

Developing and validating measures of patient safety at transitions of care

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Introduction

Transitions of care occur when a patient moves from one part of the healthcare system to another. WHO highlights that care transitions should be considered high-risk scenarios for patients. Although patient safety outcomes at transitions of care are recognised as increasingly important as healthcare settings become more integrated, it is not clear how they should be measured. Questionnaires are often used to assess patient experience of transitions of care, but broader outcomes are rarely assessed. This study sought to identify and develop measures of patient safety outcomes at transitions of care.

Methods

Frist, through patient and public involvement and engagement what matters to patients when moving between healthcare settings was identified. Second, a systematic review and metasynthesis identified, in peer-reviewed literature, important areas of patient safety at transitions of care. The findings from the two initial steps were then mapped to existing measures where available, for example the ICHOM standard sets and National Institute for Health and Care Excellence (NICE) quality standards. Measures were developed where no existing measures were identified. The RAND Appropriateness Method was then used to identify, develop, and obtain agreement on the measures of patient safety at transitions of care. Using a “People’s Research Café” approach, qualitative data on areas of concern for patients, carers, and the public as patients move between hospital settings was collected. This data was analysed using thematic analysis. To identify important areas of patient safety measurement at transitions of care in peer-reviewed literature a systematic search was performed in MEDLINE and EMBASE databases using keywords and Medical Subjective Headings (MeSH) terms as well as free text to find published reports relating to patient safety measurement and transitions of care. The areas identified were mapped to existing measures. ICHOM standard sets were examined. A modified Delphi process validated the approach.

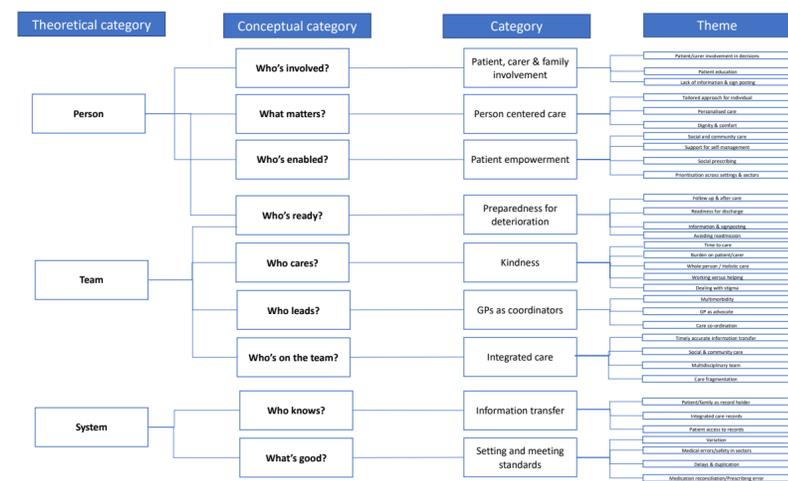


Table 1 Conceptual map of themes generated through coding of workshop data

- ### Final Domains of Patient Safety at Transitions of Care
1. Data and information quality and sharing
 2. Communicating and sharing information between providers, patients, families and carers
 3. Transition planning and coordination
 4. Preparation for potential deterioration and emergencies
 5. Complex and changing needs and deconditioning
 6. Hospital, community and self-management support
 7. Appropriate resource use
 8. Impact of caregiving on patients, carers, and families

Table 3 Final domains generated through Delphi consensus

Results

The conversations from the Café were thematically analysed to identify areas of patient safety at transitions of care that are important for patients, carers and families (Table 1). The search strategy identified 1792 citations of potentially relevant studies through database search. 500 duplicates were identified and removed. 1292 studies were screened for eligibility according to the inclusion and exclusion criteria. 1151 studies were identified as irrelevant. 141 full-text studies were assessed for eligibility. 69 studies were excluded at this point for not meeting the inclusion criteria. 72 articles were included for analysis. A narrative approach generated themes of patient safety at transitions of care from peer-reviewed literature (Table 2). Using the themes of patient safety for transitions of care identified through patient and public involvement and engagement and literature review, indicators were identified and developed. These indicators were proposed to the Delphi panel and assessed for face, content and construct validity. The panel arrived at a consensus on the final list of measures that capture the breadth of patient safety concerns at transitions of care.

	Theme identified
1	Standards / Measurement / Risk adjustment
2	Universal indicators / Patient feedback
3	Relationship between PSI and outcomes
4	Patient / Family communication
5	Patient centred
6	Information transfer
7	Discharge planning / Readiness for discharge
8	Early readmission / Poor transition / Repeat admission / Unplanned admission / Avoidable admission
9	Medical error
10	Multidisciplinary team
11	Inter-specialty / fragmentation
12	Number of actors / Fragmentation
13	Education / Training / Roles
14	Population health and prevention / Health promotion
15	Vulnerable population
16	Age
17	Multimorbidity / Complex
18	Frailty
19	Care continuum / Point in pathway and PSI
20	Follow up and monitoring
21	Post discharge destination
22	Discrete settings
23	Under/overuse of care
24	Need for transition
25	Resource impact
26	Reimbursement /incentive
27	Impact on outcomes / Impact on function
28	End of life
29	Nutrition
30	Timing
31	Medication
32	Cognitive impairment

Table 2: Themes generated through metasynthesis

Conclusions

Though measurement of patient safety does not alone improve patient safety, this work determines patient safety measures at transitions of care as a vital route to awareness raising, research and implementation of improved patient safety at transitions of care. ICHOM standard sets allowed a standardised and validated approach to be adapted for outcome measurement at transitions of care. The measures identified will be further assessed to see if they can be used to measure outcomes of transitions of care in integrated electronic health records.

References

1. National Institute for Health and Care Excellence (NICE) Quality standard [QS136] 2016
2. Developing a measure to assess the quality of care transitions for older people (Oikonomou *et al.*, 2019)
3. NICE guideline [NG27] 2015
4. ICHOM Standard Set for Older person

Declaration of interests

This PhD project is funded by the National Institute for Health Research (NIHR). The views expressed are those of the author (s) and not necessarily those of the NIHR or the Department of Health and Social Care.