Practices of falls risk assessment and prevention in acute hospital settings: a realist investigation

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Disclosure of interests

Scientific summary

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Background

Inpatient falls are the most common safety incident reported by acute hospitals and can cause both physical and non-physical harm. The National Institute of Health and Care Excellence (NICE) guideline on falls in older people recommends a multifactorial falls risk assessment (MFRA) and interventions tailored to address the patient's identified risk factors for all inpatients aged 65 years and older, or 50–64 years and judged to be at higher risk of falling due to an underlying condition. This approach is estimated to reduce the incidence of inpatient falls by 25–30%. However, there is substantial unexplained variation between hospitals in adherence to this guideline.

Objectives

1. Use secondary data to develop a theory that explains what supports and constrains routine use of MFRA and falls prevention interventions.
2. Refine the theory through mixed method data collection across three acute hospital Trusts.
3. Translate the theory into guidance to support MFRA and prevention and, in turn, adherence to the NICE guideline.

Methods

Throughout the study, we were supported by DW, the lay member of the project management group, and the Lay Research Group (a group of service users and carers who had either fallen themselves or cared for someone who fell in hospital).

We first undertook a realist review. In Phase 1, systematic searches were undertaken for commentary-type articles, studies mentioning theories/conceptual models for falls risk assessment, and systematic reviews. Additionally, a search of professional/trade journals and an advanced Google search were undertaken. Titles, abstracts and full texts were screened for relevance. Data about contexts, mechanisms and outcomes were extracted from included papers, and referenced substantive theories were noted. Data were summarised in matrices, used to construct context mechanism outcome configurations (CMOcs).

To determine which CMOcs should be taken forward for testing in Phase 2, the Lay Research Group and Study Steering Committee (SSC) (comprised of clinicians, academics, and a lay member, with expertise including falls prevention, risk assessment, patient safety and implementation science) ranked them, giving top rankings to statements they believed most likely to work in practice. The Lay Research Group was also asked to highly rank statements likely to have greatest impact for patients and carers.

In Phase 2 of the realist review, systematic searches for the four concepts ranked highly by both the Lay Research Group and SSC were conducted across a range of databases. Titles, abstracts and full texts were screened for relevance.

In Phase 3 of the realist review, data extraction was conducted using NVivo, coding sections of manuscripts to facilitate theory testing. Researchers analysed two CMOcs: one focused on implementation – facilitation – and one focused on falls risk reduction – patient participation. Narrative summaries were written and used to refine the initial CMOcs. Included texts were appraised using the mixed methods appraisal tool (MMAT). To assess strength of the body of evidence for the refined

CMOcs, we used Grades of Recommendation, Assessment, Development and Evaluation-Confidence in the Evidence from Reviews of Qualitative research (GRADE-CERQual).

As an additional source of evidence, we undertook an advanced Google search for the policies of 25 acute Trusts regarding falls risk assessment and prevention. We assessed adherence of these policies to the NICE guideline on falls in older people by checking whether a falls risk prediction tool was recommended; whether the approach recommended involved tailoring interventions to patients' individual risk factors; and by looking for specific elements of the assessments undertaken (such as whether continence and cognitive impairment are assessed), as specified by NICE and captured in the National Audit of Inpatient Falls (NAIF).

We then conducted a multisite case study to further refine the theories across three NHS acute Trusts in England. Trusts were selected to ensure variation in key indicators in the NAIF and in health IT, and to include both teaching and district general hospitals. In each Trust, we collected data in one older person ward and one orthopaedic ward. Data were collected through 251.25 hours of ethnographic observations of falls prevention practices, interviews with staff (n = 50), patients (n = 28) and carers (n = 3), and a review of patient clinical records (n = 60). We also received routinely collected data on the number of falls and falls-related harms. The Lay Research Group contributed to the development of the observation protocol and interview topic guides for patients and carers. Observations took place at different times of day, including night shifts, and different days of the week, including weekends. The record review extracted data on (1) whether a falls risk assessment was completed for the patient on admission and within 6 hours; (2) whether a care plan was documented for the patient and if this was completed on a day or night shift; and (3) whether the care plan was updated and if updates were completed on a day or night shift. Qualitative data analysis followed the steps of framework analysis. The Lay Research Group contributed, providing a patient perspective. Descriptive statistics were produced for the record review data, broken down by ward. Narratives were written and used to refine the CMOcs.

Online presentations at each case site acted as a form of respondent validation and an opportunity to gather participants' perspectives on the implications of the research for practice.

Findings

In the realist review, 78 studies were used for theory construction and 50 for theory testing. Four theory areas were explored: (1) leadership; (2) shared responsibility; (3) facilitation via MFRA tools and (4) patient participation.

The leadership theory developed in the theory construction phase of the realist review suggested that where falls prevention is prioritised by organisations, for example, in organisational policy and provision of resources, falls leaders/champions (staff trained and dedicated to supporting delivery of multifactorial falls prevention strategies on their wards, e.g. by offering training and education to new staff) inspire and support delivery of the strategy in a consistent and co-ordinated way, so all eligible patients receive a MFRA and tailored intervention strategies. This theory was tested through the review of Trust policies and multisite case study. The review of Trust policies found organisational-level policies, in the main, reflect NICE guidance. The role of falls link practitioners was identified in all three sites. Link practitioners were expected to act as role models for falls reduction in their clinical areas, and provide advice and education around assessment, intervention and management of patients who had fallen or were at risk of falling. They were also expected to facilitate regular audits of falls management practice on wards and raise any patient safety concerns. However, pressures of work on wards, aggravated by coronavirus disease 2019, meant it was not always possible to fulfil such duties. Similarly, it could be difficult for them to attend the training they were entitled to. Despite these challenges, documentation of the falls risk assessment and care plan was largely consistent across sites. Ultimate responsibility for

falls prevention resided with senior nurses (the ward manager or the nurse-in-charge of the shift), who would monitor, remind and support staff to deliver falls prevention practices while also being sensitive to the pressures staff were under. They had authority to make decisions related to allocation of resources, such as which patients should be moved to cohort bays (bays where patients considered to be at high risk of falling were placed, with a staff member always present), and they would escalate patient safety concerns to hospital managers. Formal training about Trusts' falls prevention policies was provided by organisational teams for new starters on induction. Messaging was also a key strategy, for example, through visual displays and reminders about expectations and policy on wards.

The initial theory of shared responsibility suggested that, where there is a culture of learning from errors, if information about patients' falls risks is effectively communicated between ward staff (e.g. through posters/safety huddles/handovers), staff will develop a sense of shared responsibility for falls prevention and become more vigilant of patients at risk from falls, supporting implementation of multifactorial strategies to prevent falls. This theory was tested through the case study. Undertaking MFRAs was the responsibility of nurses; this documentation was rarely accessed by other professional groups. Instead, communication between professional groups was primarily verbal, both formal, for example, in multidisciplinary team meetings and safety huddles, and informal. Additionally, visual communication tools were used, such as patient bed boards, on which information about patient transfer and mobilisation needs was recorded. Symbols such as a falling leaf were also displayed to identify patients at risk of falling. However, information on bed boards was often variable or incomplete. A key falls prevention strategy across all wards was patient supervision, for example, provision of one-to-one care and use of cohort bays, responsibility for which fell to nursing staff, constraining the extent to which responsibility for falls prevention could be shared among the multidisciplinary team.

The initial facilitation theory concerned MFRA tools (including health IT) that reflect best practice recommendations, are relatively quick and easy to use, and easily integrated into existing workflows. The theory stated that, where staff educated about falls risks and prevention practices had access to such tools, they will complete them with patients because they facilitate implementation of recommended practice, helping to ensure all eligible patients receive a comprehensive MFRA and appropriate interventions. This theory was tested through the realist review and case study. Review findings suggested that, where tools are clearly visible to staff in their work routines, they can prompt documentation of a falls risk assessment. Following an assessment, documentation and delivery of interventions can be constrained by changes in patient condition, movement between wards, intervention availability, and communication between different professional groups. Health IT can facilitate delivery of falls prevention practices by automating processes and reducing work for clinicians but can also introduce additional tasks. There was variation across case sites in the number and type of assessment items included in the falls risk assessment tools within the electronic health record (EHR). Nurses perceived the tools as practice prompts, but competing priorities on nurse time could reduce tool use to a tick-box exercise. While all tools identified individual patient risk factors, stratification of patients as high or low risk was used to determine which patients should receive supervision.

The initial patient participation theory suggested that, where patients have capacity to engage in the MFRA process, and a patient-centred approach is taken that involves them and their carers, patients will understand their strategy and have the confidence/reassurance to participate in specific interventions, thereby reducing their risk of falling. This theory was tested through the realist review and multisite case study. Review findings suggested that interventions that encourage cognitively intact patients to participate in falls prevention practices are associated with a reduction in falls. However, patient participation in falls prevention strategies can be constrained by patients not wanting to disturb busy nurses by requesting help, not perceiving or believing they are at risk of falls, and not understanding their falls risks. Patient participation is supported by staff who understand patients' circumstances through meaningful, directed interactions, enabling staff to personalise falls prevention messages to improve patient knowledge, skills and confidence to participate. There is little research examining patient participation interventions with cognitively impaired patients. In the case study, workload

pressures meant nursing staff had little time to explain to patients why they were at risk of falling or what they could do to prevent themselves from falling, although other staff could have such conversations and pass information to nurses. Many patients had cognitive impairments, which constrained the extent to which they could participate in interventions. Wards were often not staffed sufficiently for staff to respond to patient needs, leading to patients mobilising alone, although the quality of the interaction between staff and patients (including some cognitively impaired patients) could reduce the likelihood of patients taking actions that increased their risk of falling.

Participants in the case site presentations agreed with the analysis. Key themes regarding implications were (1) the need for the lessons learnt to be disseminated to all professional groups, through leaflets and training materials; and (2) the need for leaflets for patients and carers, individualised to patients, providing them with information about their falls risks and how to prevent falls.

Limitations

A limitation of the review is that we were only able to complete data synthesis for two CMOcs. Limitations of the case study are that our observations focused on nursing staff, as they were most present on the wards, and we were unable to access patient records prior to observations, preventing assessment of whether care plans were enacted. Additionally, we did not manage to recruit patient participants who did not speak English; while we had information sheets translated into the three most spoken non-English languages across the case sites, all patients we met could speak English.

Conclusions

Implications for practice
(1) Leadership: There should be a clear distinction between senior nurses' roles and falls link practitioners in relation to fall prevention; (2) shared responsibility: Trusts should consider how processes and systems, including EHRs, can be revised to better support a multidisciplinary approach, and alternatives to patient supervision should be considered; (3) facilitation: Trusts should consider how to reduce documentation burden and avoid tick-box responses and ensure that items included in the falls risk assessment tools align with guidance. Falls risk assessment tools and falls care plans should be presented as tools to support practice, rather than something to be audited; (4) patient participation: Trusts should consider how they can ensure patients receive individualised information about risks and preventing falls and provide staff with guidance on brief but sensitive ways to talk with patients to reduce the likelihood of actions that increase their risk of falling.

Recommendations for research
Future research on falls risk assessment and prevention should include those with cognitive impairment and patients who do not speak the main language of the country in which the research is taking place:

1. development and mixed method and economic evaluation of interventions to support multidisciplinary teams to undertake, and involve patients in, MFRA and selection and delivery of tailored interventions
2. mixed method and economic evaluations of cohort bays and one-to-one care, comparing this to tailored alternatives
3. mixed method and economic evaluations of engagement support workers, volunteers, and/or carers to support falls prevention.

Study registration

This study is registered on PROSPERO CRD42020184458.

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