questions were analysed by the primary researcher using a quantitative summative content analysis approach, which entailed categorising textual answers based on the content and overall usage within the sample (Hsieh and Shannon 2005).

Ethical Considerations

In order to have an ethically sound research study, participants' dignity and rights must be protected at all times and the potential benefit of the research must outweigh any perceivable risks (Jenkins *et al* 1998). No sensitive or potentially distressing questions were included in the questionnaire and no questions were asked that would elicit sensitive client information. The potential benefits of the dissemination of the research results are thought to outweigh the requirements from participants and all attempts were made to minimise potential risks. The questionnaire was designed to be easily understood, require minimal effort, and take no more than 10 minutes to complete. Electronic surveys were anonymously submitted which ensured the privacy of participants and informed consent was inferred based on online survey submission. No incentives, financial or otherwise, were offered for participation in this study. This research was granted ethical approval by the Education & Health Sciences (EHS) department of University of Limerick.

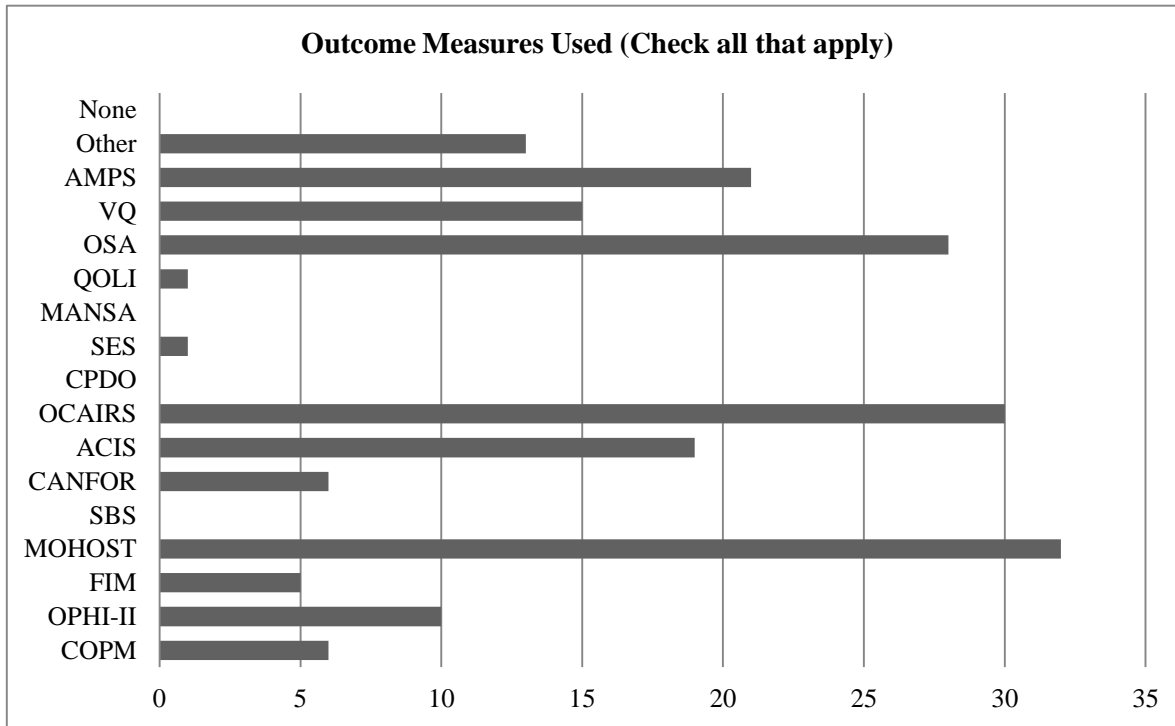
Results

This study found that there were 15 outcome measures used amongst the participants, with the Model of Human Occupation Screening Tool (MOHOST) being the most common. All participants reported that they used outcome measures in practice and most participants reported using outcome measures with the majority of their clients. Attitudes towards outcome measures and evidence-based practice varied. A number of strengths, limitation, and barriers to the use of outcome measures in forensic settings were identified.

Outcome Measure Use

A list of 15 outcome measures was provided and participants were asked to select all the assessments that they use in practice. Responses show an array of outcome measures, with the five most common being: Model of Human Occupation Screening Tool (MOHOST): 86.5%, Occupational Circumstances Assessment Interview and Rating Scale (OCAIRS): 81.1%, Occupational Self-Assessment (OSA): 75.7%, Assessment of Motor and Process Skills (AMPS): 56.8%, and Assessment of Communication and Interaction Skills (ACIS): 51.4%. Three of the listed outcome measures were not reported as being used. [Figure 1]

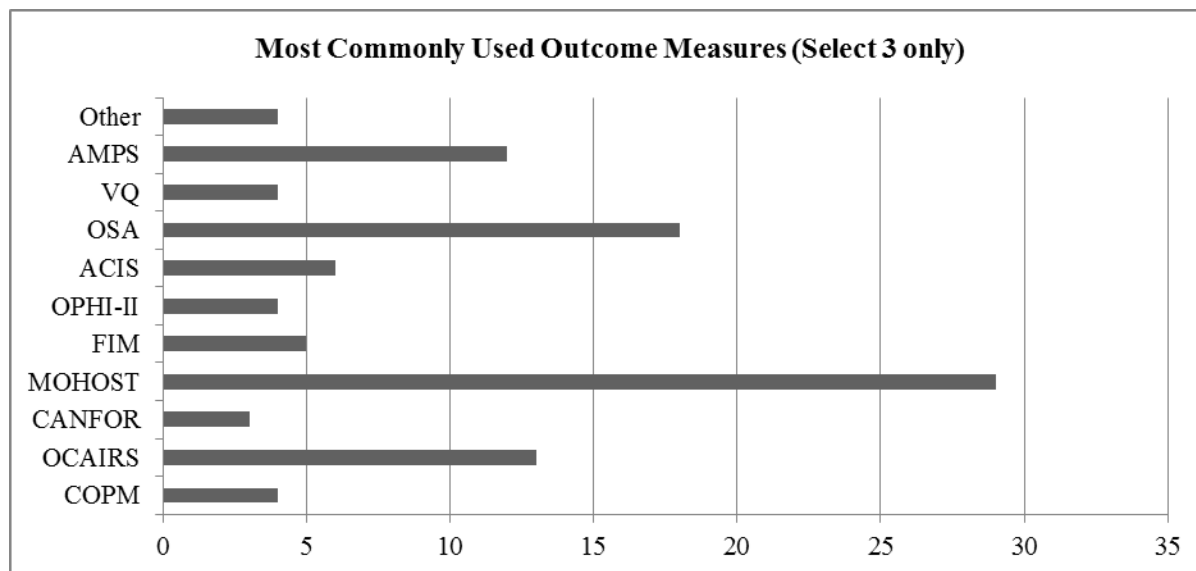
Figure 1: Outcome Measures Used



Assessment of Motor and Process Skills (AMPS): 56.8%, Volitional Questionnaire (VQ): 40.5%, Occupational Self-Assessment (OSA): 75.7%, Lehman Quality of Life Interview (QOLI): 2.7%, Manchester Short Assessment of Quality of Life (MANSA): 0.0%, Self-Efficacy Scale (SES): 2.7%, Capability to Perform Daily Occupations (CPDO): 0.0%, Occupational Circumstances Assessment Interview and Rating Scale (OCAIRS): 81.1%, Assessment of Communication and Interaction Skills (ACIS): 51.4%, Camberwell Assessment of Need- Forensic Short Version (CANFOR): 16.2%, The Social Behavioral Scale (SBS): 0.0%, Model of Human Occupation Screening Tool (MOHOST): 86.5%, Functional Independence Measure (FIM): 13.5%, Occupational Performance History Interview II (OPHI-II): 27%, Canadian Occupational Performance Measure (COPM): 16.2%. Assessments that were identified as 'other' were: Worker Role Interview (WRI), Evaluation of Social Interaction (ESI), Allen's Cognitive Level Screen (ACLS), Sensory Profile, Interest Checklist, Functional Assessment Measure (FAM), Mental Health Inventory (MHI), Barry Rehabilitation Inpatient Screening of Cognition (BRISC), and the Quickscreen Clinical Falls Risk Assessment.

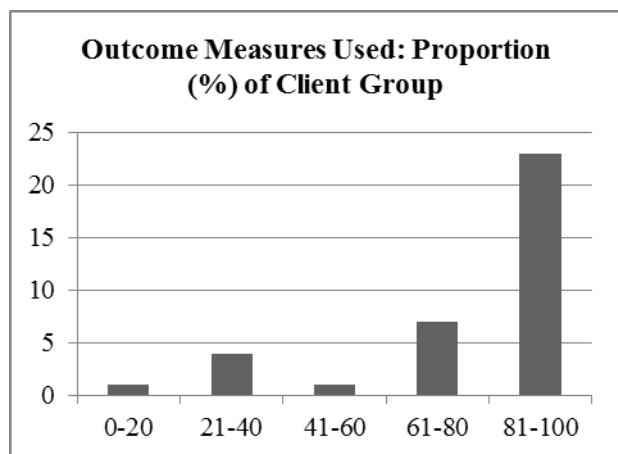
When participants were asked to select their top 3 most commonly used assessments, there was considerably less variability in the data, however, the MOHOST was still the most often reported [Figure 2]. Twenty-three participants (63.9%) reported that they use outcome measures with over 80% of their clients, while only one participant said they use outcome measures with less than 20% of their clients [Figure 3]. A variety of reasons were reported for why participants use outcome measures in practice [Figure 4]. The most common was 'tracking client progress' which was reported by 89.2% of participants. A majority (67.6%) of participants said that no one in their department had developed an assessment to use as an outcome measure, although 9 participants responded 'yes' to this question, while another 3 said 'don't know'.

Figure 2: Top 3



Assessment of Motor and Process Skills (AMPS): 32.4%, VQ: 10.8%, Occupational Self-Assessment (OSA): 48.6%, Assessment of Communication and Interaction Skills (ACIS): 16.2%, OPHI-II: 10.8%, FIM: 13.5%, MOHOST: 78.4%, CANFOR: 8.1%, OCAIRS: 35.1%, COPM: 10.8%, and 10.8% 'other'.

Figure 3: Percentage of Clients Outcome Measures Used With

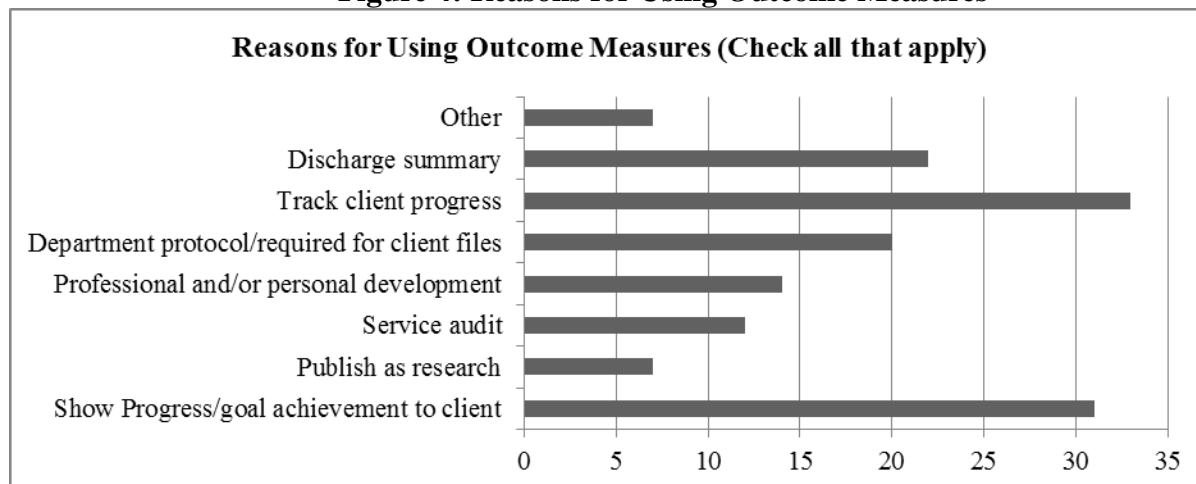


Twenty-three participants (63.9%) reported that they use outcome measures with 81-100% of their clients, seven participants (19.4%) reported they use outcome measures with 61-80% of their clients, one participant (2.8%) said they only use outcome measures with 41-60% of their clients, four participants said they use outcome measures with 21-40% of their clients, and one participant said they use outcome measures with less than 20% of their clients.

Attitudes Towards Outcome Measures

On the Likert-scale questions, most participants (67.5%) strongly agreed that 'outcome measures are important to validate Occupational Therapy practice'. Half of participants agreed that they 'would like to be more comfortable using outcome measures'. That 'outcome measures are a good use of time', 51.3% agreed with this statement. In relation to wanting to use outcome measures 'more often in practice', 44.4% strongly agreed. In relation to wanting to use outcome measures 'less often in practice', 50% disagreed with this statement. [Figure 5]

Figure 4: Reasons for Using Outcome Measures



Tracking client progress: 33 participants (89.2%), Show progress/ goal achievement to client: 31 participants (83.8%), Discharge summary: 22 participants (59.5%), Department protocol/required for client files: 20 participants (54.1%), Professional and/or personal development: 14 participants (37.8%), Service audit: 12 participants (32.4%), Publish as research: 7 participants (18.9%), Other: 7 participants (18.9%). 'Other' answers (18.9%) include: for CPA, to embed within clinical practice for self and team, to use as a baseline for identifying treatment goals, to provide feedback to MDT, commissioning specifications, to track progress in a new unit, and as an information gathering tool.

Figure 5: Attitudes Towards Outcome Measures

	Strongly Disagree	Disagree	Agree	Strongly Agree
I believe outcome measures are important to validate OT practice	0 (0%)	1 (2.7%)	11 (29.7%)	25 (67.5%)
I would like to be more comfortable using outcome measures*	1 (2.7%)	12 (33.3%)	18 (50%)	5 (13.8%)
I believe using outcome measures is a good use of time	0 (0%)	2 (5.4%)	19 (51.3%)	16 (43.2%)
I would like to use outcome measures more often in practice*	2 (5.5%)	6 (16.6%)	12 (33.3%)	16 (44.4%)
I would like to use outcome measures less often in practice*	17 (47.2%)	18 (50%)	0 (0%)	1 (2.7%)

*Only 36 of the 37 participants responded to these questions, which accounts for slight discrepancies in percentages across questions

Strengths, Limitations, and Barriers to Outcome Measure Use

Three open-ended questions were asked at the end of the survey which encouraged participants to describe the strengths of using outcome measures in practice, the limitations to using outcome measures in practice, and the barriers to using outcome measures in practice. Of the 37 participants, 29 participants responded to these questions. The text was then analysed for content and divided into categories based on the number of respondents who provided similar answers. Although limitations to outcome measures and barriers to outcome measure use were asked as separate questions, content

analysis revealed significant overlap of answers between these two questions and thus they were merged for the results and discussion. [Figure 6]

Figure 6: Strengths, Limitations, and Barriers to Outcome Measure Use

Strengths	Limitations and Barriers
<ul style="list-style-type: none"> ▪ Tracking Progress and Feeding Back Progress to Client 	<ul style="list-style-type: none"> ▪ Lack of Time
<ul style="list-style-type: none"> ▪ Promotes Evidence-based Practice and Efficacy of Interventions 	<ul style="list-style-type: none"> ▪ Inadequate Training and Familiarity
<ul style="list-style-type: none"> ▪ Enhances Multi-disciplinary Communication 	<ul style="list-style-type: none"> ▪ Not Specific Enough for Forensic Setting/ Client Group
<ul style="list-style-type: none"> ▪ Identifies Needs and Determines Baseline 	<ul style="list-style-type: none"> ▪ Not Sensitive Enough to Change and Capturing Outcomes
<ul style="list-style-type: none"> ▪ Validates the Role of Occupational Therapy 	<ul style="list-style-type: none"> ▪ Not Client-Centered
<ul style="list-style-type: none"> ▪ Guides Intervention Planning 	<ul style="list-style-type: none"> ▪ Lack of Evidence Base
<ul style="list-style-type: none"> ▪ Assists in Goal Setting 	<ul style="list-style-type: none"> ▪ Difficulties Relating to Multi-disciplinary Team
<ul style="list-style-type: none"> ▪ Allows for Consistency and Continuity 	

Strengths

1. **Tracking Progress and Feeding Back Progress to Client:** The majority of participants (22) identified that outcome measures provided a means by which to track progress. This was primarily related to relaying feedback regarding progress to the patient themselves, but was also reported in relation to tracking progress for the sake of the therapist and their feedback to the wider team.
2. **Promotes Evidence-based Practice and Efficacy of Interventions:** The use of outcome measures to evidence the efficacy of their interventions was cited by 13 respondents.
3. **Enhances Multi-disciplinary Communication:** Outcome measures were mentioned by nine participants as facilitating multi-disciplinary communication in various ways such as providing a common language, clarifying the occupational therapy role, and explaining interventions.
4. **Identifies Needs and Determines Baseline:** The use of outcome measures in establishing baseline functioning and assessing needs through the use of outcome measures was referred to by nine participants.
5. **Validates the Role of Occupational Therapy:** Eight participants highlighted that outcome measures served to justify the importance of occupational therapy and provided validation and the value of the profession.
6. **Guides Intervention Planning:** Using outcome measures as a tool to inform the intervention planning process was referred to by seven participants.
7. **Assists in Goal Setting:** Eliciting therapeutic goals was highlighted by six participants as a

reason for using outcome measures.

8. **Allows for Consistency and Continuity:** Four participants identified that they felt that outcome measures provided them with a continuity of care for the client and allowed for consistency between therapists.

Limitations and Barriers

1. **Lack of Time:** The majority of participants (21) referenced time as a limiting factor in the implementation of outcome measures in practice. Time was referenced in relation to managing a heavy caseload, familiarising oneself with the assessment, carrying out the assessment, and report writing.
2. **Inadequate Training and Familiarity:** A total of 17 participants felt that therapists' lack of familiarity and/or training was a barrier to outcome measure use.
3. **Not Specific Enough for Forensic Setting/ Client Group:** Lack of specificity to the forensic client and the secure setting was referenced by eight participants.
4. **Not Sensitive Enough to Change and Capturing Outcomes:** Seven participants stated that outcome measures did not provide the sensitivity to capture subtle changes or nuanced outcomes.
5. **Not Client-Centered:** Seven participants reported that a limitation to using outcome measures in practice is that often they are not client-centered.
6. **Lack of Evidence Base:** Not having a comprehensive evidence base for various outcome measures within the forensic setting was highlighted by four participants as a limitation to their use.
7. **Difficulties Relating to Multi-disciplinary Team:** Four participants mentioned various factors relating to the multi-disciplinary team as a limiting factor for outcome measure use (e.g. lack of understanding, disciplines not reading reports)

Discussion

The results indicate several key trends for occupational therapists using outcome measures in their practice, which will be critically examined below. Commonly used outcome measures will be discussed based on their relationship to the Model of Human Occupation (MOHO). Strengths and limitations of using outcome measures in practice will be discussed in relation to therapists' reported attitudes towards outcome measure use and practicalities within the clinical environment.

Outcome Measures Used

All therapists reported using outcome measures, and reported a tendency to use them with the majority of their clients. The three most commonly used outcome measures were the MOHOST, the OCAIRS, and the OSA which are all MOHO assessments. The MOHO is the most extensively researched model within occupational therapy, is considered the most often used within mental health practice, and possesses a host of accompanying assessment tools (Duncan 2011). Use of the MOHO is commonly referenced within forensic occupational therapy literature (COT 2012) yet no research has been conducted on its use as a model within the forensic setting (O'Connell and Farnworth 2007). Exploration into the reasons for which the MOHO assessments were so commonly referenced in this study would be an interesting avenue for further research. In particular, perhaps the core aspects of MOHO such as Volition (personal causation, values, and interests) and Habituation (roles and habits) (Kielhofner 2008) particularly resonate with the highly structured and monitored lifestyle of forensic clients in a secure setting. The high number of participants (20) who reported using outcome measures as per department protocol may also contribute to the use of assessments that are underpinned by a specific theoretical model. If a service has adopted a particular model as their guiding framework, then the availability of the accompanying assessment tools, rather than the practitioner's clinical reasoning, may take precedence over what outcome measures are regularly used. Although outside the realm of the current study's objectives, these postulations could provide insight into the applicability of commonly used assessments and the outcomes of interest within forensic services.

Tracking Progress while Maintaining Client-Centered Focus

Using outcome measures as a means to track and subsequently feedback progress to the client was identified as the most common strength of, as well as the most common reason for, using outcome measures in practice. Assessing changes that are meaningful to the client is an important aspect of the therapeutic relationship within occupational therapy (Clarke (2003a) cited in Couldrick and Alred). As such, it is important that the outcomes being measured are, in fact, meaningful to the client and that outcome measures are being used in the appropriate fashion in order to address this. Many participants, however, identified that available outcome measures were not client-centered enough. When an occupational therapist uses an outcome measure they should ensure that it is being used with the correct intent, and that they remain holistic in their approach to assessment (Zur *et al* 2012). Participants reported that sometimes outcome measures were used to meet department protocol and can be reductionist in nature if not used correctly. One participant stated, "*if not used correctly [outcome*

measures] can end up as a box ticking exercise rather than a tool for assessment and to inform care and treatment.” Particularly with forensic clients, the collaborative nature of the occupational therapy process can provide a much needed positive approach to rehabilitation in light of the dominance of patriarchal and confrontational practices within correctional settings (Clarke 2003). Remaining true to the professions’ humanistic values when conducting assessments, therefore, must remain at the forefront of the practicing clinicians mind. Occupational therapists can provide the hopeful and encouraging environment that is necessary if treatment is to be successful (Whiteford 1997). Identifying meaningful outcomes for the client and then selecting the appropriate measure with which to track progress ensures that the focus of measurement lies within the context of client-centered care yet can still satisfy service-driven goals.

Role Validation within Complex Forensic Context

Almost 90% of participants agreed or strongly agreed that outcome measures play an important role in validating occupational therapy practice. In the open-ended questions, however, only eight participants reported that serving to validate the role of occupational therapy was a strength of using outcome measures in practice. This could, in part, be related to participants’ reports that many of the assessments were not sensitive enough to change or did not suitably capture the nuances of outcomes for the forensic population. Highly structured routines and limited choice of even the most basic of activities can compound the restricted occupational roles available to forensic clients (Molineaux and Whiteford 1999). Standard outcome measures may not include suitable questions to capture these factors and thus the holistic view of the client within the setting can get diluted. Assessments and outcome measures must also be sensitive to areas of difficulty post-release, and be able to address deficits that arise from a dramatic lack of occupational choices within secure settings (Farnworth and Muñoz 2009). Forensic settings are inherently complex, and not surprisingly, eight participants stated that the lack of specificity of outcome measures to the forensic setting was a barrier to their use. As one participant noted, *“consideration of the client's risks and legal requirements can over-ride all other measures,”* which highlights the unique factors that must be considered when framing assessment results in a secure setting. Therapy hours for all disciplines (including occupational therapy) are often allocated via a function of level of risk and severity of needs (Bourgon 2005). Occupational therapists can play a key role in both re-enforcing treatment addressing criminogenic factors, but can also provide meaningful therapy for clients who may get overlooked as a result of being low-risk or having committed a less serious offense. For example, engaging in creative occupations under the guidance of

the therapist can serve as a medium for clients to safely explore risk, an exploration that would normally be stifled within the secure environments (Spybey and Morgan 2003). Not only do therapists face institutional regulations such as risk assessment and safety limitation, but the heterogeneity of the client base requires a multitude of therapeutic input such as medical, psychiatric, and psychological treatment programs (Davies et al 2007), as evidenced by one participants' quote regarding outcome measure limitations; "*there are many other disciplines inputting to the same person at the same time making it difficult to prove efficacy of OT.*" These factors make it challenging for occupational therapists to implement outcome measures as they typically would in other practice settings despite recognising the valuable contribution outcome measures provide in validating their role.

The Evidence-Based Promotion/ Lack of Research Conundrum

Using outcome measures as a means to publish research was the least commonly cited reason for using outcome measures in this study, yet the second most commonly reported strength of outcome measures was in relation to evidence-based practice. The evidence base available for effective forensic occupational therapy, sparse as it may be, continues to serve as a benchmark for providing quality interventions to the forensic population. Psychosocial interventions have been shown to increase functional life skills, stress management, problem solving, recreational skills, and community integration (Baker and McKay 2001; Eggers *et al* 2006). Individual increases in confidence, self-esteem, assertiveness and overall improved mental state have also been documented (Garner 1995; Smith *et al* 2010; Baker and McKay 2001; Castro *et al* 2002). Interventions focused on social outcomes have shown improvement in social skills, social roles, and overall social performance satisfaction (Smith *et al* 2010; Schindler 2005; Lindstedt *et al* 2011). Efficacy for other interventions such as money management and physical fitness have also been evidenced (Elbogen *et al* 2011; Bacon *et al* 2012). These outcomes meaningfully impact the client, serve as relevant examples to the aims and principles of the profession, and provide other therapists empirical evidence to reference. As suggested by Craik (1998) services should encourage occupational therapists to undertake research on the efficacy of their practice, and time and resources should be allocated for such. Occupational therapists should take part in both the *delivery* and *generation* of evidence-based practice (Forsyth *et al* 2005). With the majority of therapists using outcome measures with many of their clients there is a significant amount of data that has remained unpublished. As highlighted by the following participant, "*we need to be able to demonstrate efficiency, quality and value for money,*" and substantiating interventions can continue to saturate the evidence base to further guide occupation-focused practice

No Time to Familiarise

Another highlighted limitation to the consistent use of outcome measures in practice is that therapists felt they lacked training and/or familiarity with the outcome measures that are available. Furthermore, 23 respondents agreed or strongly agreed that they would like to be more comfortable using outcome measures. Antonowicz' 2008 study also addressed that occupational therapists felt they lacked the knowledge and skill required to successfully implement outcome measurement despite acknowledging the importance of their use. Departments and services may be reluctant, however, to provide funding for adequate training for certain assessments due to the associated high training costs (Chard 2000). The most commonly referenced limitation to using outcome measures, however, was in relation to time. Needing to prioritise time for heavy caseload, time spent in deciding which assessment to use and familiarising self with same, length of administration, time taken to write reports, and time taken for frequent re-assessment were all factors associated with using outcome measures. This relationship is described by the following participant quote, *“it can take time to become familiar with each measure which can be challenging to accommodate.”* This is potentially self-perpetuating because whilst therapists cite not having enough time to use outcome measures, their use within clinical settings can validate occupational therapy intervention efficacy and thus justify the need for more therapist posts. This, in turn, decreases case load and increases therapists' time available to become familiar with appropriate assessments and allows for their more consistent use, increasing capacity to provide quality interventions that can then be evidenced by appropriately assessing outcome variables.

Conclusion

This study aimed to identify trends in forensic occupational therapy outcome measure use. All participants in the current study use outcome measures and they tend to use them with the majority of their clients. Certain outcome measures are used more consistently across settings and therapists, and the most commonly used are based on the Model of Human Occupation. Identifiable commonalities appeared in the reported strengths and limitations/barriers to using outcome measures in practice, with progress tracking the most common strength and time the most common limitation.

Limitations

Several limitations to the current study relate to participant recruitment. Although probability sampling techniques are widely accepted as the most generalisable to the population (Fowler 2002),

logistical restraints of the current research did not allow for widespread or random sampling to occur. Procedures for sampling therefore were explicitly stated so that an audit trail could be established. The sample size was relatively small and geographically isolated and the nature of this study may have elicited more participant recruitment from therapists who feel strongly about using outcome measures. This might explain the lack of data in relation to therapists who do not use outcome measures regularly or for those that may not feel strongly one way or the other, as no participants reported not using outcome measures. While vital to know why therapists are using outcome measures, it is equally important to understand why therapists choose *not* to use outcome measures in their clinical practice. Attempts were made to distribute the survey to American and Canadian occupational therapists, although no one from North America participated in the study. As forensic settings are an established niche for occupational therapy practice in the United States and Canada, data from these countries could have potentially provided meaningful contributions to the overall research aims. Particularly what, if any, differences could be found in relation to outcome measure use within forensic settings in countries with inevitably different service provisions, cultural practices, funding and resources, health care systems, and judicial structures.

Implications for Practice

The benefits of this study relate to addressing the important element of outcome measurement within a very specific field of occupational therapy. As previously mentioned, research has identified that outcome measurement is a top research priority for occupational therapists working in forensic settings however little has been done to address this priority. This study identified the frequency of use of 15 different outcome measures, providing a starting point for the testing of reliability, validity, sensitivity, and appropriateness of these measures with forensic settings. Enabling occupational therapists to express perceived limitations and strengths of outcome measures provides a foundation for assessing the applicability of such assessments and their ability to factor in the complexity of forensic clients and settings. Information regarding stated limitations can serve as an impetus to modify existing outcome measures or as a framework in developing new forensic-specific measures. Strengths of outcome measures that were identified in this study, as well as reasons for their use, can enhance clarity regarding the importance of accurate metrics within forensic services. Prioritisation of the comprehensive documentation and dissemination of effective treatment programs can assist occupational therapists continual contribution to the evidence base. Research regarding occupational therapists' use of measuring intervention effectiveness can enhance the quality of service provision for

clients and aids to justify the unique and valuable role that occupational therapists provide within forensic settings.

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