

Title: Talking about falls: A qualitative exploration of spoken communication of patients' falls risks in hospitals and implications for multifactorial approaches to falls prevention

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Abstract

Background: Inpatient falls are the most common safety incident reported by hospitals worldwide. Traditionally, responses have been guided by categorising patients' levels of falls risk, but multifactorial approaches are now recommended. These target individual, modifiable falls risk factors, requiring clear communication between multidisciplinary team members. Spoken communication is an important channel for such communication, but little is known about its form in this context. We aim to address this by exploring spoken communication between hospital staff about falls prevention and how this supports multifactorial falls prevention practice.

Methods: Data were collected through semi-structured qualitative interviews with 50 staff and ethnographic observations of falls prevention practices (251.25 hours) on orthopaedic and older person wards in four English hospitals. Findings were analysed using a framework approach.

Findings: We observed staff engaging in 'multifactorial talk' to address patients' modifiable risk factors, especially during multidisciplinary meetings which were patient- rather than risk-type focused. Such communication co-existed with 'categorisation talk', which focused on patients' levels of falls risk and allocating nursing supervision to 'high risk' patients. Staff negotiated tensions between these different approaches through frequent 'hybrid talk', where, as well as categorising risks, they also discussed how to modify them.

Conclusion: To support hospitals in implementing multifactorial, multidisciplinary falls prevention, we recommend: (1) focusing on patients' individual risk factors and actions to address them (a 'why?' rather than a 'who' approach); (2) where not possible to avoid 'high risk' categorisations, employing 'hybrid' communication which emphasises actions to modify individual risk factors, as well as risk level; (3) challenging assumptions about generic interventions to identify what individual patients need; (4) timing meetings to enable staff from different disciplines to participate.

- **What is already known on this topic:** Multifactorial approaches to falls assessment and prevention in hospital are recommended internationally. They require clear communication of patients' individual risk factors among multidisciplinary team members, for example in briefings such as safety huddles. Little is known about the form such spoken communication takes.

- **What this study adds:** This study provides new information about *how* staff talk about patients' falls risk levels and individual risk factors and how this supports or constrains multifactorial approaches to falls prevention.
- **How this study might affect research, practice or policy:** Based on our findings, we recommend how multifactorial falls prevention practices can be supported through multidisciplinary discussions that focus on patients' individual, modifiable falls risk factors rather than risk-level.

Background

Inpatient falls are the most common type of safety incident reported by acute hospitals worldwide.(1-3) Falls often result from interacting factors;(4) whilst it is not possible to change some characteristics associated with increased risk of falling, such as older age, others can be modified. To facilitate this, multifactorial approaches are recommended internationally, which assess and address those individual risk factors that can be treated, minimised or safely managed during a patient's stay in hospital.(5) These include cognitive impairment, postural instability and medications.(6) The incidence of modifiable risk factors is high: for example, a Dutch study of over 16,000 hospital admissions of people aged over 70 years identified prevalence of high risk medication for falls, with potential for deprescribing, of between 56% and 85%.(7) Thus, addressing modifiable risks could have a transformative impact on falls prevention. In England, for example, it is estimated that multifactorial risk assessment and prevention interventions could reduce inpatient falls by 25-30% and the annual cost of managing falls by up to 25%.(2)

Hospitals are advised not to use risk prediction or categorisation tools, which calculate a person's level of falls risk (for example, low/medium/high risk of falling).(5, 6) Such tools have limited predictive validity.(8-10) They can also provide false reassurance about patients identified as low risk and a sense that preventive action is being taken merely by identifying high-risk patients.(4, 11) Interventions may also be linked to scores, which can engender 'one size fits all' responses.(11) The distinction between multifactorial risk assessment and risk prediction methods has been summarised as '*don't count risk factors – do something about them*';(8) however, there is substantial unexplained variation in the implementation of multifactorial approaches and use of prediction tools persists.(12)

Because different professionals need to address different risks, multifactorial approaches require multidisciplinary team involvement and clear communication of patients' individual risk factors.(13, 14) A recent realist review of the inpatient falls prevention literature revealed that hospitals use various communicative approaches.(15) Spoken communication of risk is a key intervention, through informal discussions between staff and meetings such as safety huddles.(16-18) However, the review found limited information about the form such communication takes in terms of what is discussed and

how, or how discussions support or constrain multifactorial approaches. This information is needed because, whilst spoken briefings may improve patient safety by encouraging interdisciplinary teamwork,(19-21) the process is known to be complex, revealed in the detail of conversational interaction.(22, 23) Therefore, calls have been made for a new paradigm for spoken communication in healthcare (and in the English National Health Service/NHS specifically), which supports staff to respond flexibly to the organisational, environmental and relational tensions within which they communicate.(23)

Given this background, and drawing on empirical data from a study that examined use of multifactorial approaches to falls prevention in English hospitals,(24) this paper aims to explore spoken communication between staff about falls prevention and how this supports multifactorial approaches to practice. Whilst communication in hospitals takes place through many channels, including information systems and visual displays, we focus here on ward meetings and informal chats and briefings.

Methods

This paper reports a secondary analysis, from a wider realist study, of findings relating to spoken communication between staff about falls prevention. The wider study sought to understand how and in what contexts multifactorial falls risk assessment and tailored falls prevention interventions are used routinely for older patients in English NHS hospitals.(24) It included a realist review (15) of falls prevention literature in hospitals, from which explanations or theories about risk assessment and prevention practices were derived. Four theories were developed, one of which – the subject of this paper - concerned shared staff responsibility for falls prevention. The theories were refined in a realist evaluation, using empirical data from a multi-site case study in four hospitals within three English NHS trusts or provider organisations. Large teaching hospitals in two trusts (two hospitals in Sites 1 and one in Site 2) and a smaller district general hospital in the third trust (Site 3) were selected, because they served different populations and varied in performance against key indicators in the National Audit of Inpatient Falls in England and Wales.(25) In each trust, data were collected in one older person/complex care ward and one orthopaedic ward, chosen because they had diverse patient populations with different lengths of stay.

Ethnographic observations and semi-structured qualitative interviews with staff were used to study staff members' views and practices and generate learning about falls prevention, including how staff talked with each other to communicate risk. In total, 251.25 hours of observations were undertaken until saturation was reached, between November 2021 and June 2022 (**Table 1**). Three allied healthcare researchers (RR, NA, LM) observed at different times of the day (including evenings/nights)

and week (including weekends). Guided by theories from the realist review, they witnessed falls assessment and prevention work on the wards and recorded physical, interactional/emotional and logistical phenomena. As well as observing areas such as patient bays, the researchers also observed 26 ward meetings at which falls prevention was discussed (**Table 1**). Detailed fieldnotes were taken and written soon afterwards. Each of the three researchers observed all sites and wards, thereby bringing their different perspectives to bear on each area.

Table 1: Summary of observations

Site/ward	Overall hours of observations	Number of ward meetings observed		
		Handover	Safety huddle	Multidisciplinary team meeting
Site 1 orthopaedic	40.5	2	2	2
Site 1 older person/complex care	48.5	2	4	1
Site 2 orthopaedic	41.25	1	1	2
Site 2 older person/complex care	41	1	1	0
Site 3 orthopaedic	40	2	2	0
Site 3 older person/complex care	40	1	1	1
Total	251.25	9	11	6

Interviews aimed to gather information directly from staff, to supplement the observations. They took place on wards *or* via Microsoft Teams between December 2021 and June 2022 with 50 multidisciplinary staff involved in falls prevention, selected purposively to ensure variation in roles (**Table 2**). Interviews lasted between 10 and 90 minutes (median length: 36 minutes) and were iterative: staff clarified issues that had been observed and, conversely, where they mentioned practices not yet observed, these were followed up during observations, where possible. See also **supplementary files 2 and 3**: Staff interview schedules.

Table 2: Interviews by professional group-

Professional group	Site 1	Site 2	Site 3
Organisational-level staff (e.g. falls specialist nurses)	4	4	2
Ward managers/matrons	2	4	1
Nurses-in-charge/senior nurses	2	1	2
Nurses	2	1	4

Nurse associates/student nurses	1	1	0
Healthcare assistants	4	0	1
Doctors	1	2	2
Physiotherapists	3	1	0
Occupational therapists	0	1	0
Pharmacists	0	1	1
Other	0	1 (activities co-ordinator)	1 (nutritional assistant)
Totals	19	17	14

A framework analysis approach was used within the realist evaluation to enable intra- and inter-case comparisons (26). Researchers familiarised themselves with the data through repeated reading of anonymised observation notes and interview transcripts, before agreeing themes for indexing in *NVivo 11*. Matrix displays, in which thematised data were summarised, were developed to facilitate cross-case analysis and to map data. The matrix relating to the theory about shared staff responsibility, for example, contained a column about how patients' falls risks were communicated between staff. Here, themes about formal and informal communication were summarised and illustrative quotations provided. This process enabled refinement of the theories to reflect the empirical data collected.

The wider study findings and theories will be published in the final report of the research and a case study findings paper. This paper is based on a secondary analysis of qualitative data from observations and interviews, undertaken by the first author and reviewed by co-authors, relating to spoken communication between staff about patients' falls risks. It draws on the framework analysis and its shared staff responsibility matrix, returning to original data where necessary.

Triangulation and reflection enhanced trustworthiness and credibility. In the original analysis, credibility was also enhanced through the involvement of patients and members of the public at all stages of the research, from analysing observation and interview data to disseminating study outcomes (and contributing to co-authorship of this paper (BI). Their involvement is described fully elsewhere.(27) The paper adheres to standards for reporting qualitative research (SRQR):(28) see **supplementary file 1**.

Ethical approval and informed consent

NHS ethics approval was granted by the Yorkshire & The Humber – Bradford Leeds Research Ethics Committee on September 17th, 2020 (ref: 20/YH/0221). In accordance with this approval, written consent was not obtained from staff while conducting ethnographic observations, but researchers explained the study and made it clear staff had no obligation to be observed. For online interviews,

verbal consent was recorded; for in-person interviews, written consent was obtained. The research was carried out in accordance with the Declaration of Helsinki and all reported data are anonymised.

Findings

Ward contexts

The wards cared for both male and female patients, the majority of whom were aged 65 or older. In all sites, it was policy for nurses to carry out falls risk assessment and care planning. The falls prevention policies in Sites 2 and 3 specified multifactorial risk assessments, whereas Site 1 required risk assessments 'individualised' to meet patient needs. In all sites, individualised falls care plans were also required. At Site 3, completing three items in the mandatory falls risk assessment section of the electronic patient record automatically calculated a score that categorised patients as high, medium or low risk of falling. The site's falls prevention policy emphasised a multifactorial approach to practice, however, and they planned to update the system to be more inclusive of individual falls risk factors.

Sites required supervision of patients for whom such a need had been identified, typically carried out by nurses or healthcare assistants (HCAs). This included regular patient monitoring, one-to-one care or (in Sites 1 and 2) the use of cohort bays, where patients were nursed together, with a staff member (usually a HCA) always present. There were insufficient staff to supervise all unsteady patients, and therefore sites sought to identify the most vulnerable and focus resources on them. At Site 2 patient eligibility for supervision was determined *via* a 'scoring' system in the electronic health record, based on questions about cognitive impairment, history of falls and mobility, whilst at Sites 1 and 3 nursing judgement was used to allocate supervision.

Spoken communication about patients' falls risks and prevention interventions took place both informally and formally. Informal communication included staff chatting about interventions, whilst more formal discussions occurred in ward meetings such as handovers, safety huddles and multidisciplinary team meetings/MDTMs (see **supplementary file 4**: Summary of ward meetings). We consider below how staff talked about patients' falls risks in these environments in terms of: (1) talk about patients' modifiable risk factors; (2) talk about patients' risk levels; and (3) 'hybrid' talk that related both to risk level and modifiable risk factors.

Communication was undertaken in the context of the Covid-19 pandemic. All wards were busy and, at times, understaffed. We saw staff looking tired or stressed yet also witnessed them expressing care and empathy to patients and each other, for example, by asking how they were or sharing a joke. The following extracts from fieldnotes give a flavour:

The first patient discussed has had a fall [...] and is being monitored in the bay behind the safety huddle. The [...] patient has tested positive for COVID-19. [...] They discuss that the patient was already back in their chair when they were found, but there was urine on the floor, so that might have been the cause of the fall – wanting the toilet? The patient is booked on one-to-one care but there are only two healthcare assistants across the floor, [...] they are awaiting staff from [other wards]. They think the patient has an UTI [urinary tract infection] but they are refusing antibiotics. The nurse seems quite tired [...] - whilst talking she keeps rubbing her eyes and has to think about things and clarify what she's being asked.

(Site 1 older person ward, safety huddle observation).

A physiotherapist comes to the nursing station and discusses a patient with a healthcare assistant. They have helped a patient into a chair [...]. The physiotherapist is really pleased about getting the patient sitting in a chair and so are the other staff around the station. The physiotherapist does a high-five with one of the healthcare assistants. (Site 1 orthopaedic ward, observation notes).

Spoken communication

Multifactorial talk: Modifying the modifiable

We found evidence in both informal and formal conversations of staff seeking to address modifiable risk factors, consistent with a multifactorial approach to practice. Multidisciplinary teamwork could facilitate this approach, as a physiotherapist pointed out:

It's just an open team approach in terms of a nurse can just come up to us at our desk and say: "This patient looks a little bit unsteady today" and there are ongoing conversations regarding whether we feel like different patients need different levels of input during their stay. (Site 1 older person ward, physiotherapist interview).

Logistical factors supported multidisciplinary input: for example, at Site 1 and on the older person ward at Site 3, safety huddles were interprofessional meetings held in 'office hours' (9am/midday) when staff from different disciplines could attend to share their expertise. By contrast, huddles observed on other wards, which took place directly before or after nursing handovers (at around 0700 and 1930) were attended only by nursing staff (other staff were not normally present on the wards at those times). A further structural factor that could support communication was the practice in huddles on both wards in Site 3 of discussing *all* patients individually, with discussion encompassing all types of risk to which patients were considered vulnerable. In the older person ward at Site 3, this was done

at a combined huddle/MDTM or 'board round' (where multidisciplinary staff gathered around a whiteboard containing patient details to discuss each patient), an example of which is given below:

The consultant says this patient was due to go home with re-ablement but then presented as confused. The consultant says that it is perhaps a behavioral issue. The physiotherapists report that the patient is mobilising quite well and is able to sit out but they can't get them to settle down. Discuss sitting the patient out for 2-4 hours to build up their tolerance. (Site 3, older person ward, board round observation).

On other wards, huddles were risk-type focused, in that different risk types (falls, pressure ulcers etc.) were considered separately and the patients with those risks listed, one after the other.

Staff told us that the mindset of staff participating in discussions was important, especially those leading them. A falls specialist nurse at Site 2 gave an example, in which the ward manager leading a safety huddle asked probing questions about falls causation which, she believed, enabled the team to identify appropriate interventions for patients:

Some wards, they do it really well. So, they'll do the safety huddle [...], they'll go through each patient and the ward manager goes: 'Why are they at risk though?', 'Why?' They put that challenge in, so they're making sure that staff are aware of the reason why that patient is at risk.

Categorisation talk: Focusing on risk level

We also observed 'categorisation talk', where staff talked about *levels* of risk rather than modifiable risks. Structuring safety huddles around risk types rather than individual patients appeared to make such talk more likely, along with the significance of supervision as an intervention and the associated need to restrict its allocation to the most vulnerable through scoring or nurse judgement:

They discuss a patient at high-risk for falls who is on a 'falls sensor'. One staff member asks why that patient is in a side-room and could they be moved into a falls bay? The response is that they will see how the sensor works. Staff discuss that the patient is a falls risk but they never attempt to get out of bed, and their risks are not causing issues whilst they remain in bed. (Site 1 older person ward, safety huddle observation).

Here (despite multidisciplinary attendance), the focus was on addressing the effects on a patient of being at 'high-risk' of falling – rather than causes - through supervision.

Staff emphasised the time pressures they worked under on the wards, and we observed that this, too, might mitigate against discussion of multifactorial risk factors, as it could be quicker to discuss monitoring 'high-risk' patients than reviewing their individual risks more holistically. However, a member of staff at Site 3 with organisation-wide responsibility for falls prevention suggested that responding in this way could, in fact, *increase* pressures on staff, when it led to automatic use of 'major', supervisory interventions:

And sometimes with the staff being so busy as they are, sometimes these questions are not being asked and they're just going straight to the quite major falls prevention interventions, so looking at putting in a falls device or putting into a one-to-one with someone. (Site 3 member of organisational staff).

Hybrid talk: Modifying 'high risks'

We frequently observed another, more 'hybrid' kind of spoken communication which referenced both 'high-risk' patients *and* actions to modify individual risk factors. We saw such communication in both multidisciplinary, patient-focused meetings and informal conversations which focused on action to alleviate patients' suffering or progress their recovery. The following examples illustrate this. The first took place on a falls cohort bay where a patient had been '*handed over as high-risk of falls*'. The patient experienced cognitive impairment and was supervised by a student nurse and HCA. She became increasingly agitated during the observation, shouting that she wanted to go home. A conversation about interventions to help reduce the patient's agitation took place between the nurse, HCA and a senior nurse:

The [senior] nurse sees what's going on and suggests pain relief: "She looks like she's in pain". She also says: "Can we contact the patient's daughter?" (Site 2 orthopaedic ward, observation notes).

The second example took place in a meeting:

The nurse [...] says the patient has a falls sensor but he is "not particularly high-risk" and they have another patient who needs it. One of the doctors comments that the patient hasn't been getting out of bed due to feeling unwell and says they should start getting him up. The physiotherapist asks the nurse if they need her help or can manage without her – the nurse says she'll try, otherwise the physiotherapist will get him up tomorrow (Site 1, older person ward, multidisciplinary team meeting observation).

Here, staff collaborated to address modifiable risk factors and to reduce pain or support rehabilitation, alongside using the generic 'high-risk' classification and a supervisory intervention (falls alarm).

Discussion

This paper has reviewed empirical evidence about spoken communication between staff of patients' falls risks and interventions. We have explored how such communication supported or constrained multifactorial falls prevention, as recommended internationally.(5, 6) Our findings reveal a tension between the emphasis on multidisciplinary staff addressing modifiable risk factors and the practice of categorising patients at 'high-risk' of falling to identify the most vulnerable and allocate nursing supervision. Whilst supervision may address the *effects* of some risks - i.e. supervisors can try to prevent stumbling patients from falling –it does not address their *causes*, such as syncope syndrome. In this respect, it is not consistent with the recommended emphasis on risk modification. Thus, alongside multifactorial policy and practice, categorisation of 'high-risk' patients continued, generating a hybrid context in which staff communicated both individual, modifiable risks and risk categories, often at the same time.

On busy wards where almost all patients had some individual falls risk factors and where supervision was a key falls prevention intervention, it was necessary to prioritise which patients received it. The 'high-risk' classification appears to have provided a shorthand to do so. As Bowker and Star (29) point out, classification '*blocks against certain agendas, and smooth roads for others*'. Here, whilst it may have acted as a time-saving device for pressured staff, it may also have led to assumptions, for example, that 'high falls risk' patients need supervising. These assumptions may be true (although there is limited evidence to support the effectiveness of supervision for falls prevention (30, 31) and further research is needed), but they may also reduce discussion of alternatives. As reported above, one staff member told us they could generate *more* work for nursing teams, when they led to the use of 'major' interventions such as falls alarms - for which there is no evidence for effectiveness; they may in fact *increase* falls (32) – when less intensive responses might be more effective.

What supported staff to communicate modifiable risks, then? A mindset that concentrated on modifying individual falls risk factors appears to have been important and was expressed in falls prevention talk, when staff were confronted with patient suffering and wanted to alleviate this and promote rehabilitation. This is echoed in the falls prevention literature. A US study found that nurses in hospital units with low falls rates tended to have a facilitative mindset and communicated about how to progress patients by promoting safe mobility.(33) We found such a mindset could be promoted by leaders in meetings, as in the example, given above, where a ward manager asked probing questions about the individual reasons a patient was at risk. Such practices reflect safety research,

which suggests that high-reliability behaviours are supported by a reluctance to simplify and repeatedly asking 'why?' (34) Patient- rather than risk-type focused meetings also appeared to support discussions of multifactorial risks, moving away from listing 'high-risk' patients and towards a more holistic consideration of how falls could be prevented.

Multidisciplinary discussions, whether informal or in meetings, tended, too, to engender multifactorial approaches to practice, as in MDTMs or board rounds, at which different professional groups were present. These findings are consistent with research on teamwork to support multifactorial falls prevention (13, 14) and also reflect safety huddles literature, which recommends huddles should be attended by a range of staff to promote expertise-sharing. (20, 21, 35) In our study, this was encouraged by holding huddles in office hours when different staff could attend.

It would, however, be inaccurate to imply a binary divide between 'multifactorial' and 'categorisation' communication on the wards we studied; rather, we often witnessed 'hybrid talk', in which both 'high risk' patients *and* actions to modify the causes of individual risks were discussed. We noted above that classifications like 'high risk' can narrow consideration of interventions, but in their function as customisable boundary objects – '*objects that both inhabit several communities of practice and satisfy the informational requirements of each of them*' (29) - they can also promote '*cooperation across social worlds*' and flexible, collaborative thinking. We saw this in 'hybrid talk', reflecting the realities of practice for staff navigating multifactorial and categorisation policies, who collaborated to target patients' individual falls risks.

Strengths and limitations

To our knowledge, this is the first paper to review in-depth how formal and informal spoken communication supports multifactorial falls risk factor identification and falls prevention in hospitals. The rich information elicited from ethnographic observations, complemented by staff members' accounts in interviews, is a key strength, as is our methodological rigour, particularly around the comprehensive involvement of patients and members of the public. However, we were not able to observe all elements of falls prevention practice. We did not observe doctors or pharmacists reviewing and changing patients' medications to reduce their risk of falling, and relied on interview accounts instead, nor did we observe MDTMs in the Site 2 older person ward or the Site 3 orthopaedic ward. Whilst we took comprehensive ethnographic notes during the observations, at meetings the pace was fast and we may have missed some elements. It may have been better to record meetings digitally.

Conclusion

To support multifactorial, multidisciplinary communication that addresses patients' modifiable risk factors, we make the following recommendations. (1) Focus, in discussions, on the causes of patients'

individual risk factors and what can be done to modify these (a 'why?' rather than a 'who' approach). This may be facilitated by adopting patient-focused rather than risk-type focused huddles and avoiding listing risks in meetings. (2) Where it is not possible to avoid high risk categorisations, 'hybrid' communication which emphasises actions to modify risks, as well as risk levels, can be helpful. (3) In line with high reliability systems research, challenge assumptions about interventions to address risks, to identify what a given patient needs. (4) Involve staff from different disciplines in discussions. For formal meetings, this may be supported by holding them in 'office hours'.

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Abbreviations

HCA	Healthcare assistant
MDTM	Multidisciplinary team meeting
NHS	National Health Service

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Conflicts of Interest: None.

Data Availability Statement

The datasets associated with this study are available from the corresponding author on reasonable request and only in accordance with the stipulations of the ethics approval.

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