#### FEATURE ARTICLE



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# Testing feasibility of relevant outcome measures in an inpatient setting to demonstrate the value of occupational therapy

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#### **Abstract**

Introduction: Measures of participation restrictions in daily life occupations are not typically used and may aid discharge planning and demonstrate the impact of occupational therapy services in inpatient settings. The overall aim of this mixed-methods study was to test the feasibility of relevant outcome measures by (1) investigating which of the three identified measures—the Home Support Needs Assessment, the Personal Care Participation Assessment and Resource Tool, and the Functional Autonomy Measurement System—best identifies meaningful changes in participation restrictions in daily life occupations required for community life; and (2) investigating the acceptability, usefulness, and feasibility of each measure to support inpatient practice.

**Methods:** Occupational therapists (n = 3) completed the three measures with patient participants (n = 12) at admission and discharge. Each occupational therapist participated in a semi-structured interview. Outcome measure responses were summarised statistically. Qualitative data were analysed using reflexive thematic analysis.

**Findings:** Total scores on all three measures changed significantly between admission and discharge (P < 0.002). Three themes reflected the occupational therapist participants' perceptions of the acceptability, usefulness, and feasibility of the outcome measures: 'Clinically and Professionally Meaningful Tools', 'Becoming Familiar', and 'Fostering My Daily Work'.

**Conclusion:** Each measure demonstrated a meaningful change. Selection and successful implementation of an outcome measure depends on its local acceptability to occupational therapists and organisational practices. All three measures are promising tools to address a measurement gap in occupational therapy practice. Future research could embed one measure into practice using knowledge translation methods, with a large-scale evaluation of the value of occupational therapy.

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#### **Key Points for Occupational Therapy**

- Routine use of standardised measures may improve patient outcomes and demonstrate the benefits of occupational therapy.
- The Functional Autonomy Measurement System (SMAF), Personal Care Participation Assessment and Resource Tool (PC-PART), and Home Support Needs Assessment (HSNA) are promising tools for inpatient settings, subject to occupational therapists' acceptability.
- Outcome measures can be integrated within the practice context using knowledge translation principles.

#### **KEYWORDS**

activities of daily living, assessment, knowledge translation, outcome measure, participation restriction

#### 1 | INTRODUCTION

Comprehensive and valid standardised outcome measures establish the effectiveness of interventions and services for specific aspects of people's health or well-being, such as occupational performance- or participation-related outcomes (Fawcett, 2007). They support clear communication of clinical findings among multidisciplinary team members (Kingston et al., 2019) and authenticate the value and competency of occupational therapy services (Mohammed Alotaibi et al., 2009; Radia-George et al., 2014). However, there is limited routine use of standardised outcome measures within inpatient settings (Lannin et al., 2015; Robertson & Blaga, 2013; Stapleton & McBrearty, 2009). These settings may benefit from establishing routine standardised outcome measurement using a knowledge translation approach.

Knowledge translation involves applying the best research evidence into clinical practice (Bennett et al., 2018). The Knowledge-to-Action Cycle addresses the "know-do" gap between the evidence and what occurs in practice to improve patient health outcomes (Straus et al., 2013). Recognising why these gaps occur can help overcome them (Gladman et al., 2016). Adapting validated outcome measures to the local context is one step in the cycle in which a tool with an externally derived evidence base is applied to the specific local context, including population characteristics, scopes of practice, and existing delivery models and services. This "local evidence" is required for effective uptake of the tool (Straus et al., 2013). Identifying the barriers and facilitators to knowledge use is another step in the Knowledge-to-Action Cycle and is a strong predictor of healthcare professionals' behaviour (Légaré & Zhang, 2013). Investigating their clinical utility, which is the usefulness and acceptability of tools to users, can help identify barriers and facilitators to knowledge use. Occupational therapists have previously identified barriers to using validated standardised tools, including financial constraints, time pressures for quick patient turnover, lack of knowledge and skills, and the complexity of measuring occupations (Bowman, 2016; Britton et al., 2015; Duncan & Murray, 2012; Kingston et al., 2019; Stapleton & McBrearty, 2009; Upton et al., 2014). Assessing local contextual barriers to knowledge use by considering the experiences of occupational therapists is vital to improving knowledge translation (Britton et al., 2015; Donnelly et al., 2016; Romney et al., 2022).

The standardised outcome measures used within acute and subacute inpatient settings typically measure the physical and cognitive functional impairments that limit activity (Crennan & MacRae, 2010; Lannin et al., 2015; Stapleton & McBrearty, 2009). A key example of this is the Functional Independence Measure (FIM), which is mandated to be used in subacute inpatient settings in Australia (Department of Health and Human Services, 2019). Measurement of participation-related outcomes differs from measurement of activity-related outcomes in that participation-related functioning considers the environmental barriers and supports of the patient (Darzins et al., 2017; Whiteneck & Dijkers, 2009). Therefore, participation restrictions refer to the persisting unmet support needs an individual experiences with selfcare and domestic life occupations as a result of inadequate environmental supports (Darzins et al., 2017). Identifying unmet support needs (participation restrictions) enables healthcare teams to prioritise interventions and referrals to support the individual's discharge to community life (Darzins et al., 2017). This study identified three outcome measures that may measure participation restrictions in self-care and domestic life occupations

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within inpatient settings using predetermined rules by Cieza et al. (2019): the Personal Care Participation Assessment and Resource Tool (PC-PART) (Darzins, 2004), the Home Support Needs Assessment (HSNA) (Darzins & Darzins, 2018), and the Functional Autonomy Measurement System (SMAF) (Hebert et al., 1988).

The overall aim was to test the feasibility of the relevant outcome measures by (1) investigating which of the PC-PART, HSNA, and SMAF better identifies clinically meaningful changes in self-care and domestic life participation restrictions within a large metropolitan hospital setting and (2) investigating how the selected outcome measures were clinically acceptable and useful for occupational therapists to support their practice in acute and subacute settings. It was anticipated that this knowledge would inform the design of a larger-scale implementation study involving routine use of the selected tool.

#### 2 | METHODS

This feasibility study used a parallel mixed methods design in which the separate quantitative and qualitative strands occurred simultaneously (Creswell & Plano Clark, 2018). The findings from each strand were integrated thereafter and had equal weighting (Creswell & Plano Clark, 2018). The quantitative strand used a case series design to gather and analyse outcome measure data from a small purposive sample of patient participants within the acute, inpatient rehabilitation (IR), and geriatric evaluation and management (GEM) wards at a large metropolitan hospital in Melbourne, Australia. The qualitative strand used semistructured interviews to elicit an in-depth understanding of occupational therapist participants' perceptions of the clinical utility of the PC-PART, HSNA, and SMAF within their practice. This study obtained full approval from the Human Research Ethics Committees of the participating hospital, St Vincent's Hospital Melbourne (HREC reference: 322/20, project ID: 67688) and Australian Catholic University (HREC reference: 2021-46R) and was conducted in accordance with the National Statement on Ethical Conduct in Human Research (National Health and Medical Research Council [NHMRC], 2007 [updated 2018]). All participants provided informed written consent prior to their involvement in the study.

#### 2.1 | Occupational therapist participants

Occupational therapists with clinical roles in the acute and subacute IR and GEM wards were invited to participate in the study. Occupational therapists with at least 5 years of experience working in clinical roles were included in the study because of their ability to provide detailed insight into the clinical utility of the outcome measures.

#### 2.2 | Patient participants

Patients admitted to the acute and subacute IR and GEM wards were eligible to participate if they presented with neurological, physical, or general medical impairments. This study was the first step in testing the acceptability and feasibility of the outcome measures. Therefore, only a small sample was required. Patients with cognitive impairment, limited English language skills requiring an interpreter, or who were to be discharged to residential aged care were excluded.

#### 2.3 | Measures

## 2.3.1 | The Personal Care Participation Assessment and Resource Tool (PC-PART)

The PC-PART consists of 43 assessment items over the domains of clothing, hygiene, nutrition, mobility, safety, residence, and supports. Information is gathered through a combination of patient interviews, caregiver interviews, and task observation, in which standardised questions are provided for each information gathering method (Darzins, 2004). Each item identifies if the patient is already independent with or without the use of assistive technology (OK by Self, scored 0); receiving sufficient support (OK with Help, scored 0); or experiencing participation restrictions indicating additional support is needed (Not OK, scored 1) (Darzins, 2004). A summary sheet allows an overview of the assessment outcomes and has space to list priorities for intervention (Darzins, 2004). The PC-PART has evidence of validity (Darzins et al., 2013; Darzins et al., 2014; Darzins et al., 2015), reliability (Radia-George et al., 2014; Turner et al., 2009), and responsiveness (Darzins et al., 2015).

Within the PC-PART instrument are items forming the unidimensional Rasch-derived Self-Care scale (16 items) and Domestic Life scale (14 items) (Darzins et al., 2014). Scales that fit the Rasch model are considered to have true interval-level data properties. This enables the valid use of parametric data analysis with grouped data to make valid comparisons across groups and over time.

# 2.3.2 | Home Support Needs Assessment (HSNA)

The HSNA is a recent update to the PC-PART and comprises 26 assessment items over the domains of: Self Care

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(12 items), Domestic Life (12 items), and Supports (2 items) (Darzins & Darzins, 2018). The HSNA follows the same information gathering methods and scoring structures as the PC-PART, with an additional item response category of 'Not Applicable', which scores a zero (Darzins & Darzins, 2018). Therapists can document the identified problems, goals, and recommendations in the 'priorities for action and intervention' table at the end of the tool (Darzins & Darzins, 2018).

## 2.3.3 | The Functional Autonomy Measurement System (SMAF)

The SMAF consists of 29 items within the following subscales: activities of daily living, mobility, communication, mental functions, and instrumental activities of daily living (Hébert et al., 2001). Functional ability for each item is scored based on the following scale: 0 = Completeautonomy, -0.5 = Completed autonomously but with difficulty, -1 = Needs supervision, -2 = Needs assistance, and -3 = Dependent (Hebert et al., 1988; Hébert et al., 2001). For each item, the SMAF then evaluates if the available resources or supports in the individual's living environment are sufficient to compensate for any functional disability. If they do, there is no 'handicap' (participation restriction), and the score for that item is adjusted to zero. If the resources do not fully compensate for the functional disability, the score remains the same. Information is gathered through a combination of patient interviews, caregiver interviews, and task observation (Hebert et al., 1988). The SMAF has evidence of validity (Desrosiers et al., 2003; Hébert et al., 2001), reliability (Desrosiers et al., 1995; Hébert et al., 2001), and responsiveness (Demers et al., 2010; Rai et al., 1996). The validated social function scale (social-SMAF) was not used for this study.

#### **Procedures**

#### Occupational therapist participant 2.4.1 training

Eligible occupational therapists were invited to participate in the study via an email invitation from an allied health assistant not involved in the research. Training on the use of the tools was delivered by RF, SS, and SD (SD is an author of the HSNA and has detailed knowledge of the PC-PART) and an occupational therapist with detailed knowledge of the SMAF. The training was conducted in person with the participant occupational therapists over two 3-hour sessions prior to the commencement

of data collection. Session one included an orientation to each outcome measure and a guided application of a case study. Occupational therapist participants were provided with resources and scoring worksheets to practise administering the outcome measures between sessions. Session two included competency checks to ensure occupational therapist participants' competency using each outcome measure with a second case study. Occupational therapists were deemed competent if there was a high level of agreement between all occupational therapists and researchers in the follow-up discussion, with minor differences justified by clinical reasoning.

#### Patient participant recruitment 2.4.2

Occupational therapist participants identified eligible patients from their own caseloads. These eligible patients were invited to participate via a therapist or allied health assistant not involved in their care. All three measures— PC-PART, HSNA, and SMAF—were completed with each patient participant at admission and discharge by the occupational therapist participants. The order in which the three tools were completed was varied to minimise order effect bias. Upon completing patient participant data collection, each occupational therapist participant took part in a semi-structured interview.

#### 2.5 **Data collection**

#### 2.5.1 Quantitative

Data from the PC-PART, HSNA, and SMAF were collected from patient participants at admission and discharge by the occupational therapist participants. Patient participants' sex, date of birth, admission ward, reason for admission, comorbidities, country of birth, first language, living situation (where and with whom), and length of stay were gathered from the patient's medical records by the occupational therapist participants. The occupational therapy goals, interventions, and referrals for each patient participant were collected from each participant's electronic medical record by the occupational therapist. These were mapped by SS to the outcome measure items.

#### 2.5.2 Qualitative

Qualitative data were collected through individual, 60-90-minute semi-structured interviews via Zoom (Zoom Video Communications Incorporated, 2021) with each occupational therapist participant. An interview guide (see Supporting Information) was formulated based on clinical utility and the barriers and facilitators of implementing the outcome measures into practice (CanChild, 2004; Fawcett, 2007). All interviews were recorded on Zoom. Audio recordings were transcribed verbatim. The audio recordings and de-identified transcripts were stored on CloudStor in a password-protected file only accessible to the researchers. Occupational therapist participants read and confirmed the accuracy of transcripts prior to data analysis (Curtin & Fossey, 2007).

#### 2.6 | Data analysis

#### 2.6.1 | Quantitative

Descriptive statistics (percentages, range, median [interquartile range], mean [standard deviation], minimum and maximum) were used to describe patient characteristics and change scores between admission and discharge for each outcome measure. Statistical significance of the change scores was tested using the Wilcoxon signed-rank test (PC-PART, HSNA, and SMAF) or paired *t*-test (Raschderived Self-Care and Domestic scales of the PC-PART) with 95% confidence intervals. A *P*-value <0.05 indicated significance. Effect sizes were calculated using the rankbiserial correlation (PC-PART, HSNA, and SMAF) or Cohen's *d* (Rasch-derived Self-Care and Domestic scales). All analyses were conducted using IBM SPSS Statistics TM, version 28.0 (IBM Corp., released 2021).

Corresponding item content from each of the outcome measures was listed and displayed in a table format (see Supporting Information). Each patient participant's noted participation restrictions on each of the measures at admission were shown in a highlighted colour and then visually compared across the tools. Occupational therapy goals, interventions, and referrals, as recorded in the patients' medical records, were mapped to the outcome measure items.

#### 2.6.2 | Qualitative

Qualitative data were analysed using Braun and Clarke's (2006, 2019) six stages of reflexive thematic analysis. Step 1: RF read each transcript multiple times, checking accuracy with audio recordings. Step 2: RF read each transcript line-by-line and manually generated initial codes related to the clinical utility, feasibility, and acceptability of the outcome measures. RF discussed the codes with TT. Step 3: RF grouped the codes into potential themes using a mind map. Step 4: RF and TT collaboratively reviewed the mind map, all potential themes,

and the coded data to check for patterns and missed codes. A refined mind map was developed that was relevant to the data set. Step 5: RF and TT collaboratively developed the definition and naming of the themes. Step 6: RF selected relevant quotes for each theme and collaboratively completed the final analysis with TT while writing the manuscript for publication.

To enhance trustworthiness, several strategies were undertaken. First, an academic with expertise in qualitative research who was not involved in the data analysis supported the interviewer (RF) for two interviews. The third interview was conducted by RF independently. Additionally, member checking occurred, whereby the interview participants verified the accuracy of the interview transcripts prior to data analysis (Curtin & Fossey, 2007). Second, author RF maintained a reflective journal, documenting insights and experiences that could have influenced the research process (Curtin & Fossey, 2007). RF brought her thoughts to weekly reflective discussions with author TT, fostering the development of credible and cohesive data interpretations. Additionally, RF presented the data interpretations at peer review discussions involving AM, SD, and TT.

#### 3 | RESULTS

#### 3.1 | Quantitative

One acute occupational therapist and two subacute occupational therapists were recruited. They identified a sample of 12 patients, with 72 patient assessments completed in total. Patient characteristics are reported in Table 1. The median age of the patient participants was 68 years, with the minimum age being 49 years and the maximum age being 89 years. Two-thirds (n=8) were women. Half (n=6) lived at home alone, and half (n=6) lived at home with others. No other living situation was recorded. Orthopaedic conditions (n=4, 33%) were the leading reason for admission. There was a median interval of 3.5 days between the date of admission and the date of admission assessment with the PC-PART, HSNA, and SMAF. The median length of stay was 11.5 days.

Table 2 summarises the scores for each tool at admission and discharge. The PC-PART and HSNA identified a similar median number of participation restrictions at admission: 11 and 10.5, respectively. The HSNA, SMAF, and Rasch-derived Domestic scale showed a complete resolution of participation restrictions at discharge. The PC-PART and Rasch-derived Self-Care scale had minimal participation restrictions remaining at discharge, with no more than two participation restrictions recorded for any patient participant for the PC-PART.

TABLE 1 Patient participant characteristics.

ariable	
Participants n (%)	12 (100)
Age, years	
Median (IQR)	68.0 (22.5)
Range	49-89
Sex n (%)	
Male	4 (33)
Female	8 (67)
First language n (%)	
English	8 (67)
Other	4 (33)
Country of birth <i>n</i> (%)	
Australia	7 (58)
Other	5 (42)
Living situation $n$ (%)	
Home alone	6 (50)
Home with others	6 (50)
Supported accommodation	0 (0)
Other	0 (0)
Location of admission $n$ (%)	
Acute	4 (33)
Rehabilitation	4 (33)
GEM	4 (33)
Reason for admission n (%)	
Stroke	1 (8)
Oncology	2 (17)
Cardiothoracic	1 (8)
Orthopaedics	4 (33)
Plastic surgery	1 (8)
General medicine	2 (17)
General surgery	1 (8)
Days between admission and admissio	
Median (IQR)	3.5 (1.8)
Range	3–13
Length of stay, days	
Median (IQR)	11.5 (15.3)
Range	1-40

Note: Percentages are rounded to the nearest whole percentage. Abbreviation: GEM, geriatric evaluation and management.

Significant change was reported for the PC-PART, HSNA, and SMAF (P=0.002) and for the Rasch-derived Self-Care (95% CI [26.3, 48.5], P<0.001) and Domestic scales (95% CI [27.8, 48.0], P<0.001) (Table 3). Effect sizes for the PC-PART, HSNA, and SMAF (r=0.88) and

the Rasch-derived Self-Care (d=2.14) and Domestic Life (d=2.39) scales were high to very high between admission and discharge. The most common resource to provide support to patients following discharge, as indicated on the SMAF, was family (Resource 1). Support from a neighbour (Resource 2), nurse (Resource 5), or volunteer (Resource 6) was not indicated. No outcome measure data were missing.

Two acute patients did not have details of occupational therapy goals, interventions, and referrals in their medical records, resulting in 10 sets of patient notes. The proportion of goals, interventions, and referrals that could be matched to outcome measure items indicating participation restrictions for each patient participant ranged between 12.5% and 82.3% (median = 71.4%) (see Supporting Information). Two patient participants each received an intervention that addressed an area of need not indicated as participation restrictions on the tools. The outcome measures provided more details about patients' needs than their medical records. The tools also identified which patients' needs had been met at discharge. In contrast, the patients' notes did not provide sufficient details regarding which patient needs had been met at the time of discharge.

#### 3.2 | Qualitative

Three themes, each with two subthemes, reflected the occupational therapist participants' perceptions of the acceptability, utility, and feasibility of the outcome measures. (Figure 1): (1) 'Clinically and Professionally Meaningful Tools'—'It relates to what we do as OTs' and 'It's the way we think'; (2) 'Becoming Familiar'—'It got easier the more I used it' and 'Training is important'; and (3) 'Fostering My Daily Work'—'Integrating with my practice' and 'Accessible on the ward'. Overall, the outcome measures that best met the needs of the occupational therapy participants were those that served as clinically and professionally meaningful tools, were either familiar and were accompanied by strategies that enhanced familiarity and fostered their day-to-day practice.

# 3.2.1 | Clinically and professionally meaningful tools

'It relates to what we do as OTs'

The occupational therapist participants found that the outcome measures successfully identified patients' unmet support needs. The outcome measures highlighted areas for occupational therapy intervention at the initial assessment stage and areas that did not need to be addressed.

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TABLE 2 Summary of total score for each measure at admission and discharge.

	Admission (AD)			Discharge (DC)				
	Mean ± SD median (IQR)	Min	Max	Mean ± SD median (IQR)	Min	Max		
PC-PART raw total score	11.0 (10.3)	4	24	0 (0.7)	0	2		
PC-PART Rasch-derived scales:								
Self-Care	$39.25 \pm 18.3$	11	65	$1.8 \pm 4.2$	0	11 <sup>a</sup>		
Domestic Life	$37.92 \pm 15.8$	15	59	$0.0\pm0.0$	0	0		
HSNA total	10.5 (9.3)	2	17	0 (0.0)	0	0		
SMAF total	-16 (13.5)	-39	-6	0 (0.0)	0	0		

*Note*: The higher the score on the PC-PART and HSNA, the more participation restrictions identified. The SMAF has an inverse relationship in which the lower the score, the higher the participation restrictions. The PC-PART Rasch-derived scales are based on a 0–100 interval scale, where higher scores represent higher levels of participation restriction.

Abbreviations: HSNA, Home Support Needs Assessment; PC-PART, Personal Care Participation Assessment and Resource Tool; SMAF, Functional Autonomy Measurement System.

TABLE 3 Statistical significance of change in total scores detected between admission and discharge on each measure.

Change in:	Mean change score ± SD median (IQR)	P-value	95% confidence interval	Effect size
PC-PART raw total score	-11 (10.5)	$0.002^{a}$ *		0.88 <sup>c</sup>
PC-PART Rasch-derived sca	tles:			
Self-Care	$-37.4 \pm 17.5$	<0.001 <sup>b</sup> *	[26.3, 48.5]	2.14 <sup>d</sup>
Domestic Life	$-43.0 \pm 15.9$	<0.001 <sup>b</sup> *	[27.8, 48.0]	2.39 <sup>d</sup>
HSNA total	-10.5 (9.3)	0.002 <sup>a</sup> *		0.88 <sup>c</sup>
SMAF total	16 (13.5)	0.002 <sup>a</sup> *		0.88 <sup>c</sup>

Note: A negative change score on the PC-PART and HSNA indicates an improvement in participation restrictions. A positive change score on the SMAF indicates an improvement in participation restrictions.

Abbreviations: HSNA, Home Support Needs Assessment; PC-PART, Personal Care Participation Assessment and Resource Tool; SMAF, Functional Autonomy Measurement System.

<sup>\*</sup>Significant at P < 0.05.



FIGURE 1 Themes reflecting occupational therapist participants' perspectives of the outcome measures.

At discharge, the outcome measures demonstrated the positive impact of occupational therapy intervention.

The occupational therapist participants discovered all outcome measures identified the unmet support needs of their patients; the acute therapist stated, 'they're all sensitive enough to pick out an unmet need that needed to be addressed.' The occupational therapist participants recognised the advantages of using the outcome measures to organise what to assess and who to include in the assessment. Moreover, these outcome measures helped in identifying areas in need of occupational therapy intervention. For example, occupational therapist

<sup>&</sup>lt;sup>a</sup>A score of 11 on the Self-Care scale and a score of 15 on the Domestic scale represent 1 participation restriction on the PC-PART.

<sup>&</sup>lt;sup>a</sup>Wilcoxon signed-rank test.

<sup>&</sup>lt;sup>b</sup>Paired samples *t*-test.

<sup>&</sup>lt;sup>c</sup>r rank biserial correlation.

dCohen's d.

participants said, '[the PC-PART and HSNA provided] structure to the areas to ask in an initial [assessment]', and the 'Not ok [in the PC-PART/HSNA] ... that's an area we need to address' (IR therapist). Likewise, the SMAF provided valuable insights into potential areas that might require attention, as mentioned by the acute therapists, 'gives you some information about what areas might need to be addressed'. The easily understandable score descriptors of the SMAF aided the occupational therapist participants in identifying areas of concern, with the IR therapists stating, '[the SMAF score descriptors] are so clear cut that I can interpret it myself.' The outcome measures also identified areas not requiring occupational therapy intervention, as stated by the GEM therapists, '[the SMAF] highlights areas that they don't need to focus on'. Additionally, the occupational therapist participants believed that the key informant columns on the PC-PART and HSNA prompted them to gather information from family members when it was needed, as reported by the acute therapist, 'it's got next of kin prompts ... next of kin and carers are people that can observe [changes in] functional cognition.'

The occupational therapist participants liked outcome measures that showed when needs were met and their interventions had made a difference. The numbers-based scoring of the SMAF facilitated easy identification of changes from admission to discharge, as noted by the GEM therapists, 'it's really obvious to look at the scores, before and after'. Similarly, the HSNA also had clear numbers-based scoring to identify changes, with the acute therapist saying, 'you scored up how many ones or unmet needs that were there ... it was quite easy to see'.

Not only was it important to the occupational therapists to demonstrate changes in patients' unmet support needs, but the occupational therapist participants perceived that outcome measures showing patients' changes because of occupational therapy interventions reflected the value of occupational therapy, thereby increasing job satisfaction. The occupational therapist participants liked the response items of the SMAF, which uses 'autonomous', 'needs supervision', and 'needs help or dependent' as a measurement of change at the person level. They found the 'OK by Self/OK with Help/Not OK' responses of the PC-PART and HSNA as less informative of patient change. They believed it was important to capture within-person functional changes for their practice in the inpatient setting. For example, the GEM therapists said, '[In our role] it's important to consider the functional gains ... they might go from full assist to supervision, but supervision is still not doable at home ... that doesn't account [for] all the time we've put into doing that ... I think that's really important to highlight in terms of making this job sustainable and making sure

that we get job satisfaction.' These findings suggest outcome measures that clearly identify unmet support needs, facilitate the areas requiring attention, and also provide quantifiable information specific to changes in the functioning of the individual were important for occupational therapists in this hospital setting.

#### 'It's the way we think'

The occupational therapist participants emphasised the importance of outcome measures aligning with how occupational therapists think and communicate with patients. This 'way of thinking' or clinical reasoning comes naturally to experienced therapists but needs to be scaffolded and structured to show why change has occurred to develop junior occupational therapists' clinical reasoning skills.

The occupational therapist participants believed clinical reasoning was an essential part of working as an occupational therapist, as stated by the GEM therapist, 'I think it's important ... from a development of clinical reasoning ... to understand why change occurs'. The occupational therapist participants were senior therapists, working in their respective areas for at least five years. They believed their ability to clinically reason and identify the needs of their patients came naturally to them; for example, the IR therapist stated, 'while you can use these outcome measures to help plan and develop goals ... [this is] innate in me as part of my practice'. The participants found that, with their experience using an outcome measure that required a more clinical reasoning approach, the response categories and scoring of the PC-PART and HSNA were simple to use. However, this system was also perceived as potentially open to variation, especially for inexperienced occupational therapists. The GEM therapist explained, 'sometimes [junior occupational therapists] find it difficult to say that a patient is "OK by Self", "OK with Help" or "Not OK". Occupational therapist participants favoured outcome measures that offered a structured approach to developing clinical reasoning, especially for junior therapists, as highlighted by the GEM therapist, 'I feel people flourish when they've got that structure and understanding of A leads to B, B leads to C ... then you put your plan together'. Such measures were found to be more acceptable and beneficial in guiding therapists through the process of building effective treatment plans. For instance, the GEM therapist highlighted the SMAF as one example of how these outcome measures supported the therapists in assessing patients' functioning, identifying patients' resources, and determining whether they are aligned. This, in turn, facilitates the occupational therapy process and helps develop therapists' clinical reasoning. '[It's] relevant to how we scaffold ideas in our minds as clinicians.'

As well as a tool that supported their clinical reasoning, the occupational therapist participants also liked outcome measures that complemented the way they communicated with their patients. All occupational therapist participants noted discrepancies between the patient's report and the occupational therapist's observation and clinical reasoning, as explained by the acute therapist, 'you [know when patients] need help with showering and dressing whereas they might say I'm fine'. The GEM therapist perceived that differences in their clinical reasoning and patients' views were easily identified by the structure of the SMAF domains and items. The GEM therapist used general questions with patients to elicit information about their needs and provided an example of how they used the broad SMAF domains in a conversational manner, like asking the patient, 'tell me what your normal routine's like'. This freestyle format was perceived to allow the occupational therapist participants to use their clinical reasoning to identify gaps in the patient's narrative, as explained by the GEM therapist, 'to realise where the gaps are. Whereas if you [use a] question answer [format] ... it doesn't have the same impact.' The IR therapist explained that occupational therapists use their clinical reasoning to gather information rather than 'ask every single question in a set way, [as that] takes too much time' and did not align with their desired approach to gathering information.

All three occupational therapist participants identified that outcome measures needed to capture clinically meaningful data to enhance patient outcomes while also improving occupational therapists' practice.

### 3.2.2 | Becoming familiar

'It got easier the more I used it'

The occupational therapist participants found it easier to understand the items and scoring of the outcome measures the more they used the measures. The GEM therapist and the IR therapist had prior experience with the SMAF and found the SMAF to be quick to complete, with the GEM therapist saying, 'because I'm so familiar with it ... I can just sort of fly through it.' Conversely, the acute occupational therapist participant had no previous experience with any of the outcome measures and offered, 'once I was familiar with the [PC-PART] form it only took about 10 minutes to fill out'. The more the occupational therapist participants used the outcome measures, the more their understanding of the items and scoring improved. However, for example, the acute therapist initially found the SMAF was 'a bit clunky'; the more she used it, the easier it was to complete: 'making sure I'm scoring it correctly...once I became familiar with it ... the easier and quicker it is'. Similarly, the IR occupational therapist participant found the SMAF challenging to score, but 'once I got over the -1, 2, 3 ... it was easier to administer'.

With increased familiarity, the occupational therapist participants found it easier to integrate the outcome measures into conversations with patients, as explained by the GEM therapist, 'you just need to be familiar with what you need to be asking the patient'.

#### 'Training is important'

The occupational therapist participants highlighted the importance of understanding the purpose and benefits of using the outcome measure as a motivating factor. They were aware that some of their colleagues might view the measures as an additional task without recognising their usefulness, as expressed by the GEM therapist, 'others might not see [the outcome measure] as useful ... [but] just another thing they have to do.' To address this, they stressed the significance of proper training that provides context and understanding, helping their colleagues comprehend the reasons behind using the outcome measures, as noted by the GEM therapist, 'context and understanding ... around why we're doing it.'

However, providing training was not only about understanding the purpose of the outcome measures. The occupational therapists emphasised that training should also include the practical aspects of how to complete and score the outcome measures with patients. They believed that this comprehensive training approach would increase the likelihood of using the outcome measure in practice, as expressed by the GEM therapist, '[the occupational therapists] would need to have some time and space to learn how to [complete the outcome measures] and become confident with doing it ... as long there's a bit of context and understanding was built around why we're [using outcome measures], I think people would get on board.'

The need for ongoing training was expressed by the occupational therapist participants. They were unsure if the specific questions on the PC-PART and HSNA forms meant they were obligated to ask the questions exactly as presented, as mentioned by the IR therapist, '[I felt] an obligation to do [the PC-PART/HSNA] in a very structured way.' Similarly, when the GEM therapist also completed the questions as presented, she explained, 'I think [the PC-PART] took longer because I was asking the questions ... multiple times in different ways.' These experiences highlight the importance of ongoing training to ensure the outcome measures are used as intended, to gain mastery in using them with patients and to address any challenges that may arise.

### 3.2.3 | Fostering my daily work

'Integrating with my practice'

For any standardised outcome measure to be successfully implemented into practice, the occupational therapist participants needed it to integrate with their current work processes and be easily accessible. The occupational therapist participants found that all the outcome measures were viable to use, with the acute occupational therapist saying, 'it's feasible to use any of them.' The outcome measures that were perceived to integrate better and add to their current processes were felt to be more acceptable, as the IR therapists described, '[the SMAF] integrated within my initial assessment ... whereas [the PC-PART/HSNA] ... doesn't feel as well-integrated.'

The occupational therapist participants also valued outcome measures that minimised duplications in documentation. For example, the acute occupational therapist used the PC-PART summary sheet to help document interventions, saying, '[the PC-PART summary sheet] helped [with] writing out what interventions we're going to ... address. Conversely, the IR occupational therapist felt that the PC-PART summary sheet was a duplication of the initial assessment proforma of the rehabilitation ward and would be less likely to use it, stating, "I probably wouldn't do [the PC-PART summary sheet] because ... it's a duplicate of my [stream's] initial assessment proforma'.

Building rapport was an important part of the occupational therapist participants' practices, and the outcome measure needed to easily align with this practice. The SMAF has no specific questions, allowing the occupational therapist participants to customise their approach while completing the outcome measure. The participants felt that this flexibility enhances rapport building, as explained by the IR therapists, '[I could] formulate the questions the way I wanted to ... how I naturally would get the information'. Conversely, the acute occupational therapist thought the PC-PART and HSNA were conversational yet required adaptation to maintain rapport with the patient, saying, '[the PC-PART and HSNA] are more conversational in its approach ... you have a few more personal questions in it so that [patients] don't feel like you're sitting there filling out paperwork'.

#### 'Accessible on the ward'

Lastly, the occupational therapist participants believed it was crucial for the outcome measures to be readily accessible on the wards. As the acute therapist pointed out, 'If I was trying to get the outcome measures and had to print it ... I'd need to know where they were.' The occupational therapist participants felt outcome measures that were easily accessible through electronic means and could be printed were preferred, as explained by the

GEM therapists, '[the SMAF] is not that impressive looking, so [when] printed it's the same.' Whereas, the PC-PART is [a booklet that is] not printable. Consequently, occupational therapists may be less likely to use [the PC-PART], as mentioned by the GEM therapist, 'if we [need] to come down [to the department] to get [access to] an outcome measure, we [are] less likely to use it.'

The findings indicate that outcome measures need to integrate into occupational therapists' current assessment processes and usual information gathering techniques, as well as be accessible for them to be used by the occupational therapists.

#### 4 | DISCUSSION

The PC-PART, HSNA, and SMAF were trialled within an inpatient setting with a small cohort of patients. The study aimed to determine if these instruments would support occupational therapists in identifying and addressing patients' participation restrictions in self-care and domestic life occupations required for living in the community and to understand the clinical acceptability, utility, and feasibility of using these instruments in clinical practice. Within this small sample, the PC-PART, HSNA, and SMAF statistically demonstrated the ability to measure clinically meaningful change in self-care and domestic life needs of inpatients, which are required for a successful transition to community life. These quantitative results are consistent with previously published data from larger studies in inpatient settings (Darzins et al., 2015; Demers et al., 2010; Rai et al., 1996). The qualitative findings delved deeper into the occupational therapists' perceptions of the clinical acceptability, utility, and feasibility of these outcome measures. The findings revealed that the outcome measure that would most likely be used and accepted by the occupational therapists was the one that was familiar and more easily identified as clinically and professionally meaningful, where the therapist felt mastery in its use, and that fostered their daily work practices.

Firstly, the PC-PART, HSNA, and SMAF effectively measured clinically and professionally meaningful changes in self-care and domestic life needs of inpatients required for community life, as observed from both quantitative and qualitative perspectives. This finding marks the initial phase of a rigorous process for implementing an outcome measure into routine practice. The trialled outcome measures have been shown to be psychometrically sound and align with the end-users' perspective by providing clinically and professionally meaningful information for use in the inpatient setting.

Following the Knowledge-to-Action Cycle (Straus et al., 2013), the findings of this study present a

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comprehensive analysis of the local contextual barriers to the uptake of an outcome measure. This aspect is crucial in the Knowledge-to-Action Cycle that has been insuffiexplored in previous research (Romney et al., 2022). The theme 'Becoming Familiar' and developing mastery is a solution to contextual barriers in the adoption of outcome measures. The theme emphasises the importance of training and getting acquainted with the purpose and use of these measures to enhance their acceptability, clinical utility, and feasibility. Training and practice are well-known strategies that promote the uptake and implementation of new practices (Bowman, 2016; Colquhoun et al., 2020; Duncan & Murray, 2012; Jones et al., 2015) and facilitate behaviour change (Michie et al., 2014), especially when embedded into existing orientation processes, ultimately increasing the perceived value of an outcome measure (Duncan & Murray, 2012).

The theme 'Fostering My Daily Work' highlighted that efficiencies are a crucial factor affecting the implementation of outcome measures, which is also reflected in the literature (Bowman, 2016; Duncan & Murray, 2012; Stapleton & McBrearty, 2009; Upton et al., 2014). The occupational therapist participants found that outcome measures with open-ended questions were quicker to complete and easier to integrate into their work processes. While the occupational therapist participants appreciated flexibility in administrating the outcome measures, balancing standardisation and flexibility is essential. Thorough training may enable therapists to use their clinical reasoning to adapt questions according to the context and their patients while maintaining the validity of the tool.

Furthermore, the occupational therapy goals, interventions, and referrals documented in the medical records were broad and often overlapped with more than one item on the outcome measures. In contrast, the outcome measures provided greater detail about patients' needs at admission and offered clearer indications of which needs were addressed at the time of discharge. The PC-PART, HSNA, or SMAF could be used to enhance clinical processes by providing a quick and detailed structure for identifying patients' needs for further support. This allows the therapist to efficiently prioritise interventions and referrals to aid discharge planning. This may be especially relevant in time-pressured acute settings (Britton et al., 2015; Kingston et al., 2019; Robertson & Blaga, 2013), where occupational therapy assessments and intervention outcomes are not widely communicated with the multidisciplinary team (Kingston et al., 2019). Implementing these outcome measures can help bridge the communication gap between the multidisciplinary team, leading to more effective discharge planning and improved patient outcomes.

Previous research has indicated that knowledge translation is facilitated when outcome measures are adapted

to the local context, easily embedded into the established assessment process, and aligned with organisational norms (Colquhoun et al., 2017; Pellerin et al., 2019; Rogers, 2003). The findings of this study provide local evidence supporting the implementation of either the PC-PART, HSNA, or SMAF in this local inpatient hospital setting. Using either the PC-PART, HSNA, or SMAF would serve to address the inconsistent utilisation of standardised outcome measures within inpatient settings (Lannin et al., 2015; Stapleton & McBrearty, 2009). By adopting these measures, occupational therapy practice can be better informed, leading to improved patient care and outcomes.

Following the Knowledge-to-Action Cycle (Straus et al., 2013), the next step would be to select one of the tools and conduct a larger-scale implementation study to address the barriers and draw upon the facilitators identified in this study (Field et al., 2014; Graham et al., 2006; Romney et al., 2022; Straus et al., 2013).

#### 4.1 | Study limitations

This research explored the acceptability, utility, and feasibility of the measures, and as such, the sample size was small and the findings cannot be generalised beyond the scope of the research. However, the process followed in this research provides a foundational framework for planning and conducting a population-based implementation study using this process framework to identify and test the acceptability, utility, and feasibility of outcome measures. It is important to note that patients with cognitive impairment were excluded from this current study. It was therefore not possible to explore how well each measure captured participation restrictions for this population. Further research focusing on patients with cognitive impairment will be important to understand the value of these outcome measures for this specific group.

Two of the three occupational therapist participants had prior experience with the SMAF but not with the other measures. It is possible they had an implicit bias related to the SMAF because of their previous experience using it. In addition, only occupational therapists with at least five years of experience were interviewed in this study, as they were able to provide rich data based on their experience and expertise. It is possible that novice therapists may have provided different perspectives about the outcome measures. Further exploration of novice therapists' experiences and views about using the measures is needed. However, the findings of this study are specific to this local hospital setting; the same knowledge translation process can be applied to any healthcare setting wishing to introduce a standardised outcome measure.

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#### 5 | CONCLUSION

This study contributes to what is known about measuring occupational therapy outcomes within acute and subacute settings. All three outcome measures—the PC-PART, HSNA, and SMAF—are suitable for identifying clinically meaningful changes in self-care and domestic life needs of inpatients required for participation in community life. Introducing one of these tools to occupational therapy practice must be informed by the local contextual barriers, and in the case of the local hospital included in this study, this should include training and opportunities to practice, access to the outcome measure, and alignment with existing work practices. This study provides a solid foundation on which to conduct larger-scale research based on knowledge translation methodology.

#### **AUTHOR CONTRIBUTIONS**

Susan Darzins and Tamara Tse conceptualised the study. All authors designed and implemented the study methods in accordance with ethical requirements. Ruby Fraser and Tamara Tse analysed and synthesised the qualitative data. Stefani Skorik analysed and synthesised the quantitative data. Stefani Skorik, Ruby Fraser, and Tamara Tse drafted the manuscript, and all authors contributed to, reviewed, and approved the current version.

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#### CONFLICT OF INTEREST STATEMENT

Dr Susan Darzins is an author of the HSNA and has an interest in the PC-PART. For this reason, she was not involved in the data analysis or synthesis of the findings of this study. All other authors declare they have no conflict of interest.

#### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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#### SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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