

### **Good Reporting of A Mixed Methods Study (GRAMMS)**

(1) Describe the justification for using a mixed methods approach to the research question

A mixed methods approach allowed us to use a variety of robust and systematic methods (thematic analysis, descriptive statistics and qualitative content analysis) to develop and pilot a questionnaire used to involve patients in recognising clinical deterioration in hospital.

(2) Describe the design in terms of the purpose, priority and sequence of method

The purpose of the study was to develop and pilot a questionnaire used to involve patients in recognising clinical deterioration in hospital.

Qualitative methods were used to explore how patients could feasibly and acceptably be involved in recognising clinical deterioration in hospital, and to develop a measure to collect patient-reported wellness. Quantitative methods were used to begin to validate the measure.

(3) Describe each method in terms of sampling, data collection and analysis

Details of our sampling, data collection and analysis were described in the methods section of each phase of the study.

Details of sampling strategy and data collection for study phases can be found on pages 4-5, 9, 10-11 respectively.

Details of analysis for study phase can be found on pages 5, 11-12 respectively.

(4) Describe where integration has occurred, how it has occurred and who has participated in it

The study data was integrated using a convergent design. The findings were integrated in the discussion section of the paper.

(5) Describe any limitation of one method associated with the present of the other method

Transforming qualitative data into quantitative data using qualitative content analysis may have resulted in loss of detail in the original data collected during phase 3 of the study. However, it was appropriate to use qualitative content analysis because the researchers aimed to gather a quantitative description of patients' feedback regarding the acceptability of being asked the Patient Wellness Questionnaire during routine observation. Using thematic analysis and including direct quotes in phase 1 of the study captured the richness of data exploring health professionals' attitudes towards involving patients in recognising clinical deterioration in hospital.

(6) Describe any insights gained from mixing or integrating methods

Using a mixed methods approach provided a better understanding of the involvement of patients in recognising clinical deterioration in hospital than using either qualitative or quantitative methods alone. Qualitative analysis suggested that health professionals believe there is a role for patients in recognising clinical deterioration and routinely recording patient-reported wellness during observation may be appropriate. Quantitative analysis allowed the researchers to understand whether patients can recognise variations in their wellness that may indicate genuine deterioration,

and the acceptability of using the Patient Wellness Questionnaire to capture patient-reported wellness.

Guideline	Section: page
Describe the justification for using a mixed methods approach to the research question	Pg. 3
Describe the design in terms of the purpose, priority and sequence of methods	Pg. 3
Describe each method in terms of sampling, data collection and analysis	Phase 1- Pg. 4-5 Phase 2- Pg. 9 Phase 3- Pg. 10-12
Describe where integration has occurred, how it has occurred and who has participated in it	Pg. 3
Describe any limitation of one method associated with the present of the other method	Pg. 17
Describe any insights gained from mixing or integrating methods	Pg. 15

*O'Cathain A, Murphy E, Nicholl J. The quality of mixed methods studies in health services research. J Health Serv Res Policy. 2008;13(2):92-98.*