# Research Protocol 18-12-18

**HEC Number: HEC18501**

# Educating health professionals to optimise falls screening

## INTRODUCTION

This project evaluates an intervention designed to educate health professionals on how to use a new falls screening tool in hospitals. Healthscope plans to replace a historical Falls Risk Assessment Form (FRAT) (Form A) with a new, evidence-based screening form (Form B). This project will educate health professionals in the use of the new screening form, and will evaluate their views of its feasibility. This study also examines the views and experiences of health professionals on hospital falls risk screening and FRATs more generally.

## BACKGROUND & RATIONALE

Falls are one of the most serious problems in Australia’s private and public hospitals and are associated with marked morbidity, mortality and increased length of stay (1-4). Falls also incur substantial costs to hospitals and healthcare providers, insurers and individuals. This public-private partnership aims to reduce hospital falls to improve the patient experience and patient outcomes. We shall apply evidence-based approaches to improve hospital falls risk assessment procedures. This project uses implementation science principles to optimise clinical practice through optimising the hospital falls risk assessment procedure and in particular the Falls Risk Assessment tool (FRAT tool) in routine use.

There is limited research describing education interventions for health professionals on falls screening and prevention (5). This unique partnership brings together a major hospital provider (Healthscope, 44 hospitals) with a leading educational design and workforce training partner (Holmesglen Institute) and top Australian falls researchers. This study will apply evidence-based approaches to the education design with the aim of supporting effective implementation of the new learnings into clinical practice.

Participants in the experimental group hospitals will receive a high-quality education program using best educational design. The education program aims to increase participants’ knowledge, motivation and confidence about evidence-based practice around the use of a falls risk assessment tool in comparison with health professionals’ judgement alone. Health professionals will also be trained in how to use the new falls screening form (Form B).

## STUDY AIMS

The aims of the study are to:

(i) Investigate health professionals’ self-reported views of their knowledge, clinical practice, confidence, motivation and attitudes towards the existing FRAT (Form A) and the new hospital falls screening tool (Form B).

(ii) Examine perceptions of an education intervention designed to communicate the latest evidence on falls screening and how to implement the new falls screening form (Form B) into daily practice.

## RESEARCH QUESTIONS

## The study will focus on three broad questions

## 1. What are the views and experiences of clinical leaders, nurses and allied health professionals on the existing FRAT (Form A) and the new Falls screening form (Form B)?

## 2. Does a targeted education program based on best practice educational design:

## (a) Increase knowledge, motivation and confidence about evidence-based practice for falls screening?

## (b) Improve learner behaviour and attitudes towards the new screening form (Form B)?

## 3. What is the effectiveness of the program content and delivery in supporting behaviour change for falls screening in hospital clinical practice?

## THEORETICAL FRAMEWORK

The theoretical concepts and principles underpinning the educational intervention design and research methods of this study are based on behavioural and social sciences theory. Keller’s motivational design for learning and performance is one approach that will be used (Keller’s motivational model)(6). According to Keller, there are four steps for promoting and sustaining motivation in the learning process: attention, relevance, confidence and satisfaction (6). We will incorporate these elements into the instructional design and research measurement outcomes. Hewson, in his Conceptual Change Model, argues that learning involves an interaction between new and existing conceptions with the outcomes being dependent on the nature of the interaction. He puts forward a view that in order for new learning to occur, the new conception (in this case moving from an old FRAT form to a new form) needs to be intelligible (knowing what is means), plausible (believing it to be true) and fruitful (finding it useful) (7). The teaching approaches incorporated into the program will include this view, so that it is more likely that we will facilitate conceptual change on the part of the learner.

## STUDY DESIGN

### Sample:

10 Healthscope Hospitals (list to be provided by Cathy Jones, National Manager Quality & Compliance, Healthscope) will be randomised by another organisation (The University of Melbourne) to either a:

(1) Control group (5 hospitals) - continuing to use the current Healthscope FRAT form (A) or:

(2) Experimental group (5 hospitals) -using a new form (B) that removes the risk assessment component at the top of the existing form and associated summary scores, yet maintains other components for falls mitigation.

All participants in this education study will be drawn from the five experimental group hospitals. At each of the experimental group hospitals there will be two separate cohorts.

The names and contact details of all potential participants will be obtained from an existing Healthscope Hospitals database.

**Cohort 1** (n =10 at each experimental site):

Cathy Jones and her representative, Shayne Logue (registered nurse and quality manager at Healthscope) shall contact Hospital General Managers to provide 10 clinical leaders to be approached to consider participating in the study. These clinical leaders will be invited to participate via email, which will contain all details about the study. The email will also provide the clinical leaders with the PICF. All those invited to participate will be asked to read the PICF. If the clinical leaders elect to attend the education intervention, at the session they will be given the same verbal information about the study from a prepared script. All attendees will then be given a paper-based PICF, to be completed and returned to the researchers.

**Cohort 2:**

All nurses and allied health professionals involved in completing falls screening forms will be invited to participate in the study by the quality managers at each experimental site, via email. Participants will be drawn from all wards in the five experimental Healthscope hospitals, excluding paediatric, maternity, emergency and theatre wards. The email will contain all details about the study. The email will also provide the nurses and allied health professionals with the PICF. All those emailed will be asked to read the PICF. If the nurses and allied health professionals elect to attend the education intervention, at the session they will be given the same verbal information about the study from a prepared script. All attendees will then be given a paper-based PICF, to be completed and returned to the researchers via registered post.

Falls Screening:

The new screening form (Form B) to be taught in the education program aims to enable clinicians to quickly screen hospital patients and to designate “high risk” to any patient who is 65 years or older or any person 50 years or older who has co-morbidities. Younger patients should be screened according to the criteria provided and if necessary, preventative interventions should be commenced according to Healthscope’s published policy and procedures.

### Education Intervention:

There will be two participant groups receiving an education intervention from the experimental group.

**Cohort 1:**

We will provide a three-hour education program to consenting clinical leaders from each intervention group site using best educational design. This will educate clinical leaders on the latest evidence on hospital falls risk assessment and guide them in how to implement a new falls screening form (Form B) that eliminates a traditional checklist risk assessment approach. The educational intervention will also gauge participants’ views on the old FRAT form (Form A) and the new screening form (Form B). The education intervention will translate new evidence regarding falls prevention, quality and safety into Healthscope hospitals Australia-wide.

Participants in cohort 1 will also be provided with the practical skills to enable them to deliver an effective, one-hour in-service training session on these topics, to cohort 2 (nurses and allied health professionals), who are involved in completing the new falls screening tool. Cohort 1 will be taught the education program methods and will be given a standard lesson plan with all associated educational resources.

**Cohort 2:**

The second participant group will consist of all consenting nurses and allied health professionals involved in completing falls screening forms (see sample characteristics). They will attend a one-hour in-service training and be taught the education intervention by cohort 1, who attended the three-hour education intervention.

Methods of educational delivery will include:

* interactive face-to face teaching
* content delivery on the latest evidence for falls risk assessment
* role-play simulated exercises
* critical thinking activities from video-recordings of simulated patients showing a range of falls related clinical vignettes
* content delivery and practice activities on how to use the new form, how to progress immediately to the falls mitigation components of the form, and how to spend the time saved on falls prevention

### Data Collection

The study will be based on a Pre and Post-test design, elaborated through a mixed methods research approach. Data will be collected via de-identified surveys (using the participants’ initials and last three digits of their mobile telephone number) and individual telephone interviews. Multiple time points will be used for data collection from surveys:

Pre-test: Immediately prior to the education program (paper-based survey)

Post-test 1: Immediately post the education program (paper-based survey)

Post-test 2: Two months post implementation of the new screening tool (electronic survey)

Paper-based surveys will be collected by those who deliver the education program. For cohort 2, all surveys will be returned to researchers via registered post.

## Instruments

### Surveys

The *Pre-test Survey* identifies demographic characteristics of the sample such as profession, position, years of clinical practice experience, gender and location of work. It asks participants to select a single statement from a list of 5 to identify their view on the current FRAT form and their view on what their colleagues might think. They are then asked to rate how strongly they agree or disagree on 20 statements regarding evidence-based practice falls risk assessment on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Free text comments are invited at the conclusion of the survey.

The *Post-test 1 Survey* repeats the 5-item statement to identify participants’ views on the forms. It also repeats 13 items from the pre-test survey on evidence-based practice and falls risk assessment with minor changes to 6 items and the addition of 4 new items (1 item is removed). Participants are asked to identify and comment on whether the new form (Form B) will be beneficial to patients and to them personally.

*Post-test 1 Survey* also includes 9 items from a previously validated Instructional Material Motivation Survey (6). The relevance subscale from this survey is the only section to be used, as it has the most applicability and is an approach used in a previous thesis on falls prevention (8). This section also includes 5 items seeking participants’ perceptions of the overall learning experience. Four open ended questions are included asking participants to comment on the effectiveness of the program such as what worked well, what needs improvement and their views on the ‘take home’ messages.

In post-test survey 1, Cohort 1 participants are asked additional questions around how prepared and confident they feel in educating others (cohort 2) on this topic.

*Post-test 2 Survey* repeats all items from Post-test 1 and makes minor changes to 3 items in the evidence-based practice and falls risk assessment section. Three open-ended questions are asked about the implementation of the new form along with whether the new form has been beneficial to patients and to them personally.

A summary of corresponding items on all three surveys can be seen in the document attached.

*Semi-structured telephone interviews* will be conducted post implementation with consenting participants randomly selected from two randomly chosen experimental sites, in order to triangulate the data from the questionnaires and to allow staff to state confidentially their thoughts on the changes to the falls screening forms. From cohort 1, one health professional will be invited to participate. Cohort 2 interviewees invited to participate will consist of two other randomly selected staff - a junior staff member (qualified three years or less), and a senior staff member (qualified more than three years). Telephone Interviews will be audio-recorded for transcription purposes, and to ensure clarity and accuracy.

## Analysis

### Quantitative data

Using SPSS, demographic data and responses on all Likert scaled surveys and rating scales, will be analysed descriptively. Paired samples t-test will compare responses within the participant group to see if there is a significant difference between mean scores at Pre-test, Post-test 1 and Post-test 2. Comparisons between groups will be measured according to profession, years of clinical practice, and hospital site.

We will determine whether the education intervention resulted in a statistically significant conceptual change to the new form, and whether the educational intervention requires further development in terms of content and delivery.

*Qualitative responses* from surveys and telephone interviews will undergo content and thematic analysis checking for commonality of themes.

## OUTCOMES:

It is anticipated that the outcomes of this study will assist in measuring:

* Conceptual/ behavioural change from the existing FRAT (Form A) - increased motivation, confidence, knowledge, attitude.
* Increased knowledge of evidence-based practice for falls screening and prevention in hospitals.
* Outcomes from the education program, to inform the future refinement of educational delivery across all Healthscope sites.
* Differences in time attributed to fall prevention actions in response to either form.

## RECRUITMENT and CONSENT

Cohort 1: Each Hospital General Manager will identify 10 individuals who they believe would be appropriate to take on the role of clinical leads at their site and to undergo the 3-hour education program. The clinical leads will be invited to participate via email. This email will include a copy of the PICF, outlining the full details of the research project and the requirements for participation.

On the day of the education program, further information will be provided by one of the research team and an invitation made to consent to complete the surveys. Those individuals consenting to the study will be required to complete the PICF, Pre-test and Post-test 1 surveys on the day of the education and return them to the researcher who is leading the education program. The PICF will include consent to participate in a follow up telephone interview. Only those providing their contact details and consent will be contacted to participate in the interviews. Completing the Post-test 2 survey online will imply consent.

Cohort 2: Quality managers of each hospital site will invite via email all relevant nurses and allied health professionals to attend a one-hour in-service education program. This email will include a copy of the PICF, outlining the full details of the research project and the requirements for participation.

On the day of the education program, further information will be provided by a clinical leader from cohort 1, and an invitation made to consent to complete the surveys. Those individuals consenting to the study will be required to complete the PICF, Pre-test and Post-test 1 surveys on the day of the in-service training. These will then be returned to the researchers via registered post. The PICF will include consent to participate in a follow up telephone interview. Only those providing their contact details and consent will be contacted to participate in the interviews. Completing the Post-test 2 survey online will imply consent.

**RISK MANAGEMENT AND SAFETY**

It is anticipated that there will be no physical, psychological, social, legal or financial harm to the participants involved in this study. Participants may withdraw from the study at any time.

However, with any study there are risks. We have listed the risks we know about below.

* There is a low risk that not using the current Healthscope FRAT will unexpectedly increase falls in hospitals.
* There is a low risk that clinicians could become anxious about using new methods of recording.

To mitigate risk, an independent safety monitoring committee will regularly check the falls rates in each hospital and compare rates with historical values, to ensure falls or associated injuries have not systematically increased as a result of the trial. Ward-level falls rates will also be used for safety monitoring (monthly reports) provided to the safety monitoring committee.

**DATA SECURITY AND HANDLING**

Survey data will be directly recorded into SPSS. Interview notes and audio will record the telephone interviews, which will be transcribed. All information collected will be anonymous and no individual will be identifiable in any of the reporting of outcomes. During the study all files will be kept secure for the duration of the project. Following completion of the study, project documentation will be kept in a secure, lockable location in the office of one of the lead researchers. Data will be stored for 7 years. No data will be used for other projects. All electronic data will be kept in password protected databases, separate from any identifying information. Access to data will be limited to the chief investigators and support staff only.

## REFERENCES

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