

**PATIENT FALLS IN ACUTE CARE  
INPATIENT HOSPITALS: A PORTFOLIO  
OF RESEARCH RELATED TO  
STRATEGIES IN REDUCING FALLS**

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## **Signed Statement**

This portfolio contains no material which has been accepted for the award of any degree or diploma in any university or other tertiary institution and to the best of my knowledge and belief contains no material previously published or written by another person except where due reference has been made in the text.

I give consent for this copy of my portfolio, when deposited in the University Library, being available for photocopy.

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## **Introduction to Portfolio**

## **Introduction**

Despite a myriad of studies on fall prevention, patient falls continue to be a long-term problem experienced by health care organisations world-wide. Falls impose a heavy burden in terms of social, medical, and financial outcomes,<sup>1</sup> and continue to pose a threat to patient safety.<sup>2</sup> Because the potential for a fall is a constant clinical safety issue in every health care organisation,<sup>3</sup> protecting the patient from falls and subsequent injuries, and ensuring that the patient care environment facilitates, are fundamental aspects in providing quality care.<sup>4</sup> Moreover, the current international focus on creating a culture of quality care and patient safety requires the implementation of fall prevention programs that decrease the risk of falls.<sup>5</sup>

As with other international health care organisations, the National University Hospital (where the principal investigator is working), has been challenged with the issue of how to prioritise and implement quality initiatives across all disciplines. Faced with persistent patient falls that affect care outcomes, fall prevention has been a priority initiative at the hospital since 2003. In response, a nursing task force was established in an attempt to resolve this problem. A root cause analysis undertaken by this task force revealed that the hospital protocol on fall prevention was outdated and not evidence-based. Furthermore, many nurses did not understand the importance of fall prevention, while the administration of the fall prevention program was instituted on an ad hoc basis rather than as a standard of care for all patients. The challenge for this task force, as with other

health care professionals, was not only in finding an intervention that was effective, but also identifying who would benefit from its implementation.

Although the need to apply current best practices to reduce patient falls is clear from the task force results, evidence of the effectiveness of fall prevention interventions in acute care hospitals is lacking in literature.<sup>6-10</sup> In addition, there are no published studies on fall prevention in Singapore to support changes in nursing practices. Thus, it becomes apparent that research on fall prevention is greatly needed in Singapore so that an evidence-based fall prevention program can be developed.

This topic coincides with the Doctor of Nursing course, which requires the student to gain knowledge through scholarly research on contemporary issues in nursing by undertaking two separate projects related to a single area of interest. Undertaking the two research projects on fall prevention in an acute care inpatient hospital as part of the doctoral studies provided an opportunity to address this deficit in a way that could raise awareness of the importance of fall prevention in Singapore hospitals. This research also provides a platform for the first body of research into fall prevention to be conducted within the Singapore health care environment, which is essential, as international studies are not always necessarily applicable to the Singapore context due to differences in educational preparation, skills-mix, organisational culture and nursing practices.



## **Significance of the Research**

The two research studies contained in this portfolio are believed to be the first in-depth study of fall prevention in Singapore. The significance of this research offers new insights on the validity of fall-risk assessment tools and the effectiveness of multi-targeted fall prevention interventions within the context of acute care inpatient hospitals. This portfolio also provides recommendations on how this research can contribute to a reduction in the number of patient falls in Singapore hospitals.

## **Portfolio Structure and Overview**

This portfolio into patient falls in acute care inpatient hospitals describes the researcher's journey in the evaluation of various fall-risk assessment tools and exploration of strategies to reduce patient fall rates. As a journey, it is presented in five sections that represent significant points within the portfolio, and is designed to assist the reader navigate through the portfolio.

**Section 1:** This section of the portfolio addresses a number of important issues on falls and falls prevention. Firstly, it depicts how falls have been defined in literature and notes the inconsistencies in definitions that have been used. Secondly, it describes the incidence, risk factor, circumstances and impact of falls. Thirdly, it explores existing fall-risk assessment tools and fall prevention strategies. Lastly, two research studies are presented from the background review of contemporary literature.

**Section 2:** Based on Section 1, this section recounts the report of the first research study entitled ‘Evaluation of three fall-risk assessment tools in an acute care inpatient hospital’. The aim of this study was to evaluate the predictive validity of three fall-risk assessment tools, namely the Morse Fall Scale, STRATIFY, and Hendrich II Fall Risk Model. The study highlighted that Hendrich II Fall Risk Model (with a cut-off score of  $\geq 5$ ) and Morse Fall Scale (with a cut-off score of  $\geq 25$ ) were the only two tools that had strong sensitivity values to identify patients at high risk of falls. However, only the Hendrich II Fall Risk Model had acceptable specificity compared to the Morse Fall Scale. Thus, the Hendrich II Fall Risk Model provides the best predictive validity and reliability compared to Morse Fall Scale and STRATIFY.

**Section 3:** Based on Section 2, this section relates the report of the second research study entitled ‘A randomised control trial evaluating the use of a targeted multiple intervention strategy in reducing the number of falls in an acute care inpatient hospital’. This double-blind randomised controlled trial was designed to compare two fall prevention interventions: a) universal multiple interventions, and b) targeted multiple interventions. The purpose of this study was to determine the effectiveness of a targeted multiple intervention strategy in reducing the number of falls in an acute care inpatient hospital. The findings revealed that a targeted multiple intervention strategy is linked to the reduction in the mean number of falls, a reduction in the relative risk of recorded falls, and a longer mean time to the first fall in the intervention group.

**Section 4:** This section provides a summary of the two research studies and the implications of the research on nursing practices, as well as further research in the area of fall prevention in acute care inpatient hospitals. It also provides strategies for translating the research evidence.

**Section 5:** This section contains a copy of a peer reviewed publication that was generated from this portfolio.