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# Acceptability of a Mobile App (iMPAKT) for Measurement and Implementation of Person-Centredness: Mixed-Methods Study

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**Abstract.** This study tested the acceptability of the iMPAKT App with end users. Cognitive task analysis and semi-structured interviews were used. Twelve participants took part. The majority of tasks were found to be easy to complete but issues were identified with a section of the app that provides Speech-To-Text transcription of patients speaking about their experience of care. Artificial Intelligence (AI) based systems may be needed to address these limitations. Overall views on acceptability of the app were positive and participants valued how it could be used to support practice improvement initiatives and large scale collection of person-centred measures.

Keywords. Person-centred care, mHealth, acceptability

#### 1. Introduction

Digital health informatics, including mobile health (mHealth) systems may represent a realistic option for collection of large-scale data on person-centred measures[1]. The iMPAKT App is based on work to produce a set of eight, person-centred, key performance indicators (KPIs) (Table 1)[2]. The app includes sections that relate to four measurement tools (Table 2). A minimum data set consists of 20 Surveys, 3 Patient Stories, 10 Document Reviews and 3 Assessments of time spent with patients. Data are collected over a "Cycle", of six weeks. A "Reports" section is included to access the data, allowing for comparisons between different cycles. The objective of the study was to evaluate the acceptability of the iMPAKT App with end users.

## 2. Methods

A mixed-methods approach was used based on 1: cognitive task analysis to gather information on participants' reasoning while completing tasks, and 2: Semi-structured interviews to examine experience of using the app. Purposive sampling was used to recruit nurses working in different areas of practice, healthcare researchers, and patient and public involvement representatives. Outcomes included task completion rate and number of errors. User satisfaction were assessed using the System Usability Survey(SUS) (scored /100) and a thematic analysis of findings from semi-structured interviews. Audio and screen capture recordings of participant's task analysis and semi-

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structured interview were transcribed using automated software, and were scanned to identify critical points in the task analysis. Transcripts and field notes were collated and coded using thematic analysis which was facilitated using Nvivo software (Version 14.0).

## 3. Results

Twelve participants took part (8 health professionals (67%), 4 (33%) Patient and Public Involvement Representatives). The majority of tasks were easy to complete effectively and without errors. The mean score for the SUS was 73.5/100 (SD:7.9; range=60-92.5). However, audio-recording of patient stories, and reviewing transcribed sections of text to highlight information related to KPIs showed lower completion rates, as well as greater errors during testing (Table 3). Thematic content analysis identified three key themes related to 1. App design and features. 2. App usability, and 3. Implementing the app in practice.

KPI	Description		
1	Consistent delivery of nursing care against identified need		
2	Patient's confidence in the knowledge and skills of the nurse		
3	Patient's sense of safety whilst under the care of the nurse		
4	Patient involvement in decisions made about his/her nursing care		
5	Time spent by nurses with the patient		
6	Respect from the nurse for patient's preference and choice		
7	Nurse's support for patients to care for themselves where appropriate		
8	Nurse's understanding of what is important to the patient and their family		

Table 1. Key Performance Indicators

Table 2. The measurement framework for the iMPAKT App

le responses to eight questions
cording of patients speaking about their care
cy between staff views and patient documents
time spent with patients

Table 3. Tasks not completed easily by participants during the evaluation

Description	Completion	Number of errors
	rate [N (%)]	[Mean (SD): Range]
Record one "patient story"	10 (83%)	2.4 (1.4): 1-5
Open a "patient story" and edit errors in text	7 (58%)	2 (1.7): 0-5

## 4. Conclusions

Good acceptability was demonstrated and findings highlight the potential value of the app, and how it could be used to support practice improvement initiatives. However, issues were found with the "patient stories" section of the app. Artificial Intelligence (AI) based systems may be needed to address these limitations. This is an area that requires further evaluation, particularly in relation to the potential for large scale collection of person-centred measures using the iMPAKT App.

## References

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