National Institute for Health and Care Excellence

Draft for consultation

Falls: assessment and prevention in older people and people 50 and over at higher risk (update)

Evidence review A: Information and education needs

NICE guideline <number>

Evidence review underpinning recommendations 1.5.1 to 1.5.3 in the NICE guideline

October 2024

Draft for Consultation

These evidence reviews were developed by NICE

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ISBN:

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1.1. Review question

What are the education and information needs (regarding prevention) of people after being identified and assessed to be at risk of falls, or who have had a fall?

1.1.1. Introduction

The WHO Global report on falls prevention in older age identified to make choices, people need to have at least basic information about the benefits of taking part in activities aimed at falls prevention, but information alone is not enough, it needs to be framed so that it promotes realistic positive beliefs about the possibilities for preventative action if any change is likely to follow.

The Public Health Outcomes Framework (PHOF) recommended that fall prevention education should be personalised to address the concerns of the individual and their carers.

Previous NICE guidance on Falls in older people (2013) recommended that information be provided both orally and in writing. While a range of information and educational resources have been produced by health professionals and health and care organisations, there is no standardised approach for this and a lack of evidence as to how effective these have been in preventing falls and reducing fall-related harm.

1.1.2. Summary of the protocol

For full details see the review protocol in Appendix A.

Table 1: PICO characteristics of review question

Objective	This review aims to establish what education and information people at risk need to prevent falls or further falls.
Population and setting	Inclusion: • people aged 65 and over • people aged 50 to 64 who have a condition or conditions that may put them at higher risk of falling. Strata: community, residential care, hospitals. Exclusion: any age group that does not fit the inclusion criteria;
Context	Perceptions of older people of what education and information needs they have. This includes people in the community and within hospitals and other healthcare settings
Review strategy	Synthesis of qualitative research. Information synthesised into themes. Results presented in narrative and table format. Quality of the evidence will be assessed by a GRADE CerQual approach for each review finding.

1.1.3. Methods and process

1.1.4. Qualitative evidence

1.1.4.1. Included studies

Seventeen qualitative studies were included in the review these are summarised in Table 2 below. Key findings from these studies are summarised in the clinical evidence summary below (Table 3). See also the study selection flow chart in appendix C, study evidence tables in Appendix D, and excluded studies lists in Appendix E.

The majority of studies (8 Studies),[4, 8, 10, 12, 13, 16-18] were in community settings and comprised of older adults at risk of falls living in their own homes. Studies took place in a number of countries including Sweden, Australia, Malaysia, Holland, Denmark and two in the USA. One study was set in the UK.

Seven studies[2, 3, 6, 7, 9, 11, 15] focused on older adults at risk of falls in a hospital setting. These included mixed medical diagnoses and were based in the USA and Australia.

Two studies[1, 14] were in residential care home settings and included older adults living in a nursing home or retirement communities (with continuing care and nurses). One was based in Austria and one in the USA. It was unclear whether these were state funded or private settings.

Findings from the three population strata were analysed separately, however, there was some cross over and repetition of themes reported in each stratum. For example, participants in the hospital setting often discussed themes relating to falls risks in their own homes and therefore these findings were included along with other related themes in the community settings section. Only themes that were directly related and restricted to a residential home or hospital setting were analysed within separate strata.

The majority of studies included participants with an average age of over 65 years. The average age of patients overall was 73 years. One study[3] included adults ranging from 41-84 years old, however, as the mean age of participants was 69.8 it was included but downgraded for relevance. One study (Bergeron 2018)[1] included a slightly older population of females with a mean age of 88.9 years. Another study,[4] that focused on community pharmacy falls interventions included a population with the mean age 82.1 years.

The review protocol excluded evidence where a mixed population of older people and carers or healthcare professionals were included. However, some studies were deemed relevant as they analysed the results of the older adults separately. In these cases, the evidence was included and only the themes reported by the older adults were extracted and the evidence was downgraded to minor concerns around relevance.

Most studies were rated minor to moderate for risk of bias. Evidence was mostly downgraded due to a lack of consideration around the relationship between the researcher and the participants, concerns about study sample size, or rigour of the analysis such as a lack of detail explaining how themes were reached and analysed. Studies that took place outside the UK were considered to have minor concerns about relevance given that access to community services, hospital environments and residential care settings may vary across countries and experiences may therefore differ from an NHS setting.

Most studies were qualitative interview-based studies. Five were focus group discussions and one study took the format of community forum group discussions using a world café approach.

Interpretations of the themes and views of participants from the original studies were synthesised to gain an insight into themes present across the body of evidence as a whole. The main concepts found in each individual study which were relevant to our review question were drawn together to inform understanding of overarching themes. Where overarching themes comprised of several distinct components these were separated into subthemes.

1.1.4.2. Excluded studies

See excluded studies table in appendix F.

1.1.5. Summary of studies included in the qualitative evidence

Table 2: Summary of studies included in the evidence review – community environment

Study	Design	Population	Research aim	Comments
Gemmeke 2022[4]	Qualitive focus group discussions with analysis using the precaution adoption process model and thematic analysis (n=17)	Community dwelling adults ≥75 years with simultaneous use of at least five drugs, with at least one being a fall-risk increasing drug (either cardiovascular or psychotropic) Mean age: 82.1 (SD 34.9) years Setting: The Netherlands	To explore the expectations of community-dwelling older patients regarding fall prevention services provided by community pharmacies	Minor concerns about relevance – conducted in Holland and focused on pharmacological input only.
Host 2011[8]	Semi-structured interviews with analysis using phenomenographic approach (n=14)	Adults over 65 years who contacted an emergency department situated in the Copenhagen area because of falls and whose treatment did not require hospitalisation. Mean age (range): 77 (68-87) years Setting: Denmark	To investigate older people's perceptions of and coping with falls, and what motivates them to join such programmes.	Minor concerns about relevance – conducted in Denmark.
Khong 2017[10]	Community forum group discussions using a modified World Café approach with thematic analysis (n=73)	Community dwelling adults aged 60 and over. Mean age (range): 70 (60-87) years Setting: Perth, Australia	To examine the views and preferences of community-dwelling older adults about seeking and receiving falls prevention information.	Minor concerns about relevance – conducted in Australia.
Ng 2022[12]	Semi-structured interviews with thematic analysis (n=25)	Community dwelling adults aged over 60 years, able to	To explore older persons' perceptions about falls and their desired educational	Minor concerns about relevance – conducted in Malaysia.

Study	Design	Population	Research aim	Comments
		speak and understand English language were recruited from two senior citizens' clubs. Mean age (range): 72.08 (61-83) years Setting: Malaysia	website characteristics.	
Pohl 2015[13]	Qualitative focus group discussions with thematic analysis using an inductive approach (n=18)	Community-dwelling adults aged over 70 years. 30% of the participants should have experiences from at least one fall in the previous 12 months. Mean age (SD): 74.6 (3.5) years Setting: Sweden	To explore older women's and men's understanding of fall risk and their experiences with safety actions taken for preventing falls.	Minor concerns about relevance – conducted in Sweden.
Swancutt 2020[16]	Face to face semi-structured interviews using the framework approach to analysis (n=12)	People aged 65 and over, living in Devon, with experience of a fall and inability to get up (with or without injury) Mean age (range): 78 (65-89) years Setting: UK	The aim of this study was to develop an understanding of attitudes towards seeking help and using and teaching techniques to get up following a fall.	Minor concerns about relevance – included a mixed population but only the views of older adults were included in the analysis.
Vincenzo 2022[17]	Focus groups with analysis performed through phenomenological approach (n=27)	Adults >65 years of age, community-dwelling, and able to understand and answer the study question. Mean age: 77.8 years	To explore older adults' perceptions about engagement in falls prevention behaviours using constructs from the Health Belief Model (HBM) theoretical framework.	Minor concerns about relevance – conducted in the USA

Study	Design	Population	Research aim	Comments
		Setting: USA		
Vivrette 2011[18]	Interview study using grounded theory approach and constant comparative analysis (n=19)	Community dwelling age 65 or older, who could understand and summarise the study purpose and were fluent in English Phase I interviews N=19 Mean age (SD): 73.7 (8.6) years Phase II interviews N=19 Mean age (SD): 74.1 (6.6) years Setting: USA	To determine (a) older adults' beliefs and attitudes about falls, including identifying the natural language used by older adults when talking about falls and the appropriate level of threat perception to motivate behaviour change; (b) identify which significant fall-risk behaviours are the most, and which are the least, amenable to behaviour modification; and (c) determine the acceptability of health-promotion/risk-reduction educational material in terms of amount and type of information provided, language, and imagery.	Minor concerns about relevance – conducted in USA

1 **Table 3: Summary of studies included in the evidence review – hospital environment**

Study	Design	Population	Research aim	Comments
Collins 2022[2]	In-depth face-to-face interviews with thematic analysis (n=10)	Patients aged 65 years and older who had fallen or were at risk of fall based on age and frailty at a 781-bed tertiary care centre. Age range: 71 to 80 years Setting: Northeast USA	To identify components of successful fall prevention education. To determine what a community-dwelling cohort of older Americans had received in terms of fall education and what forms of teaching and fall prevention interventions they believed would be helpful.	Minor concerns about relevance – conducted in a tertiary care hospital in the USA
Dabkowski 2022[3]	In-depth face-to-face interviews with reflexive thematic analysis (n=19)	Inpatients aged ≥ 40 years, English-speaking and have ambulatory capacity prior to their admission. Mean age: 69.8 years (SD 12.7)	To explore the perceptions and experiences that influence a patient's understanding of their falls risk in Australian rural and regional public hospitals.	Minor concerns about relevance – conducted in hospitals in rural Australia. The study also included several patients who were younger than the protocol population and were at risk of

Study	Design	Population	Research aim	Comments
		Setting: Australia		falls due to other conditions, however as the mean age of participants was 69.8 years it was included
Heng 2021[6]	Qualitative focus group study with thematic analysis (n=11)	Hospitalized adults (>18 years old) who could speak, read, and understand English; and inpatients in Healthscope hospitals. Mean age: 78.4 years (SD 15.32) Setting: Australia	1.Explore hospital patient experiences of falls prevention education; 2. investigate barriers and facilitators to their understanding of, and adherence to, hospital falls prevention education programs; and 3. understand the preferences of patients for falls prevention education.	Minor concerns about relevance – conducted in hospitals in Australia. The study also included several patients who were younger than the protocol population and were at risk of falls due to other conditions, however as the mean age of participants was 78.4 years it was included
Hill 2023[7]	Qualitative focus group and semi-structured interview with thematic analysis (n=22)	Twenty-two older adults >65 years old who had a history of being admitted to hospital due to a fall participated in three focus groups, and individual semi-structured interviews. Age: 60–64 =1, 65–69 =4, 70–74 =9, 75-79 =14, 80–84 =5, 85–89 =4 Setting: Australia	Explore the knowledge of older consumers regarding preventing falls in hospital and their reflections on the education received during hospitalisation.	Minor concerns identified about relevance as the study was conducted in Australia and based on experiences in hospital which may not be relevant to NHS hospitals in the UK
Kerr 2023[9]	Qualitative interview study with thematic analysis (n=12)	12 older adults who were identified as having experienced a fall while in a healthcare facility. Mean age: 81.5 years	To describe older people's engagement in fall prevention strategies and behaviours recommended by their primary-care providers.	Severe limitations due to methodological limitations and concerns about relevance as the study was conducted in 2 private catholic hospitals in Australia so may not be relevant to a UK NHS setting.

Study	Design	Population	Research aim	Comments
		Setting: Australia		
Kippenbrock 1993[11]	Qualitative interview study with thematic analysis (n=19)	Elderly patients hospitalised after a fall were identified by a computerised incident reporting method. The patients were located on 12 medical surgical units in the hospital. Age (range): 60 to 85 years Setting: USA	To identify falls risk factors from the patient's point of view	Moderate concerns identified due to methodological limitations and concerns about relevance as the study was conducted in Australia over 20 years ago so is likely to be outdated.
Shuman 2019[15]	Semi structed face-to-face interviews with constant comparative methods and thematic analysis (n=9)	Individuals ≥65 years old; identified as moderate-to-high risk for falls during hospitalisation (defined as a Morse Fall Scale score ≥25); English speaking and discharged to home. Mean age: 77 years (SD 5.15) Setting: USA	To describe recently hospitalised older adults' perceptions about: (a) their overall risk for falls, factors contributing to fall risk, and actions they can take to prevent falls at home; (b) information they received at discharge to prevent falls at home; and (c) their awareness and perceptions regarding the usefulness of three CDC STEADI older adult fall prevention brochures	Minor concerns about relevance – conducted in hospitals in a community medical centre in the USA.

Table 4: Summary of studies included in the evidence review – residential care environment

Study	Design	Population	Research aim	Comments
Bergeron 2018[1]	In-depth face-to-face interviews with analysis using grounded theory coding techniques (n= 17)	Women >65 years who had experienced a fall within the last 6 months. Mean age (SD): 88.9 (3.9) years Setting: USA	To explore how older women living in continuing care retirement communities engage in shared decision making about their health and independence after experiencing a fall. To learn more about who they consult, why they consult them.	Minor concerns about relevance – conducted in a continuing care retirement community in the USA. The study included nurses and family members in the study but only the themes from the residents were extracted and

Study	Design	Population	Research aim	Comments
				included in this review.
Schoberer 2016[14]	Qualitative focus group study with qualitative content and thematic analysis (n=25)	Long-term resident (having stayed at least 6 months in the nursing home), aged over 65 years with a fall history and/or gait or balance disorders. Mean age: not reported. Setting: Austria	To explore residents, family members' and nursing staffs' needs and expectations regarding a fall prevention brochure.	Minor concerns about relevance – conducted in a nursing home in Austria. The study included nurses and family members but only the themes from the residents were extracted and included in this review.

See Appendix D for full evidence tables.

1.1.6. Summary of the qualitative evidence

Table 5: Review findings

Community based themes

Main findings	Statement of finding	Statement of finding for subthemes
Promoting Empowerment	Promoting empowerment and independence was mentioned in the majority of studies. Participants wanted to feel empowered to prevent falls rather than feel helpless or that it was inevitable part of aging. This could be driven by increasing knowledge, focusing on prevention, and having support from a social network.	**Focus on maintaining independence** (Collins 2022[2]; Khong 2017[10]; Ng 2022[12]; Vivrette 2011[18]) Participants highlighted that information about falls and fall prevention should remain positive and hopeful. They preferred receiving information that focused on "prevention is better than a cure" and did not use the negative element of fear to encourage change. Maintaining independence and emphasising healthy aging was perceived as the key motivational strategy to reduce fall risk. **Knowledge promotes empowerment** (Heng 2021[6]; Khong 2017[10]; Gemmeke 2022[4]; Host 2011[8]) Participants suggested that empowerment can be promoted through knowledge of their physical status and risks associated with certain medical conditions or medications. Knowledge about fall risks, prevention strategies, and group falls education also fostered feelings of empowerment. Participants valued up to date practical information that was convenient and not too expensive. **Support from social network** (Host 2011[8]; Vincenzo 2022[17]; Pohl 2015[13]; Vivrette 2011[18]) Psychosocial support from family and friends as well as the GP was instrumental for older people in preventing falls and dealing with their consequences. Participants believed that socialising and group classes helped with accountability, reinforcement and provided encouragement for maintaining preventative

Main findings	Statement of finding	Statement of finding for subthemes
		behaviours and promoting healthy activities. Informal networks of family and friends also played a crucial role in disseminating information among older adults and raising awareness.
Fear of falling and avoidance	Fear of falling leading to loss of independence and activity avoidance was a widely discussed theme across the majority of studies. Participants may benefit from education and support to encourage engagement in more positive and proactive falls prevention strategies rather than adopt an avoidance approach.	**Psychological effects of fear (**Host 2011[8]; Ng 2022[12]; Swancutt 2020[16]; Khong 2017[10]; Vivrette 2011[18]; Dabkowski 2022[3]) Fear of falling, and fear of the consequences of falling had implications for older people's identity, autonomy, and independence. Fall-accidents affected participants psychologically and could result in an irrational fear of falling and prevent them from engaging in their usual activities. The impact of falls cited by participants included injuries (i.e. fractures, dislocations, or head injury) and immobilisation. Psychological effects consisted of fear, loss of self-confidence and depression following a fall. These psychological effects were seen to cause reduced social interaction, increased dependency, refusal to walk or move and reduced quality of life. **Being very careful and activity avoidance** (Host 2011[8]; Ng 2022[12]; Swancutt 2020[16]; Pohl 2015[13]; Khong 2017[10]; Vincenzo 2022[17]; Heng 2021[6]; Shuman 2019[15]; Dabkowski 2022[3]; Viverette 2011[18]) Participants reported using avoidance and caution as first-line fall prevention strategies. When asked about how they could prevent falls, participants most frequently related prevention to being more "careful." Participants stated that they implemented strategies such as not rushing, taking smaller steps, using walking aids, having something nearby to hold on to, being vigilant of ones' surroundings and asking for help. Avoidance of activities and obstacles that may contribute to a fall was also regularly mentioned, as one participant remarked, "I don't get on steps too often without somebody holding me."
Poor knowledge/ lack of information	Knowledge deficits about falls prevention or self-perceived falls risk were a major barrier in seeking help or engaging in preventative strategies.	**Lack of Self-Perceived Susceptibility of Experiencing a Fall** (Vincenzo 2022[17]; Gemmeke 2022[4]) Older adults' perceived susceptibility of experiencing a fall often did not match their actual falls risk and their knowledge in general about falls prevention. Many participants stated they did not feel susceptible until they experienced a fall. Other participants believed that as they were healthy, exercised and/or walked a lot they were not at risk. **Lack of Falls Prevention Information from a Healthcare Provider** (Vincenzo 2022[17]; Gemmeke 2022[4]) Although many participants were aware of and engaged in some falls prevention behaviours, the majority stated that they had not received any information about falls prevention from their doctor or healthcare professional. They often attributed this to

Main findings	Statement of finding	Statement of finding for subthemes
		lack of healthcare professional time and were disappointed that doctors did not routinely address fall prevention during clinical visits.
Information on Risk factors	Knowledge of risk factors and prevention strategies were the most frequently cited information needs of people at risk of falls. These could be categorised into intrinsic/extrinsic risks and fall prevention strategies.	**Extrinsic risk factors** (Ng 2022[12]; Swancutt 2020[16]; Heng 2021[6]; Schoberer 2016[14]; Pohl 2015[13]; Collins 2022[2]; Vivrette 2011[18]; Gemmeke 2022[4]; Host 2011[8]) Participants highlighted several environmental risk factors that people at risk of falling should be aware of including loose rugs or mats, poor lighting, clutter, active pets, slippery floor, and steps. They also cited the importance of wearing correct fitting footwear with a good grip, the use of mobility aids and installation of equipment such as grab rails in the home. **Intrinsic risk factors and prevention strategies** (Ng 2022[12]; Swancutt 2020[16]; Heng 2021[6]; Schoberer 2016[14]; Pohl 2015[13]; Collins 2022[2]; Vivrette 2011[18]; Gemmeke 2022[4]; Host 2011[8]) Participants emphasised the importance of early recognition of a fall risk and taking relevant actions to prevent these. These included improving strength and balance, learning fall strategies to avoid severe injuries, understanding physical limitations (i.e. weakness, poor balance) or medical conditions and medications that may increase risk of falls. Other strategies mentioned were having annual eye examinations, talking to the GP about falls, regular medication reviews and podiatry input.
Content	The content of falls education or information pamphlets were discussed by participants in many studies and included the following topics: exercise, pharmacological input, equipment, and technology and getting up off the floor.	**Exercise and balance** (Vivrette 2011[18]; Vincenzo 2022[17]; Ng 2022[12]; Schoberer 2016[14]; Heng 2021[6]; Gemmeke 2022[4]) Despite being a well-established component of falls prevention classes, the participants' views on exercise and balance training were mixed. Some perceived exercise as the most readily available fall prevention strategy and emphasised that daily exercises were important for their overall health status and for reducing fall risk. Conversely, others believed that these activities were unrealistic due to poor health state and posed a risk. Some participants were completely unaware of exercise and balance training as a form of fall prevention. **Pharmacological input** (Gemmeke 2022)[4] Many participants were unaware that medication use could affect falls risk. Minimal information was provided by pharmacists about the potential fall risk effects of drugs and many participants were sceptical in the Pharmacists' role in falls prevention. After learning about side effects of certain medications some patients wanted their medication to be reviewed, however many were not interested in deprescribing.

Main findings	Statement of finding	Statement of finding for subthemes
		Equipment and technology (Dabkowski 2022[3]; Pohl 2015[13]; Ng 2022[12]; Host 2011[8]; Schoberer 2016[14]; Vincenzo 2022[17]; Vivrette 2011[18]; Gemekke 2022[4]) Participants identified a number of ways to improve safety and reduce risk through the use of external aids or technology. Suggestions included use of walking aids such as sticks or rollator frames and the use of hip protectors (however, these were often used reluctantly and associated with social stigma). Several participants cited the importance of their mobile phone as a means of getting help and would not go out without one. Other suggestions included falls alarms, the use of fitness trackers to detect falls and monitor exercise and SMART phones as a way to set medication reminders. One study mentioned the use of video games such as the Wii fit as a way to measure and monitor balance impairment. **Getting up off the floor** (Schoberer 2016[14]; Swancutt 2020; Ng 2022[12]; Vincenzo 2022[17]) Participants discussed concerns and strategies around getting up after a fall. Several participants mentioned identifying stable objects at home or along walks that they could use to assist getting up and practicing getting up off the floor. The importance of remaining calm after a fall was highlighted by some participants and many considered the social setting and who was with them or nearby to help. Participants agreed that care must be taken when assisting someone who is on the floor after a fall as some techniques could be dangerous and cause further injuries.
Delivery of information and support	This theme focused on participants preferences for information dissemination and included the following topics: In person education with a professional, community groups, written information and internet and audio visual.	**In person education with a professional** (Khong 2017[10]; Host 2011[8]; Heng 2021[6]; Collins 2022[2]; Vincenzo 2022[17]; Bergeron 2018[1]; Vivrette 2011[18]; Gemmeke 2022[4]). The majority of participants preferred falls information delivered by a healthcare professional as they believed them to be more experienced and credible. Participants also favoured information being given by a peer as long as the person was “properly trained”. They highlighted that the delivery should be culturally appropriate, and the educator should be accustomed to working with older adults. Participants cited patience, empathy, confidence, approachability, and having time to listen as the main attributes they sought from their educator. **Community groups** – (Pohl 2015[13]; Heng 2021[6]; Collins 2022[2]; Vincenzo 2022[17]; Khong 2017[10]; Vivrette 2021[18]; Gemmeke 2022[4]). A number of participants suggested senior, or community centres were a valuable way of delivering falls information as word of mouth was a key strategy for exchanging information amongst older adults. Senior specific interest groups such as exercise groups, bingo, or seniors’ social gatherings, where there were opportunities to discuss health related

Main findings	Statement of finding	Statement of finding for subthemes
		topics with peers, were frequently reported as important settings for seeking falls prevention information. **Written information** – (Heng 2021[6]; Collins 2022[2]; Schoberer 2016[14]; Shuman 2019[15]; Vincenzo 2022[17]; Khong 2017[10]; Vivrette 2011[18]) Many participants suggested that brochures or pamphlets on falls prevention were a good adjunct to falls education delivered in person. Others felt that written information alone was adequate as well as a first line strategy to falls prevention and to raise awareness. Participants suggested posters or pamphlets could be on display or handed out in GP practices, pharmacies, hospitals, or public spaces such as libraries. Participants wanted information that was simple and easy to read and suggested that resources that provided focus on visual illustrations and pictures rather than words. They suggested concise information on the most important facts in large font and relevant to older adults. Participants wanted to see images of active seniors participating in activity and exercise. **Internet and audio visual** – (Pohl 2015[13]; Vincenzo 2022[17]; Khong 2017[10]; Ng 2022[12]) Several participants mentioned using the internet as a potential source of falls prevention information. Others suggested audiovisual options for information dissemination such as screens in pharmacies or GPs waiting rooms, or public service announcements on the TV or radio. Participants described desired features for online information including colourful web pages large font size, correct spacing, use of titles and logos that attract users and good colour contrast between the background and text.

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Hospital based falls population

Main findings	Statement of finding
Inconsistent messages and limited information (Heng 2021[6]; Collins 2022[2]; Shuman 2019[15]; Dabkowski 2022[3], Hill 2023[7]; Kerr 2023[9])	Falls prevention education varied between participants. Different methods of falls education were reported along with inconsistences in the timing of the information delivery. Participants' experiences of educational falls prevention resources in hospital, such as signs, posters, charts or brochures to assist them being safe were mixed and many participants believed there was inadequate communication with regards falls safety information. Some participants received physiotherapy and occupational therapy falls assessments, yet for others this did not occur. A few participants discussed their frustrations about receiving mixed messages and conflicting advice from health professionals regarding fall prevention strategies i.e. use of aids or wearing correct footwear.
Depending on others to prevent falls (Heng 2021[6]; Dabkowski 2022[3]; Hill	Extrinsic influences such as nursing staff supervision, call buzzer technology, falls bracelets and falls alarms were considered to be the main component to falls prevention in hospital. Many participants described experiences of disempowerment and limited autonomy when trying to prevent themselves from falling during their hospital stay. Participants acknowledged that the nurses were in a position of authority (that is, telling them what to do) and they were in the position of choosing whether to obey.

Main findings	Statement of finding
2023[7]; Kerr 2023[9])	The assistance provided by nursing staff sometimes eliminated the need to engage in risk-taking behaviours, however, frustrations were expressed with slow or unanswered buzzers and some patients were reluctant to use their buzzer and waste staff time.
Confusion and unfamiliar environments (Kippenbrock 1993[11]; Dabkowski 2022[3]; Hill 2023[7]; Kerr 2023[9])	Confused patients or those with dementia have an increased falls risk in hospital, according to participants. Some acknowledged the unfamiliarity of hospitals compared to their usual surroundings, which could lead to disorientation and increase risk. Multiple participants perceived that ward environments were consistently busy and hence not conducive to personalised assistance even when patients thought it was required.
Information (Heng 2021[6]; Collins 2022[2]; Shuman 2019[15]; Dabkowski 2022[3]; Hill 2023[7])	Most people expressed a desire for consistent messages from all staff and for education to also be tailored to individual needs. Participants wanted to know more about the consequences of falling, what to expect and do post-operatively, strategies to manage falls and options for information while hospitalised. Some wanted more direction on how to consult physiotherapists, nurses, and occupational therapists for information.
Perceived risk and hospital risk (Heng 2021[6]; Kippenbrock 1993[11]; Dabkowski 2022[3])	Despite their past medical histories or current circumstances, many participants did not consider themselves to be at risk of falling in hospital and felt safer than they did at home. This was in part due to a lack of insight into their limitations, and to the hospital environment being modified for safety, and a sense of safety and help always on hand. Some participants felt safer because they did not need to complete their usual tasks. Some participants believed that the extent in which they were affected emotionally or not by the fall could influence the degree to which they considered themselves at risk. Such reactions to falls may represent a way of coping with the fall and protecting oneself from ongoing negative emotional responses.
Uncertainty and lack of assistance (Hill 2023[7]; Kerr 2023[9])	Participants identified an apparent paradox between needing help and seeking help, confusing them about how to remain safe on the ward. Some participants were aware that lack of staff assistance was compromising their safety, and many appreciated that this was due to lack of time. Untimely responses to ringing the call bell for toileting needs, was viewed as being forced to take action alone, even if the consequences were detrimental to safety, creating a 'detriment versus dignity' situation. Another point raised by participants within this theme is that they did not want to be a burden or 'put people out'. The desire to not be a burden may be related to maintaining a sense of dignity, that is, when you become a burden on other people, you may experience a sense that your worth in society has diminished.

1 **Residential care-based falls population**

Main findings	Statement of finding
Equipment (Schoberer 2016)[14]	Residents considered their walking aids as sacred. In general, they were satisfied with them and were not interested in other options. Hip protectors and non-skid socks were unfamiliar to residents and there was limited interest in learning more about them. They believed that nurses and family members ought to decide when medical devices should be utilised.
Risks and fall prevention (Schoberer 2016[14], Bergeron 2018[1])	Participants expressed an information need about risk factors and how to deal with them. Residents related many fall events due to environmental risk factors and recommend including advice about adequate shoes, the importance of good lighting, using grab handles and being aware of slippery floors or carpets. Several residents mentioned the importance of intrinsic and behavioural-related risk factors

Main findings	Statement of finding
	and some suggested that incorporating information on physical activity in a brochure would be conceivable.
Information sources (Bergeron 2018)[1]	Most participants tended to perceive professionals as credible, trustworthy, and knowledgeable sources of information. Participants trusted the professionals with whom they regularly interacted and relied on them for aspects of their post-fall decision making. In contrast, they perceived family members as available, helpful, and trustworthy, but not the most credible. Women who perceived a lack of credibility among information sources reported difficult interactions and, in some cases, admitted not having been completely honest with others regarding their fall. Reasons for this ranged from personal pride to fear of being moved to another level of care.

See **Appendix E.** for full GRADE-CERQual tables.

1.1.6.1. Narrative summary of review findings

Community setting

Promoting empowerment

Review finding 1: Promoting empowerment - Focus on maintaining independence

This finding was derived from four included studies (Collins 2022[2]; Khong 2017[10]; Ng 2022[12]; Vivrette 2011[18]) and focussed on the overall tone of the falls prevention information. Participants highlighted that information about falls and fall prevention should remain positive and hopeful. This was apparent in Viverette 2011[18] where the title of "Stay Independent—Avoid a Fall!" was received well, whereas a quote, "We are all just one fall away from the nursing home," was perceived as overly negative. Maintaining independence and empathising healthy aging was perceived as the key motivational strategy to reduce fall risk. One participant in Collins (2022)[2] mentioned "People will migrate to something for older people, but it has to be on the basis of wellness. Part of wellness is not falling. I don't think any older person would just jump at the chance to go to a lecture about falling. You kind of got to sneak it in." Participants across all four studies agreed that information should include "pictures that help build confidence" as well as depicting an element of "fun and a cheerful presence" rather than images which were associated with limiting physical capacity. One participant in (Khong 2017)[10] highlighted this by stating that messages should "cultivate a drive and motivation to do it".

Explanation of quality assessment: minor methodological limitations were found in the contributing studies, which were due to a lack of discussion of the role of the researcher. No concerns were present about the coherence or adequacy of the finding. Minor concerns were identified about relevance as the majority of studies were non-UK based so their applicability to the UK and an NHS healthcare system was limited. There was a judgement of low confidence in this finding due to concerns about methodological limitations and relevance.

Review finding 2: Promoting empowerment - Knowledge promotes empowerment.

This was finding was touched upon in four studies, (Heng 2021[6]; Khong 2017[10]; Gemmeke 2022[4]; Host 2011[8]) participants suggested that knowledge and insight about their own physical status, fall risks, prevention strategies, and group falls education fostered feelings of empowerment. Additionally, participants in (Khong 2017)[10] reported wanting to receive up-to-date information regarding knowledge about statistics related to falls (for example, how common falls were), and information about the consequences of falls. In particular, they sought falls prevention strategies that were practical, convenient, and not too expensive. Heng 2021[6] mentioned that empowered patients within the focus groups appeared to be more receptive and willing to adhere to falls prevention education whilst in hospital.

Explanation of quality assessment: minor methodological limitations were found in the contributing studies, which were due to a lack of discussion of the role of the researcher. No concerns were present about the coherence or adequacy of the finding. Minor concerns were identified about relevance as the majority of studies were non-UK based so their applicability to the UK and an NHS healthcare system was limited. One study (Heng 2021)[6] took place in a hospital setting but included some themes related to a community setting or falls information in general. One study was focused only on pharmacological interventions related to fall risk so not as generalisable to the overall falls population. Consequently, there was a judgement of low confidence in this finding due to concerns about methodological limitations and relevance.

Review finding 3: Promoting empowerment - Support from social network

This finding was discussed in four studies (Host 2011[8]; Vincenzo 2022[17]; Pohl 2015[13]; Vivrette 2011[18]). Psychosocial support from family and friends as well as the GP was instrumental for older people in preventing falls and dealing with their consequences. Participants (Host 2011)[8] also mentioned how assistance from the spouse was particularly important for how the older person handled fall-accidents and the risk of falling. Participants believed that engaging in group activities not only provided social support but also fostered accountability and motivation for maintaining preventive behaviours. This was highlighted by one participant in Vincenzo 2022[17] who felt that group support and socializing help with accountability, “Well, if you go and you can talk about, I had trouble with this, or I did this four times this week, and I feel so much better. Especially too of being older, I mean, the socialization for some people … maybe some people are like “I don’t want to do it,” but I think it’s important and it reinforces, you doing it. And plus, there’s some accountability if you do it in a group.” Other participants noted that friends and loved ones can provide valuable action to facilitate engagement in falls prevention. For example, “A loved one telling you or reminding you that something’s wrong and you don’t realise it.”

Explanation of quality assessment: minor methodological limitations were found in the contributing studies, which were due to a lack of discussion of the role of the researcher. No concerns were present about the coherence or adequacy of the finding. Minor concerns were identified about relevance as the majority of studies were non-UK based so their applicability to the UK and an NHS healthcare system was limited. Overall, there was a judgement of low confidence in this finding due to concerns about methodological limitations and relevance.

Fear of falling and avoidance

Review finding 4: Fear of falling and avoidance - Psychological effects of fear (Host 2011[8]; Ng 2022[12]; Swancutt 2020[16]; Khong 2017[10]; Vivrette 2011[18]; Dabkowski 2022[3])

This was a widely reported theme in 6 studies (Host 2011[8]; Ng 2022[12]; Swancutt 2020[16]; Khong 2017[10]; Vivrette 2011[18]; Dabkowski 2022[3]). Fear of falling, and fear of the consequences of falling had implications for older people’s identity, autonomy, and independence. Fall-accidents affected participants psychologically affecting their recovery and could result in an irrational fear of falling and prevent them from engaging in their usual activities. The impact of falls cited by participants included injuries (i.e. fractures, dislocations, or head injury) and immobilisation. Psychological effects consisted of fear, loss of self-confidence and depression following a fall. These psychological effects were seen to cause reduced social interaction, increased dependency, refusal to walk or move and reduced quality of life. One participant in Dabkowski 2022[3] (a hospital-based population) spoke about their concerns, “I’ve just had a massive fall at home less than a week ago and I’m just absolutely terrified of falling again. This is where I make sure I’ve got one or two people with me when I get up and go to the toilet and back”. Interestingly, a ‘fear of falling’ does not always develop after a fall. As demonstrated in another participant, “I have never had a fall, that’s why I’m so paranoid, I think. I just don’t want to it’s the last thing I want to do”. This participant disclosed that they had witnessed the outcomes from falls in other family members, which led to dependence on others and decreased participation in society.

Participants also discussed how they feared how their spouses would cope with the situation if they were admitted to a hospital due to a fall-accident.

Explanation of quality assessment: minor methodological limitations were found in the contributing studies, which were due to a lack of discussion of the role of the researcher and sample size. No concerns were present about the coherence or adequacy of the finding. Moderate concerns were identified about relevance as the majority of studies were non-UK based so their applicability to the UK and an NHS healthcare system was limited. One study (Dabkowski 2022)[3] was based in a hospital setting but included themes relevant to this finding. Additionally, this study included a younger population of participants with some <65 years old. However, the mean age was >65 so the study was included but may be limited in its applicability due to the views of some younger participants included. One study included a mixed population of older adults and carers or healthcare professionals (Swancutt 2020)[16], however, only the themes reported by the older adults were extracted and included in this review. Overall, there was a judgement of low confidence in this finding due to concerns about methodological limitations and relevance.

Review finding 5: Fear of falling and avoidance - Being very careful and activity avoidance (Host 2011[8]; Ng 2022[12]; Swancutt 2020[16]; Pohl 2015[13]; Khong 2017[10]; Vincenzo 2022[17]; Heng 2021[6]; Shuman 2019[15]; Dabkowski 2022[3]; Vivrette 2011[18])

This was a clear theme discussed in 10 studies (Host 2011[8]; Ng 2022[12]; Swancutt 2020[16]; Pohl 2015[13]; Khong 2017[10]; Vincenzo 2022[17]; Heng 2021[6]; Shuman 2019[15]; Dabkowski 2022[3]; Vivrette 2011[18]). Participants reported using avoidance and caution as first-line fall prevention strategies. When asked about how they could prevent falls, participants most frequently related prevention to being more “careful.” Participants described, “As you get older, you’re more careful,” and “I am very careful … I never thought about falling before.” Participants also mentioned the ways that they restricted their activities to be more “careful.” For example, “I don’t walk out here in the garden … that is really dangerous to me,” and “I always opt-out of the stairs.” Another participant stated: I watch where I walk. I’m walking real cautiously and kinda touching the wall…You have to watch where you are walking and the unevenness of the cement and things, and even getting out of the car, are you stepping on a flat surface or is there a little curb.” Other strategies employed by participants included not rushing, taking smaller steps, using walking aids, having something nearby to hold on to, being vigilant of ones surroundings and asking for help. Avoidance of activities and obstacles that may contribute to a fall was also regularly mentioned, as one participant remarked, “I don’t get on steps too often without somebody holding me.” Another participant believed falls prevention involved “knowing your limitations so you do not go somewhere perceived dangerous”.

Explanation of quality assessment: minor methodological limitations were found in the contributing studies, which were due to a lack of discussion of the role of the researcher and sample size. No concerns were present about the coherence or adequacy of the finding. Moderate concerns were identified about relevance as the majority of studies were non-UK based so their applicability to the UK and an NHS healthcare system was limited. Two studies (Dabkowski 2022[3]; Shuman 2019[15]) were based in a hospital setting but included themes relevant to this finding. Additionally, one study (Dabkowski 2022)[3] included a younger population of participants with some <65 years old. However, the mean age was >65 so the study was included but may be limited in its applicability due to the views of some younger participants included. One study included a mixed population of older adults and carers or healthcare professionals (Swancutt 2020)[16], however, only the themes reported by the older adults were extracted and included in this review. Overall, there was a judgement of low confidence in this finding due to concerns about methodological limitations and relevance.

Poor knowledge/lack of information

Review finding 6: Poor knowledge/ lack of information - Lack of self-perceived susceptibility of experiencing a fall

This was finding was discussed in two studies, (Vincenzo 2022[17]; Gemmeke 2022[4]). Older adults' perceived susceptibility of experiencing a fall often did not match their actual falls risk and their knowledge in general about falls prevention. Some who had not experienced a fall did not believe that they were at risk for falling. This was highlighted by several participants in Vincenzo 2022[17] "The threat is not there individually," and, "I think I'm just fine, I don't have any problems," and, "I hadn't worried about falling … I don't have a balance problem." Other participants suggested that older adults do not feel susceptible until they experience a fall, "You don't think about it until you have a problem," and "Until you go down, it just doesn't click," and "when I tripped, I wasn't aware… I didn't even imagine falling." Participants' perceived fall risk seemed to influence their engagement in fall prevention activities. Some believed that as they were healthy and walked a lot they were not at risk. Although exercising could be seen as a precaution to prevent falls, many of these participants explicitly mentioned that they were not taking precautions to prevent falls.

Explanation of quality assessment: minor methodological limitations were found in the contributing studies, which were due to a lack of discussion of the role of the researcher and study sample size. No concerns were present about coherence. Minor concerns were identified about relevance as the majority of studies were non-UK based so their applicability to the UK and an NHS healthcare system was limited. Additionally, one study (Gemmeke 2022)[4] was focused only on pharmacological interventions related to fall risk so not as generalisable to the overall falls population. Minor concerns were identified around adequacy as only 2 studies focused on this area. While these were detailed and rich in data, it is unclear whether additional studies may change the conclusions. Consequently, there was a judgement of very low confidence in this finding due to concerns about methodological limitations and relevance.

Review finding 7: Poor knowledge/ lack of information - Lack of falls prevention information from a healthcare provider

This was a clear finding across five studies, (Vincenzo 2022[17]; Vivrette 2011[18]; Heng 2021[6]; Gemmeke 2022[4], Shuman 2019[15]). The majority of participants stated that despite discussing falls risks they had not received information about falls prevention from their doctor or healthcare professional. This theme was substantially driven by findings from Vivrette 2011[18] in which one participant stated, "My doctor always asks… have you had any falls in the last six months or a year or so? That kind of makes me more aware of it, but it's not really information." Another participant had a similar experience, "It's always their first question when you have an appointment, have you fallen? But then there's no follow-ups." The majority of participants attributed this to lack of healthcare professional time and were dissatisfied that doctors did not routinely address fall prevention during clinical visits. One participant in (Vincenzo 2022)[17] suggested there should be a policy for doctors to include falls prevention education as part of the medical wellness examination.

Explanation of quality assessment: minor methodological limitations were found in the contributing studies, which were due to a lack of discussion of the role of the researcher and study sample size. No concerns were present about coherence or adequacy. Minor concerns were identified about relevance as the majority of studies were non-UK based so their applicability to the UK and an NHS healthcare system was limited. Additionally, one study (Heng 2021)[6] was based in a hospital setting but included themes relevant to this finding and one study (Gemmeke 2022)[4] was focused only on pharmacological interventions related to fall risk so not as generalisable to the overall falls population. Consequently, there was a judgement of low confidence in this finding due to concerns about methodological limitations and relevance.

Information on Risk factors

Review finding 8: Information on Risk factors - Extrinsic risk factors

This was a clear finding across nine studies, (Ng 2022[12]; Swancutt 2020[16]; Heng 2021[6]; Schoberer 2016[14]; Pohl 2015[13]; Collins 2022[2]; Vivrette 2011[18]; Gemmekke 2022[4]; Host 2011[8]) participants highlighted several environmental risk factors that people at risk of falling should be aware of and that should be included in falls prevention information. These included: loose rugs or mats, poor lighting, clutter, active pets, slippery floor and steps. They also mentioned home environment modifications such as grab bars, getting rid of scatter rugs, and improved railings. Several participants mentioned footwear, such as proper shoes with good grip and no-slip socks. Others mentioned nutrition, mobility aids and lightening. Participants in Pohl 2015[13] listed specific precautions taken in everyday life such as leaving a small light on during the night, using an anti-slip mat in the shower, replacing the bathtub with a shower, using a step ladder with a handle when collecting items from a higher level, and changing to spiked bicycle tires in the winter. One participant in Schoberer 2016[14], summarised this theme in their opinion of falls prevention needs 'This is the most important aspect: one's surroundings.'

Explanation of quality assessment: minor methodological limitations were found in the contributing studies, which were due to a lack of discussion of the role of the researcher and study sample size. No concerns were present about coherence or adequacy. Moderate concerns were identified about relevance as the majority of studies were non-UK based so their applicability to the UK and an NHS healthcare system was limited. Additionally, two studies (Heng 2021[6] and Collins 2022[2]) were based in a hospital setting but included themes relevant to this finding and one study (Schoberer 2016)[14] was based in a residential care setting. One study (Gemmeke 2022)[4] focused only on pharmacological interventions related to fall risk so not as generalisable to the overall falls population. Consequently, there was a judgement of low confidence in this finding due to concerns about methodological limitations and relevance.

Review finding 9: Information on Risk factors - Intrinsic risk factors and prevention strategies

This was another widely reported theme, derived from nine studies, (Ng 2022[12], Swancutt 2020[16]; Heng 2021[6]; Schoberer 2016[14]; Pohl 2015[13]; Collins 2022[2]; Vivrette 2011[18]; Gemmeke 2022[4]; Host 2011[8]). Participants emphasised the importance of early recognition of a fall risk and taking relevant actions to prevent these. Prevention strategies mentioned included: improving strength and balance, learning fall strategies to avoid severe injuries, understanding physical limitations (i.e. weakness, poor balance) or medical conditions and medications that may increase risk of falls. Some older people found it important to know how they could prevent themselves from falling and this had implications for how they acted if they fell or how they handled the risk of falling. Even negative experiences offered useful information in relation to preventing falling (Host 2011)[8]. Other strategies mentioned were having annual eye examinations, talking to the GP about falls, regular medication reviews and podiatry input. Physical activities perceived to be useful were Tai-chi, Qi Gong, balance exercises, strengthening exercises, stretching, walking and general body movements. Deteriorating physical ability was a commonly identified risk factor amongst all participants in Swancutt 2020[16] and another study Kippenbrock 1993[11] focused on various conditions or health states people should be aware of that could increase falls risks including confusion, cardiovascular diagnoses, generalised weakness, orthopaedic diagnoses, and continence needs.

Explanation of quality assessment: moderate methodological limitations were found in the contributing studies, which were due to a lack of discussion of the role of the researcher and study sample size and the rigour of the analysis. No concerns were present about coherence or adequacy. Moderate concerns were identified about relevance as the majority of studies were non-UK based so their applicability to the UK and an NHS healthcare system was limited. Additionally, two studies (Heng 2021[6] and Collins 2022[2]) were based in a hospital setting but included themes relevant to this finding and one study (Schoberer 2016)[14] was based in a residential care setting. One study (Gemmeke 2022)[4] focused only on

pharmacological interventions related to fall risk so not as generalisable to the overall falls population. Two studies included a mixed population of older adults and carers or healthcare professionals, however, only the themes reported by the older adults were extracted and included in this review. Finally, one study (Kippenbrock 1993)[11] was conducted in 1993 so may not be relevant to older adults experience of falls prevention today. Consequently, there was a judgement of low confidence in this finding due to concerns about methodological limitations but mainly due to concerns about relevance.

Content

Review finding 10: Content - Exercise and balance

This finding was reported across six studies, (Vivrette 2011[18]; Vincenzo 2022[17]; Ng 2022[12]; Schoberer 2016[14]; Heng 2021[6]; Gemmeke 2022[4]) and resulted in mixed responses. Some perceived exercise as the most readily available fall prevention strategy and emphasised that daily exercises were important for their overall health status and for reducing fall risk. Conversely, others believed that these activities were unrealistic due to poor health state and posed a risk. In one study (Schoberer 2016)[14] based in a care home setting, some residents believed that incorporating physical activity based on the recommendations in a brochure would be conceivable. However, others remarked that such activities are unrealistic because of their physical limitations. Additionally, motivation to do physical activities was seen as an important element. 'Since turning 60 I have done therapy [exercise]. You have to tell people that they should do something. But not everyone wants to." Several participants emphasized on the importance of early recognition of a fall and the ability to recover balance or to avoid severe injuries due to a fall. "So, when she fall ah, she said if I fell like normally, I would have knocked my head and would have got a haemorrhage or whatever. So she fell, and then she lifted up her head. So, when she fall, her head didn't touch the ground." (Ng 2022)[12].

Explanation of quality assessment: minor methodological limitations were found in the contributing studies, which were due to a lack of discussion of the role of the researcher and study sample size. Minor concerns were identified about coherence as the views on the exercise varied between participants and studies. Some highlighted it as an important falls prevention strategy and others were not aware or believed it may be dangerous. Moderate concerns were identified about relevance as the majority of studies were non-UK based so their applicability to the UK and an NHS healthcare system was limited. Additionally, one study (Heng 2021)[6] was based in a hospital setting but included themes relevant to this finding and one study (Schoberer 2016)[14] was based in a care home setting but included themes relevant to falls overall or in a gene[4]ral community setting. One further limitation is that the mean study population age was not reported in Schoberer 2016[14], so it is unclear if this view is held in an older frailer group of participants. Additionally, (Gemmeke 2022)[4] was focused only on pharmacological interventions related to fall risk so not as generalisable to the overall falls population. No concerns were present about adequacy. Consequently, there was a judgement of very low confidence in this finding due to concerns about methodological limitations and relevance.

Review finding 11: Content - Pharmacological input

This finding came from one very specific study (Gemmeke 2022)[4] which focused on the falls prevention services provided by community pharmacies and provided data rich information on this topic. The majority of participants were unaware that medication use could affect falls risk. Participants believed that minimal information was provided by pharmacists about the potential fall risk effects of drugs, and many were sceptical in the pharmacists role in falls prevention. Patients stated they would like to receive more attention and appreciated receiving information from pharmacists, however, they were unsure how they would implement it: "Yes, [informing about fall risk-increasing drug effects] is definitely a good thing. It is part of prevention, and therefore, it is good. Yet, I don't know what I will do with the information." After learning about side effects of certain medications, some patients mentioned that they would like their medication to be reviewed and others even hoped that

some medication could be withdrawn. However, not all patients were interested in deprescribing. They either believed that in the absences of drug complaints, withdrawal efforts were unnecessary or believed their medications were essential to treat their disease(s).

Explanation of quality assessment: minor methodological limitations were found in the contributing study, which were due to a lack of discussion of the role of the researcher and study sample size. No concerns were present about coherence. Minor concerns were identified about relevance as the study was non-UK based so it's applicability to the UK and an NHS healthcare system was limited. Minor concerns were present about adequacy as only one study focused on this area. While, this study was very detailed and rich in data, it is unclear whether additional studies may change the conclusions. Overall, there was a judgement of low confidence in this finding due to concerns about methodological limitations and concerns about relevance and adequacy.

Review finding 12: Content - Equipment and technology

This was a clear finding reported across eight studies (Dabkowski 2022[3]; Pohl 2015[13]; Ng 2022[12]; Host 2011[8]; Schoberer 2016[14]; Vincenzo 2022[17]; Vivrette 2011[18]; Gemmeke 2022[4]). Participants discussed using various external aids or technology devices to improve safety and reduce risk of falling. Despite recognising the importance of walking aids such as sticks or frames for fall prevention, participants perceived using an assistive device as the most difficult fall-prevention activity for seniors to adopt. They attributed this difficulty to a social stigma associated with sticks and walkers, and this was particularly apparently among older men. Several participants cited the importance of their mobile phone as a means of getting help and would not go out without one. "I never go out on long walks nowadays without the mobile phone, it's a security thing that I can call for help. It actually happened once, I was out when it was all wet and slippery, and nobody knew where I was. I had my car parked deep in the forest and my husband was away on a trip, and no one knew that I was away." (Pohl 2015)[13]. Other technologies discussed included falls alarms, the use of fitness trackers to detect falls and monitor exercise and SMART phones or virtual assistant (i.e. Alexa) as a way to set medication reminders. Additionally, a participant in one study (Vincenzo 2022)[17] noticed their balance impairment when playing with their grandkids on a gaming system, "I came to be aware that my balance was not what it used to be. My grandkids got a Wii … and it had a deal where you balance on it … it said I was 72 years old according to my balance".

Explanation of quality assessment: minor methodological limitations were found in the contributing study, which were due to a lack of discussion of the role of the researcher and study sample size. No concerns were present about coherence and adequacy. Moderate concerns were identified about relevance as the study was non-UK based so it's applicability to the UK and an NHS healthcare system was limited. One study (Dabkowski 2022)[3] was based in a hospital setting and one in a care home setting (Schoberer 2016)[14] but included themes relevant to this finding in a general community setting. One study (Gemmeke 2022)[4] focused only on pharmacological interventions related to fall risk so not as generalisable to the overall falls population. One or two studies included a mixed population of older adults and carers or healthcare professionals, however, only the themes reported by the older adults were extracted and included in this review. Finally, one study included some adults aged below <65, however as the mean age of participants was over 65 years it was included in this review but may not be as applicable to the overall falls population. Consequently, there was a judgement of low confidence in this finding due to concerns about methodological limitations and mainly concerns about relevance.

Review finding 13: Content - Getting up off the floor

This theme was based on findings from four studies (Schoberer 2016[14]; Swancutt 2020[16]; Ng 2022[12]; Vincenzo 2022[17]). A number of participants discussed concerns strategies around getting up after a fall. Lacking strength, knee problems, and not knowing how to get up were the reasons cited for not being able to get up or needing help to get up after a fall. Whether

they were indoors, or outdoors was viewed as significant, particularly in relation to what stable objects were nearby that might be used to 'pull' oneself up. Outdoors was viewed as more challenging as often an open space with no objects near and where no-one might pass to find them and offer help. The social setting, both immediate (who was with them or near enough to hear them), and wider (who they could call easily, or might drop by), impacted their sense of safety and security. One participant stated, "I know there's benches there [on that walk] and then there's the low walls that way. I sort of go in my mind what's where. ... So, if I did have a fall, I'm not saying it's going to be in that precise, but if I did, I knew I could help myself but there's not always people about" (Swancutt 2020)[16]. The importance of remaining calm after a fall was indicated by all participants. This was viewed as the most important first step. "I think when a person fall, you know, try and collect your mind, don't be frightened, and don't be embarrassed. Don't like the minute you fall, you want to get up. Don't care what people say, don't care. . .calm yourself down first. I think to remain calm is very very important before you do the next thing. . ." (Ng 2022)[12]. Many participants also pointed out that inappropriate ways of assisting older person who is on the floor after a fall was dangerous and might cause further injuries. Preparing themselves for a fall, "practice getting up" from the floor in case they fall was also widely discussed. One participant shared, "I get down on the floor because … my mom used to fall, and my husband used to fall."

Explanation of quality assessment: minor methodological limitations were found in the contributing study, which were due to a lack of discussion of the role of the researcher and study sample size. No concerns were present about coherence and adequacy. Moderate concerns were identified about relevance as the study was non-UK based so it's applicability to the UK and an NHS healthcare system was limited. One study (Schoberer 2016)[14] was based in a care home setting but included themes relevant to this finding in a general community setting. One study (Swancutt 2020)[16] included a mixed population of older adults and carers or healthcare professionals, however, only the themes reported by the older adults were extracted and included in this review. Ultimately, there was a judgement of low confidence in this finding due to concerns about methodological limitations and about relevance.

Delivery of information and support

Review finding 14: Delivery of information and support - In person education with a professional

This was another widely reported theme consisting of findings from eight studies (Khong 2017[10]; Host 2011[8]; Heng 2021[6]; Collins 2022[2]; Vincenzo 2022[17]; Bergeron 2018[1]; Vivrette 2011[18]; Gemmeke 2022[4]). The majority of participants cited that they preferred falls information delivered by a healthcare professional as they believed them to be more experienced and credible. In one hospital-based study (Collins 2022)[2] nearly all participants stated that in-person education provided a personalised approach and would allow them to ask questions, with half of respondents saying that having a physician provide the information would be the most impactful. Further to this, participants agreed it was important that delivery was culturally appropriate, and that the person should be accustomed to working with older adults. Participants cited patience, empathy, confidence, approachability, and having time to listen as the main attributes they sought from their educator. Participants also favoured information being given by a peer as long as the person was "properly trained".

Explanation of quality assessment: minor methodological limitations were found in the contributing study, which were due to a lack of discussion of the role of the researcher and study sample size. No concerns were present about coherence and adequacy. Minor concerns were identified about relevance as the study was non-UK based so it's applicability to the UK and an NHS healthcare system was limited. Two studies (Heng 2021[6] and Collins 2022[2]) were based in a hospital setting and one study was set in a care home setting (Bergeron 2018)[1], however, they included themes relevant to this finding in a general community setting. One study (Gemmeke 2022)[4] was focused only on pharmacological

interventions related to fall risk so not as generalisable to the overall falls population. Overall, there was a judgement of low confidence in this finding due to concerns about methodological limitations and about relevance.

Review finding 15: Delivery of information and support – Community groups

This theme derived from seven studies (Pohl 2015[13]; Heng 2021[6]; Collins 2022[2]; Vincenzo 2022[17]; Khong 2017[10]; Vivrette 2021[18]; Gemmeke 2022[4]). A number of participants suggested senior, or community centres were a valuable way of delivery falls information. These were perceived as a focal point for disseminating information because of the high volume of older adults who attend these centres and the informal social networks that exist there. “Word of mouth” was a key strategy for exchanging information among friends, relatives, and the community amongst older adults (Vivrette 2021)[18]. One woman with no history of previous falls said that it made her reflect when listening to one of the other participants talking about the slippery soles of her warm shoes when stepping off a bus onto icy ground in the winter. She turned to the woman and said, “I have actually thought about it...every time I get off a bus I think about you, and I was just thinking about that: ‘Well, now the soles of my shoes are warmer, now I must be careful.” (Pohl 2015)[13]. Other informal networks that were frequently reported as important settings for seeking falls prevention information included exercise groups, bingo, or seniors’ social gatherings, where there were opportunities to discuss health related topics with peers.

Explanation of quality assessment: minor methodological limitations were found in the contributing study, which were due to a lack of discussion of the role of the researcher and study sample size. No concerns were present about coherence or adequacy. Minor concerns were identified about relevance as the study was non-UK based so it’s applicability to the UK and an NHS healthcare system was limited. Two studies (Heng 2021[6] and Collins 2022[2]) were based in a hospital setting; however, they included themes relevant to this finding in a general community setting. One study (Gemmeke 2022)[4] was focused only on pharmacological interventions related to fall risk so not as generalisable to the overall falls population. Overall, there was a judgement of low confidence in this finding due to concerns about methodological limitations and about relevance.

Review finding 16: Delivery of information and support – Written/printed information

This theme was a clear finding reported across seven studies (Heng 2021[6]; Collins 2022[2]; Schoberer 2016[14], Shuman 2019[15]; Vincenzo 2022[17]; Khong 2017[10]; Vivrette 2011[18]). Many participants suggested that brochures or pamphlets on falls prevention were a good adjunct to falls education delivered in person. One participant stated, “If the doctor doesn’t have time to talk about it … a brochure or something, at least that’s a start.” (Vincenzo 2022)[17] Others felt that written information alone was adequate as well as a first line strategy to falls prevention and to raise awareness. They indicated that having something to take home and look at would help their long-term retention. Participants wanted information that was simple and easy to read and suggested that resources that provided focus on visual illustrations and pictures rather than words. They suggested concise information on the most important facts in large fonts supported by pictures and relevant to older adults would be most useful. Participants also wanted to see images of active seniors participating in activity and exercise, grandparents interacting with grandchildren, and images presenting realistic depictions of older adults. Participants suggested posters or pamphlets could be on display or handed out in GP practices, pharmacies, hospitals, or public spaces such as libraries. One participant made a suggestion on disseminating written information; “handouts with prescriptions because your visits with the doctor are less frequent, but your prescription filling is pretty much ongoing.”

Explanation of quality assessment: minor methodological limitations were found in the contributing study, which were due to a lack of discussion of the role of the researcher and study sample size. Minor concerns were present about coherence as the preference for written information instead of face-to-face education or as an adjunct to in person information

varied between the studies. Moderate concerns were identified about relevance as the study was non-UK based so it's applicability to the UK and an NHS healthcare system was limited. Three studies (Heng 2021[6], Collins 2022[2] and Shuman 2019[15]) were based in a hospital setting and one study was set in a care home setting (Schoberer 2016)[14], however, they included themes relevant to this finding in a general community setting. One study included a mixed population of older adults and carers or healthcare professionals, however, only the themes reported by the older adults were extracted and included in this review. No concerns were present about adequacy. Overall, there was a judgement of very low confidence in this finding due to concerns about methodological limitations, coherence and about relevance.

Review finding 17: Delivery of information and support - Internet and audio visual

This theme consisted of findings from four studies (Pohl 2015[13]; Vincenzo 2022[17]; Khong 2017[10]; Ng 2022[12]). Several participants mentioned using the internet as a potential source of falls prevention information. Participants statements in (Vincenzo 2022)[17] exemplified this, "My wife would go on the internet and learn all about it," and that to find out about falls prevention, another participant would "look at some information on the internet." Additionally, participants suggested that there should be a falls prevention knowledge test on the internet because, "Popular things on the internet or quizzes…people like to answer questions about things, particularly if it has to do with their intelligence." (Vincenzo 2022)[17]. Participants described desired features for online information including colourful web pages large font size, correct spacing, use of titles and logos that attract users and good colour contrast between the background and text. Looking into the aspect of information presentation, participants suggested short, precise, and direct sentences, minimising the use of words, use numbered or bulleted list, and split different information into pages. The use of simple language was also highlighted. All participants highlighted a preference for the use of images, illustrations, or videos to deliver information. "And if there was a picture to help with, it cuts down the border, picture always speaks thousand words." (Ng 2022)[12]. Others, suggested audiovisual options for falls information dissemination such as screens in pharmacies or GPs waiting rooms, or public service announcements on the TV or radio stations that focused on older adult audiences.

Explanation of quality assessment: minor methodological limitations were found in the contributing study, which were due to a lack of discussion of the role of the researcher and study sample size. No concerns were present about coherence and adequacy. Minor concerns were identified about relevance as the study was non-UK based so it's applicability to the UK and an NHS healthcare system was limited. Overall, there was a judgement of low confidence in this finding due to concerns about methodological limitations and about relevance.

Hospital setting

Review finding 1: Inconsistent messages and limited information

This was a clear theme discussed in six studies in a hospital-based falls population (Heng 2021[6]; Collins 2022[2]; Shuman 2019[15]; Dabkowski 2022[3]; Hill 2023[7]; Kerr 2023[9]). Participants largely agreed that falls prevention education received varied between participants. Different methods of falls education delivery were also reported. Some participants reported in-hospital fall prevention activities, including bracelets given to patients at risk for falls and nursing staff support with ambulation, transfer, and toileting for at-risk patients. However, only a few participants described receiving verbal advice or instructions from staff such as using the call bell, or not rushing to mobilise. Others reported only receiving fall prevention brochures with no face-to-face discussion on how to use them or what to focus on. This was exemplified in Heng 2021[6], "I was lucky in that the person who showed me into the room went to the trouble of drawing these brochures to my attention and suggested I really ought to read them. But it seems from what I've heard that it's not a general policy". Some people

received physiotherapy and occupational therapy falls assessments, yet for others this did not occur. Several participants had attended a falls education group whilst in hospital and this often focused on fall prevention after hospital discharge. There were also inconsistencies in the timing of delivery of falls prevention education. Some patients were given falls education brochures on admission and others prior to discharge, yet many had no explanation from clinicians regarding the information or how to apply it. A few participants discussed their frustrations about receiving mixed messages and conflicting advice from health professionals regarding fall prevention strategies i.e. use of aids or wearing correct footwear. The majority of participants recognised the inconsistencies and suggested the provision of standardised falls education from staff.

Explanation of quality assessment: minor methodological limitations were found in the contributing studies, which were due to a lack of discussion of the role of the researcher, lack of details on how themes were developed and study sample size. No concerns were present about coherence and adequacy. Minor concerns were identified about relevance as all the studies were non-UK based so it's applicability to the UK and an NHS healthcare system was limited. Additionally, one study included a younger population of participants with some <65 years old. However, the mean age was >65 so the study was included but may be limited in its applicability due to the views of some younger participants included. One study also included a mixed population of older adults and their carers. However, only the views of the older adults were extracted for this review. Overall, there was a judgement of low confidence in this finding due to concerns about methodological limitations and about relevance.

Review finding 2: Depending on others to prevent falls

This finding came from four studies in a hospital-based falls population (Heng 2021[6]; Dabkowski 2022[3]; Hill 2023[7]; Kerr 2023[9]). Extrinsic influences such as nursing staff supervision, call buzzer technology, falls bracelets and falls alarms were considered to be the main component to falls prevention in hospital. "If I ask for assistance it comes, so I don't have to take any risks" (Dabkowski 2022)[3]. The reliance on nursing staff for transfers and personal hygiene/toileting was clearly voiced with most acknowledging that they would not hesitate to seek assistance. However, frustrations were expressed with slow response to or unanswered buzzers and some patients were reluctant to use their buzzer and waste staff time. Many described experiences of disempowerment and limited autonomy after a fall or when trying to prevent themselves from falling during their hospital stay. One participant described having his movements restricted after sustaining a fall in the hospital, "I had a fall trying to get outta bed, uh, on, on the first night… uh, and they used a, a hoist to get me up off the floor and then put an alert mat on the bed…so I wouldn't get out of bed again". Participants also mentioned other extrinsic fall risk factors present in hospital such as slippery or wet floors and gait aids left out of reach. Although there appears to be a reliance on hospital staff, some participants believed that patients needed to have accountability for their behaviours in hospital and highlighted the importance of including the person as a 'partner' in falls prevention and safety management in hospital.

Explanation of quality assessment: No concerns were present for adequacy or coherence. Minor concerns were identified about limitations due to a lack of discussion of the role of the researcher and lack of details on how themes were developed. Additionally minor concerns were present around relevance as the studies were non-UK based, so applicability to the UK and an NHS healthcare system was limited. Additionally, one study included a younger population of participants with some <65 years old. However, the mean age was >65 so the study was included but may be limited in its applicability due to the views of some younger participants included. One study also included a mixed population of older adults and their carers. However, only the views of the older adults were extracted for this review. Overall, there was a judgement of moderate confidence in this finding due to concerns about relevance.

Review finding 3: Confusion and unfamiliar environment

This theme was discussed in four studies in a hospital-based falls population (Heng 2021[6]; Dabkowski 2022[3]; Hill 2023[7]; Kerr 2023[9]). The most frequent risk factor identified by the elderly patients who fell or were at risk of falls was confusion. Confusion was identified by the patients with statements such as, "I get mixed up," "I get confused," or "My memory is bad. One participant recollected, “I’ve seen elderly patients get out of bed and wear bed pans as their shoes ‘cause they thought they were their shoes. I’ve seen dementia people walk around and just fall over” (Dabkowski 2022)[3]. Participants described how the opportunity to engage in safe behaviour was compromised due to unfamiliarity with the environment and personal context. Some perceived that ward environments were consistently busy and hence not conducive to personalised assistance even when required. Many participants acknowledged the unfamiliarity of hospitals compared to their usual surroundings, which could lead to disorientation and increase risk. One participant in Dabkowski 2022[3] shared their experience, “It was a small case of fright, I didn’t know where the heck I was! I didn’t know anything”, and another participant in Kippenbrock 1993[11], "I think I'm home." However, this was not limited to an unfamiliar hospital environment, as one participant spoke of their disorientation at home in the middle of the night, which led to multiple falls.

Explanation of quality assessment: Moderate methodological limitations were found in two studies due to a lack of discussion of the role of the researcher, study sample size and rigour of the analysis. No concerns were present about coherence or adequacy. Moderate concerns were identified about relevance as the study was non-UK based so it’s applicability to the UK and an NHS healthcare system was limited. One study included a younger population of participants with some <65 years old. However, the mean age was >65 so the study was included but may be limited in its applicability due to the views of some younger participants included. One study also included a mixed population of older adults and their carers. However, only the views of the older adults were extracted for this review. Additionally, one study was conducted in 1993 so it may not be relevant to older adults’ experience of falls prevention today. Overall, there was a judgement of low confidence in this finding due to concerns about methodological limitations and about relevance.

Review finding 4: Information needs

This finding was discussed in five studies in a hospital-based falls population (Heng 2021[6]; Collins 2022[2]; Shuman 2019[15]; Dabkowski 2022[3]; Hill 2023[7]). Most people valued the expertise of health professionals and appreciated the falls education they received; however, they expressed a desire for consistent messages from all staff and for education to also be tailored to individual needs. There was a general consensus that information was lacking, and many participants stated that they were unaware falls prevention was important in hospital. Specifically, participants wanted to know more about the consequences of falling, what to expect and do post-operatively, strategies to manage falls, risk factors in hospital and at home and options for information while hospitalised. Some wanted more direction on how to consult physiotherapists, nurses, and occupational therapists for information. Participants were receptive to falls education classes with many planning to attend outpatient falls prevention programs upon discharge. As one person noted in Dabkowski 2022[3], “If I survive this ordeal and come out of hospital, I’ll have to do something about it because it seems like simple little falls are gonna be a tragedy to me”. One participant (Shuman 2019)[15] valued the falls prevention brochures provided by the researchers during the interview “I think they should give all these to people when leaving the hospital, I really truly do, because I mean they are going to be more prone to read something like this than the discharge papers”. However, in general most participants preferred in person education with the chance to ask questions.

Explanation of quality assessment: minor methodological limitations were found in the contributing studies, which were due to a lack of discussion of the role of the researcher and study sample size. No concerns were present about coherence and adequacy. Minor concerns were identified about relevance as the studies was non-UK based so their applicability to the UK and an NHS healthcare system was limited. Additionally, one study

included a younger population of participants with some <65 years old. However, the mean age was >65 so the study was included but may be limited in its applicability due to the views of some younger participants included. One study also included a mixed population of older adults and their carers. However, only the views of the older adults were extracted for this review. Overall, there was a judgement of low confidence in this finding due to concerns about methodological limitations and about relevance.

Review finding 5: Perceived risk and hospital risk

This finding was discussed in five studies in a hospital-based falls population (Heng 2021[6]; Kippenbrock 1993[11], Dabkowski 2022[3]; Hill 2023[7]; Kerr 2023[9]). Despite their past medical histories or current circumstances, many participants did not consider themselves to be at risk of falling in hospital and felt safer than they did at home. This was in part due to a lack of insight into their limitations and also attributed to the hospital environment being modified for safety and to a sense of safety that help was always on hand. This was evidenced by one participant in Dabkowski 2022[3] “cause there’s help always and I won’t do anything unless I’ve got help with me”. Another participant mentioned they felt safer because they did not need to complete their usual tasks of daily living, such as cooking, cleaning, and working. Many participants had only a basic understanding of factors that increased the risk of falls whilst hospitalised and were able to list various mechanical reasons for falling in hospital, such as, balance difficulties, weakness, or unsteadiness on one’s feet. One participant was able to attribute medical conditions to an increased risk of falling. “I guess, as I’ve come out of each surgery and been weaker, that’s probably where the risk’s at. You know, when my blood pressure was low, and I thought I could walk a bit more than I could” (Heng 2021)[6]. Additionally, several participants were able to recognise that poor insight into their own needs could lead to falls in hospital. As participant one explained, “Not concentrating, I believe. Or getting their ambitions and their capabilities mixed up. Just thinking they’re better than they really are at the time” (Dabkowski 2022)[3].

Explanation of quality assessment: minor methodological limitations were found due to a lack of discussion of the role of the researcher, study sample size and rigour of the analysis methods. No concerns were present about coherence and adequacy. Moderate concerns were identified about relevance as the study was non-UK based so it’s applicability to the UK and an NHS healthcare system was limited. One study included a younger population of participants with some <65 years old. However, the mean age was >65 so the study was included but may be limited in its applicability due to the views of some younger participants included. Additionally, one study was conducted in 1993 so it may not be relevant to older adults experience of falls prevention today. One study also included a mixed population of older adults and their carers. However, only the views of the older adults were extracted for this review. Overall, there was a judgement of low confidence in this finding due to concerns about methodological limitations and about relevance.

Review finding 6: Uncertainty and lack of assistance

This finding was discussed in two studies in a hospital-based falls population (Hill 2023[7]; Kerr 2023[9]). Participants identified an apparent paradox between needing help and seeking help, confusing them about how to remain safe on the ward, with one patient (Hill 2023)[7] stating: “I know that people are hesitant to call a nurse in hospital because nurses are busy”. Some participants believed that the lack of staff assistance was compromising their safety and they felt compelled to engage in unsafe behaviour. “I was told if I wanted to go for a walk to ask for it, but the staff is so short that they're helping me walk around when somebody else really needs treatment, so you don't do it and you just struggle on your own”. Untimely responses to ringing the call bell for assistance, particularly for going to the toilet, was viewed as being forced to take action alone even if the consequences were detrimental to safety. Participants explained that it was not as simple as just being ‘non-compliant’ with nurses’ advice - sometimes it was the choice of doing what the nurses said (calling for help to go to the toilet) or maintaining dignity (not being incontinent). Another point raised by participants within this

theme is that older people do not want to be a burden or 'put people out': I've always been a very good patient, I never bother anybody, I never want anyone to come and help me, as long as I can handle it, I'll handle it (Kerr 2023)[9]. The desire to not be a burden may be related to maintaining a sense of dignity, and participants in Kerr 2023[9] explained, that when you become a burden on other people, you may experience a sense that your worth in society has diminished.

Explanation of quality assessment: minor methodological limitations were found due to a lack of discussion of the role of the researcher, and lack of detail around how the themes were developed. No concerns were present about coherence. Moderate concerns were identified about relevance as the study was non-UK based so it's applicability to the UK and an NHS healthcare system was limited. Both studies included a mixed population of older adults and their carers. However, only the views of the older adults were extracted for this review. Minor concerns were present about adequacy as this finding was only present in two small studies and it is unclear whether additional studies may change the conclusions. Overall, there was a judgement of low confidence in this finding due to concerns about methodological limitations, adequacy and relevance.

Residential care setting

Review finding 1: Equipment

This finding was discussed in one study in a population of residents at risk of falls in a nursing home (Schoberer 2016)[14]. Residents considered their walking aids as sacred. In general, they were satisfied with them and were not interested in other options since their handling was familiar. One participant explained, “You have to go in such a way that you can put on the brake at any time. Never sit down [on the walker] without applying the brakes.” Hip protectors and non-skid socks were unfamiliar to residents and there was limited interest in learning more about them. They believed that nurses and family members ought to decide when medical devices should be utilised.

Explanation of quality assessment: No methodological limitations or concerns about coherence were present. Minor concerns about relevance were identified as the study was non-UK based so it’s applicability to nursing homes in the UK was limited. The study also included a mixed population of older adults and carers or healthcare professionals, however, only the themes reported by the older adults were extracted and included in this review. Minor concerns were identified about adequacy as only one study touched on this area, and it is unclear whether additional studies may change the conclusions. Overall, there was a judgement of very low confidence in this finding due to concerns about relevance and adequacy.

Review finding 2: Risks and fall prevention

This finding was discussed in two studies identified in a residential care-based falls population (Schoberer 2016[14]; Bergeron 2018[1]). Participants expressed a need for information about risk factors and how to deal with them. Residents related many fall events to environmental risk factors and recommended including advice about adequate shoes, the importance of good lighting, using grab handles and being aware of slippery floors or carpets. Several residents mentioned the importance of intrinsic and behavioural-related risk factors, and some found importance in knowing what they can do when a fall occurs, and they are not able to get up. There were few statements from residents concerning the importance of information about person-related fall risk factors. Residents felt that some falls cannot be avoided, especially when one fears falling. “When you feel that there is anxiety, it is too late. Then you are already on the floor. You cannot remain standing” (Schoberer 2016)[14]. The majority of participants recognised the need for advice and valued input and support from others. For example, one participant related that she obediently followed her doctors’ orders: “I don’t do anything unless my doctor tells me. She tells me what medicine to take and when I can exercise” (Bergeron 2018)[1]. After discussing content of a falls education brochure, many residents felt that information about extrinsic risks, and incorporating physical activity should be included in a brochure.

Explanation of quality assessment: Minor methodological limitations were found, which were due to a lack of discussion of the role of the researcher. Minor concerns about relevance were identified as the study was non-UK based so it’s applicability to nursing homes in the UK was limited. The study also included a mixed population of older adults and carers or healthcare professionals, however, only the themes reported by the older adults were extracted and included in this review. Minor concerns were identified about adequacy as only two studies touched on this area, and it is unclear whether additional studies may change the conclusions. Overall, there was a judgement of very low confidence in this finding due to concerns about methodological limitations, relevance, and adequacy.

Review finding 3: Information sources

This finding was discussed in one study based on a continuing care retirement community falls population of women only (Bergeron 2018)[1]. This study comprised of the oldest cohort of participants in this review with the mean age 88.9 years old. Most participants tended to

perceive professionals as credible, trustworthy, and knowledgeable sources of information. Participants' accounts of their post-fall communication with professionals portrayed interactions that were direct and clear in which the interactants adhered to more prescribed, formal roles, and communication patterns, such as asking for and receiving specific information or advice. Participants trusted the professionals with whom they regularly interacted and relied on them for aspects of their post-fall decision making; "They're professionals; they knew what they were doing." In contrast, they perceived family members as available, helpful, and trustworthy, but not the most credible. Women who perceived a lack of credibility among information sources reported difficult interactions and, in some cases, admitted not having been completely honest with others regarding their fall. Reasons for this ranged from personal pride to fear of being moved to another level of care (i.e. assisted living).

Explanation of quality assessment: Minor methodological limitations were found, which were due to a lack of discussion of the role of the researcher. Minor concerns about relevance were identified as the study was non-UK based so it's applicability to nursing homes in the UK was limited. The study also included a population of women only and an older and potentially more frail falls population. The applicability to men and a younger falls population, may be limited. Additionally, the study included a mixed population of older adults and carers or healthcare professionals, however, only the themes reported by the older adults were extracted and included in this review. Minor concerns were identified about adequacy as only one study touched on this area and it is unclear whether additional studies may change the conclusions. Overall, there was a judgement of very low confidence in this finding due to concerns about methodological limitations, relevance and adequacy.

1.1.7. Economic evidence

The committee agreed that health economic studies would not be relevant to this review question, and so were not sought.

1.1.8. The committee's discussion and interpretation of the evidence

1.1.8.1. The quality of the evidence

This review examined the information and education needs of people at risk of falls through the analysis of views, opinions and experiences reported by others at risk of falls. Information from 17 qualitative studies was categorised into three different settings: community, hospital and residential care to capture similarities and differences in the information needs for people in these different environments. The quality of evidence for each of these groups is discussed separately below.

- Community setting (n= 8 studies)
- Hospital setting (n= 7 studies)
- Residential care setting (n= 2 studies)

Findings from these three population strata were analysed separately, however, there was some cross over and repetition of the themes reported in each stratum. For example, participants in the hospital setting often discussed themes relating to falls risks in their own homes and these findings were included along with other related themes in the community findings section. Only themes that were directly related and restricted to a residential home or hospital setting were analysed within these separate strata.

Community setting

A total of 8 qualitative studies were included in this review for this population.

One study was set in the UK while the others were based in a range of countries worldwide including Holland, Demark Australia, Malaysia, Sweden and two in the USA.

The findings from the community setting can be summarised into six different themes and 19 subthemes. Themes were derived from the evidence identified and were not prespecified by the committee.

All themes came from older adults who had been identified at risks of falls.

Of the 6 themes and 19 subthemes that were identified and presented, low confidence was present for 16 of the findings and very low for 3 sub themes based on GRADE CERQual. Primary reasons for downgrading review findings were due to methodological limitations in the contributing studies and relevance of the finding. Concerns about methodological limitations was most commonly due to a lack of consideration of the role of the researcher and how this may have affected the study design and results. Further concerns about recruitment strategies, small sample sizes, lack of clarity of data collection methods and sufficient detail of the data analysis were present in several findings and attributed to their downgrading. Evidence was commonly downrated due to relevance when the context and environment was not directly relevant to the review question or the stratification. This was often due to studies not being set in the UK. Therefore, the setting may not be relevant to a UK based NHS healthcare system in terms of the support and education classes available. Additionally, concerns were around some studies being set in a hospital setting but reported here as findings relevant to a community setting. Finally, some findings were downgraded as several of the studies came from a mixed population of older adults at risk of falls but also included carers and health care professionals. While these were generally excluded, if the studies reported the results of the older people separately then we were able to include them but downgraded the evidence for relevance. Evidence was occasionally downgraded due to concerns about coherence, with participants within or across studies expressing variation in views about their education and needs. Finally, one finding was downgraded for adequacy, when insufficient data was available.

Overall, the committee commented that the amount of evidence presented in the review was sufficient and rich in data. They also considered the quality to be adequate as one of the most common reasons for downgrading was relevance due to being set abroad and the committee agreed that for many of the studies this would not be an issue as information needs would largely be the similar.

Hospital setting

A total of 7 qualitative studies were included in this review for this population. Studies were set in the USA and Australia.

The findings from the hospital setting can be summarised into five different themes. Themes were derived from the evidence identified and were not prespecified by the committee.

All themes came from older adults who had been identified at risks of falls and were currently inpatients in a hospital setting.

Of the six themes that were identified and presented, low confidence was present for one of the findings and very low for the other four findings based on GRADE CERQual. Primary reasons for downgrading review findings were due to methodological limitations in the contributing studies and relevance of the finding. Concerns about methodological limitations was most commonly due to a lack of consideration of the role of the researcher and how this may have affected the study design and results. Further concerns about small sample sizes and sufficient detail of the data analysis were present in several findings and attributed to their downgrading. Evidence was commonly downrated due to relevance when the context and environment was not directly relevant to the review question or the stratification. This was often due to studies not being set in the UK, and hospital settings in the USA and Australia are likely to vary and may not be relevant to a UK based NHS healthcare system.

Additionally, one study was conducted in 1993 so may not be relevant to older adults' experience of falls prevention today and another study included a younger population of participants with some <65 years old, therefore themes which were based largely on findings from these studies were downgraded for relevance. Finally, one theme was downgraded for adequacy, due to insufficient evidence as only 2 studies touched on the area, and it is unclear whether additional studies could change the conclusions.

Overall, the committee commented that the amount of evidence presented in the review for this setting was fairly limited as only five studies were identified, however, two of these studies were very specific and rich in data. They were also more concerned about the relevance of the data in this setting as inpatient hospital wards in USA and Australia where healthcare is partly privatised differ from experiences of patients in the UK NHS system. The committee therefore decided to update the previous recommendations and supplement this information with their knowledge and expertise.

Residential care setting

Two qualitative studies were included in this review for this population and studies were set in the USA and Austria.

The findings from the residential setting can be summarised into three different themes. Themes were derived from the evidence identified and were not prespecified by the committee.

All themes came from older adults who had been identified at risks of falls and were currently residents in a nursing home or retirement community. It was unclear whether these are state funded or private settings.

Of the three themes that were identified and presented, very low confidence was present for all of the findings based on GRADE CERQual. Primary reasons for downgrading review findings were due to methodological limitations in the contributing studies and relevance of the finding. Concerns about methodological limitations was most commonly due to a lack of consideration of the role of the researcher and how this may have affected the study design and results. Evidence was commonly downgraded due to relevance when the context and environment was not directly relevant to the review question or the stratification. This was primarily due to studies not being set in the UK, and residential care settings or retirement communities in the USA and Austria are likely to vary and may not be relevant to residential care in the UK. Additionally, some findings were downgraded as several of the studies came from a mixed population of older adults at risk of falls but also included carers and health care professionals. While these were generally excluded, if the studies reported the results of older people separately then we included them but downgraded the evidence for relevance. Finally, all three themes were downgraded for adequacy, due to insufficient evidence as only 1 or 2 studies touched on the area, and it was unclear whether additional studies would change the conclusions.

Overall, the committee commented that the amount of evidence presented in the review for this setting was very limited as only two studies were identified, and one was based in a nursing care setting and one in retirement community. They were more concerned about the relevance of the data in this setting as nursing homes and retirement communities in USA and Austria may differ from experiences of people in the UK, and there was no information provided on whether these settings were state funded or independently funded. The committee therefore decided to supplement the information with their knowledge and expertise to make consensus recommendations.

1.1.9.3 Findings identified in the evidence synthesis

Community setting overall information needs

The qualitative review identified 19 findings that were considered and discussed by the committee related to falls information and education needs in a community setting.

Existing recommendations in the guideline already covered a number of the findings identified and the committee agreed these points should be retained, however, existing recommendations were edited to incorporate some additional factors that were identified in the review.

The committee considered one of the most prevalent themes reported widely across the evidence was related to promoting empowerment. This overarching theme was reported by nine studies and separated into 3 sub themes rated low quality. The sub themes focused on components of the overarching theme, and describe in more detail how different aspects of information and education on falls and falls prevention can promote empowerment. One subtheme focused on the delivery of positive messages and maintaining independence. The committee agreed that promoting a positive tone and focusing information on falls prevention is of upmost importance. They explained that when delivering information on falls risks and precautions they need to be mindful that these messages can create fear and anxiety and lead to activity avoidance. If messages are delivered in a tone that promotes empowerment and hope by focusing on active prevention strategies and healthy living, then this may counteract this. Another sub theme described how knowledge of a person's physical status and risks associated with certain medical conditions or medications can promote self-awareness of their individual risk and empower an individual in managing risk. One finding identified that emphasising healthy aging helps make the message more palatable and one participant summed this up stating, "People will migrate to something for older people, but it has to be on the basis of wellness. Part of wellness is not falling. I don't think any older person would just jump at the chance to go to a lecture about falling. You kind of got to sneak it in." The committee discussed how the use of pictures depicting older active adults were more likely to motivate participants than for example, younger people or cartoon images. This was supported by several studies in the themes around presentation, in which participants expressed a preference for positive images depicting an element of "fun and a cheerful presence" rather than images which were associated with limiting physical capacity.

The most common information need identified in the evidence and echoed by the committee was on the presence of risk factors. This theme was separated into two subthemes, extrinsic risk factors (9 studies) and intrinsic risk factors (9 studies) and both were rated low quality. Intrinsic risk factors related to the individual such as poor balance, and extrinsic risk factors to external risks such as in the environment. The committee agreed people at risk of falls should be made aware that falls risk increases with presence of either of these risk factors and understand what they can do to modify these risks to help prevent falls. The committee drew on findings from the themes, poor knowledge of falls risk and lack of self-perceived susceptibility to formulate this recommendation. The committee discussed that people at risk of falls can display a lack of insight into their own risk until they have fallen. They discussed this is particularly true in the case of intrinsic risks such as poor balance, muscle weakness, poor vision, confusion, use of certain medications and having other health conditions or comorbidities. Alternatively, people were more likely to identity extrinsic risk factors such as trip hazards, poor lighting, inappropriate footwear, steps and slippery floors.

The committee agreed that a lack of insight into falls risk directly influences engagement in falls prevention activities. They agreed it was important to make people aware of their individual risk factors, and to formulate personalised falls prevention information based on their identified risks. This could include referral to community falls prevention programmes or guidance on general strength and balance training. Prevention strategies for other specific falls risks may include review of a person's medications which can increase risk or falls, referral to podiatry for gait issues, or an optician if vision is a problem. People should also be offered information and support to reduce falls risk in the home such as checking there is adequate lighting, removing trip hazards and installation of equipment such as grab rails or fall alarms. The committee highlighted people living alone without social support can be

another risk factor that should be considered, and people offered the relevant support where appropriate such as signposting to community falls classes or provision of falls alarms or monitors to detect falls. The committee reiterated the importance of framing information in a positive way, focusing on the preventable nature of falls risks rather than on the risks themselves or consequences.

Another prevalent theme on fear of falling and activity avoidance was found in the majority of studies (n= 10) and rated low quality. The committee discussed there is often a battle between being active and engaging in exercise and trying to mitigate the risk of falls. They agreed that patient education is the first step to combat this and the importance of promoting confidence so that people believe they can engage in activities safely. They discussed the negative impact of activity avoidance on peoples' mental health, along with their identity, autonomy, and independence. The committee agreed that information on how to stay motivated and increase engagement in fall prevention strategies was important. This was supported by the theme related to exercise and balance based on five studies which found that participants had mixed views on the use of exercise as a falls prevention strategy. Many were unaware of their relevance as falls prevention strategies and others believed that these activities were unrealistic or too risky. Information on the value of exercise or balance interventions and how to engage safely should be included in falls prevention discussions or written information. The committee acknowledged themes relating to 'support from social networks' or 'community groups' which touched on engagement with falls prevention activities found older people were more likely to adhere to group-based activities as they promoted accountability and improved motivation. They agreed that including families, friends or carers in falls prevention activities was regarded to be valuable to participants and helped with adherence.

Another information need presented in the evidence, based on 4 studies, and recommended by the guideline committee was on 'what to do after a fall' and 'how to get up off the floor or summon help'. This was a common fear amongst participants, and many wanted to know ways on how to get up off the floor or even how to fall correctly to limit injury. Several participants stated the importance of remaining calm after a fall and not being embarrassed and rushing to get up as this could cause further injury. The committee suggested that education on how to get up from the floor after a fall (i.e. backward chaining) is an important part of falls prevention classes. They discussed the importance of how to summon help and strategies such as carrying a mobile phone, use of personal fall alarms or activity monitors such as smart watches, and consideration of the environment and who may be nearby to provide assistance. The committee highlighted that providing information on when it is safe to move people after a fall or when an ambulance or assessment in A and E may be necessary can also be helpful.

The committee recommended that people should be made aware of where to obtain further advice or information following a fall or when identified as at risk of falls. This recommendation was partly based around the overall theme identified on the 'delivery of information support.' The committee acknowledged that 'in person' education on falls risks and prevention strategies was important initially to facilitate a personalised care approach. This was supported by the evidence where the majority of participants preference was for falls information to be delivered in person by a healthcare professional with the opportunity to ask questions. Following this, people could be referred to falls prevention classes where necessary or provided with written information or website link. The committee briefly discussed the findings on the 'presentation of information' and the themes related to brochures or websites etc. They agreed that many of the findings on presentation of information would be covered in the NICE Patient experience in adult NHS services guidance and the use of concise language that was easy to understand, incorporation of colour and pictures followed general principles of good practice and a specific recommendation was not necessary. Several guideline committee members believed the provision of information booklets and leaflets had declined since the COVID-19 pandemic due to infection prevention, but there are disparities between different regions of the country. The committee noted the

dissemination of written information was a useful adjunct to verbal advice, particularly as many older people are unable to access the internet for information. However, they acknowledged the information should be specific to people's needs.

Overall, the committee agreed that an individualised approach to falls prevention was necessary, and information should be delivered in a positive light with emphasis on the prevention of falls.

Hospital setting information needs

The qualitative review identified five findings that were considered and discussed by the committee related to falls information and education needs in a hospital setting. Existing recommendations in the guideline already covered a number of these findings and as limited additional evidence was identified in this review the committee agreed these should be retained within any revision made to the existing recommendations. They noted that many of the information needs identified were similar to the findings discussed in the community setting and agreed some information needs were universal and applicable to all settings. The committee decided to focus on the findings that were unique to being in a hospital environment.

The committee agreed that an additional information need important for people in a hospital setting is around how to operate and navigate the unfamiliar equipment and environment. This was in part based on the themes 'depending on others to prevent falls' and 'perceived risk and hospital risk' and on existing recommendations and committee consensus. Findings in the theme 'perceived risk and hospital risk' discussed patients not considering themselves to be at risk in hospital, due to a lack of insight into their own limitations, and a sense of being safe because the environment has been modified for safety and help is always on hand, which may result in an increased falls risk. Findings on 'depending on others to prevent falls' highlighted how falls prevention in hospital is largely dependent on others and extrinsic factors such as the use of call bells, nurse supervision, falls alarms, bed rails and walking aids. These are likely to be unfamiliar to patients who will need advice on how they work and when to use them. The evidence suggested that patients did not like using the call bell as they did not want to burden busy staff, and against advice, would try to mobilise without supervision. Participants also mentioned reminders on wearing nonslip socks should be displayed because floors in hospitals are often slippery or wet. The committee discussed the importance of patients feeling empowered to highlight environmental risk factors, such as trip hazards, poor lighting, wet floors, walking aids left out of reach to staff without feeling embarrassed.

The committee discussed discharge planning from hospital and how information and awareness of how to manage falls risk after discharge is crucial for patients as they may not be going back to their usual setting, or their falls risk and mobility needs may have changed. This was supported by findings on 'information needs' and 'inconsistent messages' where participants highlighted huge disparities in the information and education provided on risk and prevention of falls. Some people were given falls education classes focusing on prevention post discharge, while others received no information at all or a brochure prior to discharge. The committee, therefore expressed a need for consistent falls prevention education in hospitals prior to discharge and with the chance to attend outpatient falls prevention programmes if suitable.

While the evidence in a hospital setting was limited and based in Australia and the USA, the committee regarded it to reflect their experience in an NHS hospital setting and were confident in making recommendations based on this evidence and their consensus opinion.

Residential setting information needs

The qualitative review identified three findings related to falls information and education needs in a residential care setting that were considered and discussed by the committee. Very low confidence was present for all three themes.

The evidence available for residential care settings was very limited and many of the themes identified related to falls prevention in general and were not specific to a residential setting. The committee agreed that many of the information needs already identified in hospital and community settings would be similar to those needed within residential care.

One of the main points discussed by the committee was the importance of maintaining an active lifestyle and when to seek help to mobilise safely. They agreed that in residential care settings in general there is a fine balance between maintaining safety of residents to avoid falls and promoting exercise and encouraging engagement in activities. They acknowledged staff in this setting are often cautious as accountability for falls by residents lies with them. Therefore, it is important that patients and their families are educated on the benefits of exercise and advised on how to maintain an active lifestyle safely in this setting. This may involve personalised information on what help, considerations or assistance are needed for residents to mobilise safely and how to seek this help. The committee highlighted encouraging engagement in activity or exercise classes and how activity coordinators can play an important role in promoting an active lifestyle in a residential setting.

As discussed in the hospital setting, residents need information on how to operate and navigate unfamiliar equipment, aids, and movement sensors. Residents and their families should receive education on how to use these appropriately and advised on how these may assist in preventing falls. Findings in the theme 'risks and fall prevention' highlighted how residents wanted more information on their risk factors and how to mitigate them. They also wanted to know what to do after a fall occurs and how to get up off the floor or seek help. The committee discussed how residents, or their families should feel able to report any environmental risk factors they identify to staff (i.e. trip hazards, poor lighting, wet floors, walking aids left out of reach). One finding was identified on how information should be delivered in this setting ('information sources'), and here residents expressed a preference for in person falls prevention information to be delivered by healthcare professionals or other professional staff who were able to give specific advice and answer questions. While this finding was only based on one study consisting of an older cohort (mean age 88.9 years) of participants, it is likely to be applicable to other people in residential settings in the UK for whom internet access, virtual calls, written handouts or other methods of delivery may not be as suitable due to cognitive difficulties, disabilities, and issues with accessibility or understanding or digital technologies. The committee did not make a specific recommendation regarding information delivery preferences as the NICE Patient experience in adult NHS services guideline includes recommendations on format and delivery of information provision.

Overall summary

Overall, the committee agreed that despite the limitations in the available evidence, the themes reported in the evidence directly aligned with the committee's knowledge and experience of NHS based practice and falls prevention in the UK. These findings were also strongly supported by the experience of the lay members' on the committee. Therefore, the committee were confident in making strong recommendations based on these findings and supplemented any gaps in the evidence base with their consensus opinion and clinical expertise.

The committee noted that although evidence on information and education needs of families and carers were not included in the review protocol, they acknowledged it is important to involve a person's family and carers when appropriate. Many of the themes on identifying falls risk and ways to mitigate this could perhaps be extrapolated to apply to this population as well. The committee decided to include families and carers in the generic

recommendations made for all three settings, and in the recommendation on how they can support a person while they are in hospital or in residential care.

1.1.8.2. Cost effectiveness and resource use

As this is a qualitative review no health economic evidence was sought. While the recommendations are in different settings in terms of resource impact, they are unlikely to be significantly different. The recommendations are good practice and should be being implemented throughout the country. If an area is currently using suboptimal oral and written information, then there might be a slight resource impact getting this up to best practice. However, this is likely to be offset by the number of falls reduced due to the advice. If there is greater encouragement to join exercise classes and access further sources of information, there may be an increased need for additional time with health care providers which may cause increased resource impact. However, this is likely to be offset by less falls which would save the costs of potential injuries. There may also be a benefit in people's quality of life and a reduction in the fear of falling.

In hospital and residential care settings there may be a need for greater support from nursing staff for the patient to move around the ward especially as it's an unfamiliar environment. Over a short period of time, it is unlikely that you will see any benefits however over time this will help reduce deconditioning and therefore reduce the number of future falls. Therefore, these recommendations are unlikely to have resource impact.

1.1.9. Recommendations supported by this evidence review

This evidence review supports recommendations1.5.1 to 1.5.3 in the NICE guideline.

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Appendices

Appendix A Review protocols

Review protocol for education and information needs of people at risk of falls ID	Field	Content
1.	Review title	What are the education and information needs of people after being identified and assessed to be at risk of falls, or who have had a fall?
2.	Review question	Q1.1 What are the education and information needs (regarding prevention) of people after being identified and assessed to be at risk of falls, or had a fall?
3.	Objective	This review aims to establish what education and information people at risk need to prevent falls or further falls.
4.	Searches	The following databases (from inception) will be searched: • Cochrane Central Register of Controlled Trials (CENTRAL) • Cochrane Database of Systematic Reviews (CDSR) • Embase

		• MEDLINE • Epistemonikos • PsychINFO • CINAHL Searches will be restricted by: • English language studies • Human studies Other searches: • Reference searching • Citation searching • Inclusion lists of systematic reviews The searches may be re-run 6 weeks before the final committee meeting and further studies retrieved for inclusion if relevant. The full search strategies will be published in the final review. Medline search strategy to be quality assured using the PRESS evidence-based checklist (see methods chapter for full details).
5.	Condition or domain being studied	Falls: an unexpected event in which the participants come to rest on the ground, floor, or lower level.
6.	Population	Inclusion: • people aged 65 and over

		• people aged 50 to 64 who have a condition or conditions that may put them at higher risk of falling. Strata: community, residential care, hospitals. Exclusion: any age group that does not fit the inclusion criteria;
7.	Phenomena of interest	Qualitative information on opinions/thoughts/experiences of people concerned regarding prevention.
8.	Comparator	Not applicable
9.	Types of study to be included	Qualitative studies (including studies using grounded theory, phenomenology or other appropriate qualitative approaches): • qualitative interviews • focus groups Survey data or other types of questionnaires will only be included if they provided analysis from open ended questions but not if they reported descriptive quantitative data only. SR of qualitative studies
10.	Other exclusion criteria	Non-English studies Survey data unless thematic analysis undertaken
11.	Context	Perceptions of older people of what education and information needs they have. This includes people in the community and within hospitals and other healthcare settings.
12.	Themes	All outcomes are considered equally important for decision making and therefore have all been rated as critical: Themes will be derived from the evidence identified for this review and not pre-specified. For information to guide the technical team, relevant themes may include: • Risk factors for falls and fall-related injuries • Information on prevention interventions

		• The impact of fear of falling / concerns about falling • Getting up from the floor after a fall Themes that will not be covered by the evidence review but which can be found in other NICE guidance: • Accessing information/signposting to services • Self-management (including when to ask for help, condition-specific advice) • Social prescribing • Patient choice
13.	Data extraction (selection and coding)	EndNote will be used for reference management, sifting, citations and bibliographies. All references identified by the searches and from other sources will be uploaded into EPPI reviewer and de-duplicated. 10% of the abstracts will be reviewed by two reviewers, with any disagreements resolved by discussion or, if necessary, a third independent reviewer. The full text of potentially eligible studies will be retrieved and will be assessed in line with the criteria outlined above. A standardised form will be used to extract data from studies (see Developing NICE guidelines: the manual section 6.4). Additional qualitative studies will be added to the review until themes within the analysis become saturated; i.e. studies will only be included if they contribute towards the development of existing themes or to the development of new themes. The point at which data saturation is reached will be noted within the review. 10% of all evidence reviews are quality assured by a senior research fellow. This includes checking: • papers were included /excluded appropriately • a sample of the data extractions • correct methods are used to synthesise data

		• a sample of the risk of bias assessments Disagreements between the review authors over the risk of bias in particular studies will be resolved by discussion, with involvement of a third review author where necessary.	
14.	Risk of bias (quality) assessment	Risk of bias will be assessed using the appropriate checklist as described in Developing NICE guidelines: the manual. • Critical Appraisal Skills Programme (CASP) qualitative checklist	
15.	Strategy for data synthesis	• CERQual will be used to synthesise data from qualitative studies. Consider groups identified in the equality impact assessment. • Disability: People with mental health problems have limited access to physiotherapy services within inpatient mental health. People with learning disabilities are at risk of falls. Tailored education and information may be required for people with learning disabilities to meet their needs. • Sex differences in balance outcomes have been reported within the literature in some populations at risk of falls. • Other definable characteristics (these are examples): - People in Gypsy, Roma and Traveller communities. - People not registered with a GP or in contact with health and social care services.	
16.	Analysis of sub-groups	Subgroups that will be investigated if heterogeneity is present: not applicable	
17.	Type and method of review	☐	Intervention
		☐	Diagnostic
		☐	Prognostic
		☒	Qualitative
		☐	Epidemiologic
		☐	Service Delivery
		☐	Other (please specify)

18.	Language	English		
19.	Country	England		
20.	Anticipated or actual start date			
21.	Anticipated completion date			
22.	Stage of review at time of this submission	Review stage	Started	Completed
		Preliminary searches	☑	☑
		Piloting of the study selection process	☑	☑
		Formal screening of search results against eligibility criteria	☑	☑
		Data extraction	☑	☑
		Risk of bias (quality) assessment	☑	☑
		Data analysis	☑	☑
23.	Named contact	5a. Named contact Guideline Development Team NGC 5b Named contact e-mail Guidelines8@nice.org.uk 5e Organisational affiliation of the review National Institute for Health and Care Excellence (NICE)		

24.	Review team members	From NICE: Gill Ritchie [Guideline lead] Julie Neilson [Senior systematic reviewer] Annette Chalker [Systematic reviewer] Sophia Kemmis-Betty [Senior Health economist] Steph Armstrong [Health economist] Joseph Runicles [Information specialist] Tamara Diaz [Project Manager]
25.	Funding sources/sponsor	Development of this systematic review is being funded by NICE.
26.	Conflicts of interest	All guideline committee members and anyone who has direct input into NICE guidelines (including the evidence review team and expert witnesses) must declare any potential conflicts of interest in line with NICE's code of practice for declaring and dealing with conflicts of interest. Any relevant interests, or changes to interests, will also be declared publicly at the start of each guideline committee meeting. Before each meeting, any potential conflicts of interest will be considered by the guideline committee Chair and a senior member of the development team. Any decisions to exclude a person from all or part of a meeting will be documented. Any changes to a member's declaration of interests will be recorded in the minutes of the meeting. Declarations of interests will be published with the final guideline.
27.	Collaborators	Development of this systematic review will be overseen by an advisory committee who will use the review to inform the development of evidence-based recommendations in line with section 3 of Developing NICE guidelines: the manual. Members of the guideline committee are available on the NICE website: [NICE guideline webpage].
28.	Other registration details	N/A
29.	Reference/URL for published protocol	[Give the citation and link for the published protocol, if there is one.]
30.	Dissemination plans	NICE may use a range of different methods to raise awareness of the guideline. These include standard approaches such as:

		• notifying registered stakeholders of publication • publicising the guideline through NICE's newsletter and alerts • issuing a press release or briefing as appropriate, posting news articles on the NICE website, using social media channels, and publicising the guideline within NICE.	
31.	Keywords		
32.	Details of existing review of same topic by same authors	N/A	
33.	Current review status	☐	Ongoing
		☒	Completed but not published
		☐	Completed and published
		☐	Completed, published and being updated
		☐	Discontinued
34.	Additional information		
35.	Details of final publication	www.nice.org.uk	

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Appendix B Literature search strategies

The literature searches for this review are detailed below and complied with the methodology outlined in Developing NICE guidelines: the manual (2014)

For more information, please see the Methodology review published as part of the accompanying documents for this guideline.

B.1.1 Clinical search literature search strategy

Searches were constructed using a PICO framework where population (P) terms were combined with Intervention (I) and in some cases Comparison (C) terms. Outcomes (O) are rarely used in search strategies as these concepts may not be indexed or described in the title or abstract and are therefore difficult to retrieve. Search filters were applied to the search where appropriate.

Q1.1 What are the education and information needs (regarding prevention) of people (and their families and carers) after being identified and assessed to be at risk of falls, or had a fall?

Table 6: Database parameters, filters and limits applied

Database	Dates searched	Search filter used
Medline ALL (OVID)	**01-01-1946 - 03-05-2024**	Qualitative studies Exclusions (child studies, animal studies) English language
Embase (OVID)	**01-01-1974 - 03-05-2024**	Qualitative studies Exclusions (child studies, animal studies) English language
CINAHL	**01-01-1981 - 03-05-2024**	Qualitative studies
PsychINFO (Ovid)	**01-01-1967 - 03-05-2024**	Qualitative studies Exclusions (child studies, animal studies, letters, case reports) English language

Medline (Ovid) search terms

1	Accidental Falls/
2	(fall or falls or falling or faller* or fallen or slip* or trip* or collapse*).ti,ab.
3	or/1-2
4	letter/
5	editorial/

6	news/
7	exp historical article/
8	Anecdotes as Topic/
9	comment/
10	case reports/
11	(letter or comment*).ti.
12	or/4-11
13	randomized controlled trial/ or random*.ti,ab.
14	12 not 13
15	animals/ not humans/
16	exp Animals, Laboratory/
17	exp Animal Experimentation/
18	exp Models, Animal/
19	exp Rodentia/
20	(rat or rats or mouse or mice or rodent*).ti.
21	or/14-20
22	3 not 21
23	limit 22 to english language
24	(prevent* or avoid* or (risk adj3 (lower* or reduc* or manag*))).ti,ab.
25	exp aged/
26	Geriatrics/
27	(senior or seniors or elder* or old* or aged or aging or ageing or geriatric* or gerontolog*).ti,ab,kf.
28	(quinquagenarian or sexagenarian or septuagenarian or octogenarian or nonagenarian or centenarian).ti,ab,kf.
29	or/24-28
30	23 and 29
31	exp Patients/ or exp Family/ or Caregivers/
32	Consumer Health Information/ or Needs Assessment/ or Patient Education as Topic/ or Patient Education Handout/ or Health Communication/ or Information Dissemination/
33	((patient* or inpatient* or outpatient* or carer* or client* or user* or customer* or consumer* or caregiver* or care giver* or famil* or parent* or father* or mother* or spouse* or wife or wives or husband* or next of kin or significant other* or partner* or guardian* or relative*

	or sibling* or sister* or brother* or grandparent* or grandfather* or grandmother*) adj3 (information* or advice or advis* or need* or requirement* or support* or access* or service* or educat* or learn* or teach* or train*)).ti,ab,kf.
34	((information* or educat*) adj3 (need* or requirement* or support* or seek* or access* or disseminat* or barrier* or service*)).ti,ab,kf.
35	(support* adj3 (need* or requirement* or assess* or seek* or access* or barrier* or service*)).ti,ab,kf.
36	"Patient Acceptance of Health Care"/ or exp Patient Satisfaction/
37	((patient* or inpatient* or outpatient* or carer* or client* or user* or customer* or consumer* or caregiver* or care giver* or famil* or parent* or father* or mother* or spouse* or wife or wives or husband* or next of kin or significant other* or partner* or guardian* or relative* or sibling* or sister* or brother* or grandparent* or grandfather* or grandmother*) adj3 (belief* or attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or experience* or thought* or feeling* or opinion* or feedback*)).ti,ab,kf.
38	or/31-37
39	30 and 38
40	Qualitative research/ or Narration/ or exp Interviews as Topic/ or exp "Surveys and Questionnaires"/ or Health care surveys/
41	(qualitative or interview* or focus group* or theme* or questionnaire* or survey*).ti,ab.
42	(metasynthes* or meta-synthes* or metasummar* or meta-summar* or metastud* or meta-stud* or metathem* or meta-them* or ethno* or emic or etic or phenomenolog* or grounded theory or constant compar* or (thematic* adj3 analys*) or theoretical sampl* or purposive sampl* or hermeneutic* or heidegger* or husserl* or colaizzi* or van kaam* or van manen* or giorgi* or glaser* or strauss* or ricoeur* or spiegelberg* or merleau*).ti,ab.
43	or/40-42
44	39 and 43
45	(exp child/ or exp pediatrics/) not (exp adult/ or exp adolescent/)
46	44 not 45

Embase (Ovid) search terms

1	falling/
2	(fall or falls or falling or faller* or fallen or slip* or trip* or collapse*).ti,ab.
3	or/1-2
4	letter.pt. or letter/

5	note.pt.
6	editorial.pt.
7	case report/ or case study/
8	(letter or comment*).ti.
9	(conference abstract or conference paper).pt.
10	or/4-9
11	randomized controlled trial/ or random*.ti,ab.
12	10 not 11
13	animal/ not human/
14	nonhuman/
15	exp Animal Experiment/
16	exp Experimental Animal/
17	animal model/
18	exp Rodent/
19	(rat or rats or mouse or mice or rodent*).ti.
20	or/12-19
21	3 not 20
22	limit 21 to english language
23	(prevent* or avoid* or (risk adj3 (lower* or reduc* or manag*))).ti,ab.
24	accident prevention/
25	exp aged/
26	geriatrics/
27	(senior*1 or elder* or old* or aged or ag?ing or geriatric* or gerontolog*).ti,ab,kf.
28	(quinquagenarian or sexagenarian or septuagenarian or octogenarian or nonagenarian or centenarian).ti,ab,kf.
29	or/23-28
30	22 and 29
31	patient/ or family/ or caregivers/
32	consumer health information/ or needs assessment/ or communication barrier/ or patient education/ or medical information/ or information dissemination/
33	((patient* or inpatient* or outpatient* or carer* or client* or user* or customer* or consumer* or caregiver* or care giver* or famil* or parent* or father* or mother* or spouse* or wife or wives or husband* or next of kin or significant other* or partner* or guardian* or relative* or sibling* or sister* or brother* or grandparent* or grandfather* or grandmother*) adj3 (information* or advice or advis* or need* or requirement* or support* or access* or service* or educat* or learn* or teach* or train*)).ti,ab,kf.

34	((information* or educat*) adj3 (need* or requirement* or support* or seek* or access* or disseminat* or barrier* or service*)).ti,ab,kf.
35	(support* adj3 (need* or requirement* or assess* or seek* or access* or barrier* or service*)).ti,ab,kf.
36	patient preference/ or patient satisfaction/ or consumer attitude/ or patient attitude/
37	((patient* or inpatient* or outpatient* or carer* or client* or user* or customer* or consumer* or caregiver* or care giver* or famil* or parent* or father* or mother* or spouse* or wife or wives or husband* or next of kin or significant other* or partner* or guardian* or relative* or sibling* or sister* or brother* or grandparent* or grandfather* or grandmother*) adj3 (belief* or attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or experience* or thought* or feeling* or opinion* or feedback*)).ti,ab,kf.
38	or/31-37
39	30 and 38
40	health survey/ or exp questionnaire/ or exp interview/ or qualitative research/ or narrative/
41	(qualitative or interview* or focus group* or theme* or questionnaire* or survey*).ti,ab.
42	(metasynthes* or meta-synthes* or metasummar* or meta-summar* or metastud* or meta-stud* or metathem* or meta-them* or ethno* or emic or etic or phenomenolog* or grounded theory or constant compar* or (thematic* adj3 analys*) or theoretical sampl* or purposive sampl* or hermeneutic* or heidegger* or husserl* or colaizzi* or van kaam* or van manen* or giorgi* or glaser* or strauss* or ricoeur* or spiegelberg* or merleau*).ti,ab.
43	or/40-42
44	39 and 43
45	(exp child/ or exp pediatrics/) not (exp adult/ or exp adolescent/)
46	44 not 45

CINAHL

S1	(MH "Accidental Falls")
S2	(fall or falls or falling or faller* or fallen or slip* or trip* or collapse*)
S3	S1 OR S2
S4	(MH Patients+) OR (MH Family+) OR (MH Caregivers)
S5	

	(MH "Consumer Health Information") OR (MH "Needs Assessment") OR (MH "Patient Education as Topic") OR (MH "Patient Education Handout") OR (MH "Health Communication") OR (MH "Information Dissemination")
S6	TI (((patient* or inpatient* or outpatient* or carer* or client* or user* or customer* or consumer* or caregiver* or care giver* or famil* or parent* or father* or mother* or spouse* or wife or wives or husband* or next of kin or significant other* or partner* or guardian* or relative* or sibling* or sister* or brother* or grandparent* or grandfather* or grandmother*) AND (information* or advice or advis* or need* or requirement* or support* or access* or service* or educat* or learn* or teach* or train*))) OR AB (((patient* or inpatient* or outpatient* or carer* or client* or user* or customer* or consumer* or caregiver* or care giver* or famil* or parent* or father* or mother* or spouse* or wife or wives or husband* or next of kin or significant other* or partner* or guardian* or relative* or sibling* or sister* or brother* or grandparent* or grandfather* or grandmother*) AND (information* or advice or advis* or need* or requirement* or support* or access* or service* or educat* or learn* or teach* or train*)))
S7	TI (((information* or educat*) AND (need* or requirement* or support* or seek* or access* or disseminat* or barrier* or service*))) OR AB (((information* or educat*) AND (need* or requirement* or support* or seek* or access* or disseminat* or barrier* or service*)))
S8	TI ((support* AND (need* or requirement* or assess* or seek* or access* or barrier* or service*))) OR AB ((support* AND (need* or requirement* or assess* or seek* or access* or barrier* or service*)))
S9	(MH "Patient Satisfaction+")
S10	TI (((patient* or inpatient* or outpatient* or carer* or client* or user* or customer* or consumer* or caregiver* or care giver* or famil* or parent* or father* or mother* or spouse* or wife or wives or husband* or next of kin or significant other* or partner* or guardian* or relative* or sibling* or sister* or brother* or grandparent* or grandfather* or grandmother*) AND (belief* or attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or experience* or opinion* or thought* or feeling* or preference* or feedback*))) OR AB (((patient* or inpatient* or outpatient* or carer* or client* or user* or customer* or consumer* or caregiver* or care giver* or famil* or parent* or father* or mother* or spouse* or wife or wives or husband* or next of kin or significant other* or partner* or guardian* or relative* or sibling* or sister* or brother* or grandparent* or grandfather* or grandmother*) AND (belief* or attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or experience* or thought* or feeling* or opinion* or preference* or feedback*)))
S11	S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10
S12	S3 AND S11
S13	(MH "Qualitative Studies+")

S14	(MH "Qualitative Validity+")
S15	(MH "Interviews+") OR (MH "Focus Groups") OR (MH "Surveys") OR (MH "Questionnaires+")
S16	(qualitative or interview* or focus group* or theme* or questionnaire* or survey*)
S17	(metasynthes* or meta-synthes* or metasummar* or meta-summar* or metastud* or meta-stud* or metathem* or meta-them* or ethno* or emic or etic or phenomenolog* or grounded theory or constant compar* or (thematic* N3 analys*) or theoretical sampl* or purposive sampl* or hermeneutic* or heidegger* or husserl* or colaizzi* or van kaam* or van manen* or giorgi* or glaser* or strauss* or ricoeur* or spiegelberg* or merleau*)
S18	S13 OR S14 OR S15 OR S16 OR S17
S19	S12 AND S18
S20	(prevent* or avoid* or (risk N3 (lower* or reduc* or manag*)))
S21	(MH "Aged")
S22	(senior or seniors or elder* or old* or aged or aging or ageing or geriatric* or gerontolog*)
S23	(quinquagenarian or sexagenarian or septuagenarian or octogenarian or nonagenarian or centenarian)
S24	S20 OR S21 OR S22 OR S23
S25	S19 AND S24

PsychINFO search terms

1	falls/
2	(fall or falls or falling or faller* or fallen or slip* or trip* or collapse*).ti,ab.
3	or/1-2
4	Letter/
5	Case report/
6	exp rodents/
7	or/4-6
8	3 not 7
9	qualitative methods/ or exp interviews/ or exp questionnaires/
10	(qualitative or interview* or focus group* or theme* or questionnaire* or survey*).ti,ab.
11	(metasynthes* or meta-synthes* or metasummar* or meta-summar* or metastud* or meta-stud* or metathem* or meta-them* or ethno* or emic or etic or phenomenolog* or grounded theory or constant compar* or (thematic* adj3 analys*) or theoretical sampl* or purposive sampl* or hermeneutic* or heidegger* or husserl* or colaizzi* or van kaam* or van manen* or giorgi* or glaser* or strauss* or ricoeur* or spiegelberg* or merleau*).ti,ab.
12	or/9-11
13	exp Caregivers/ or Client Satisfaction/ or Health Information/ or exp Needs Assessment/ or Client Attitudes/ or Client Education/ or communication barriers/
14	((educat* or learn* or support* or teach* or train*) adj3 (service* or information* or material* or virtual* or app or apps or blog* or booklet* or brochure* or dvd* or elearn* or e-learn* or email* or e-mail* or e mail* or facebook or facetime or face time or forum* or handout* or hand-out* or hand out* or helpline* or hotline* or internet* or ipad* or iphone* or leaflet* or online or magazine* or mobile phone* or newsletter* or pamphlet* or palm pilot* or personal digital assistant* or pocket pc* or podcast* or poster? or skype* or smartphone* or smart phone* or social media or social network* or sms or text messag* or twitter or tweet* or video* or web* or wiki* or youtube* or manual* or publication* or literature or computer* or interactive or telephone* or phone*)).ti,ab.

15	((patient* or carer* or client* or user* or consumer* or caregiver* care giver* or famil* or parent* or father* or mother* or spouse* or wife or wives or husband* or next of kin or significant other* or patner* or guardian* or inpatient* or outpatient* or in patient* or out patient* or relative* or sibling* or sister* or brother* or grandparent* or grandfather* or grandmother*) adj3 (belief* or attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or inform* or experience or experiences or opinion* or preference* or focus group* or service* or information* or material* or virtual* or app or apps or blog* or booklet* or brochure* or dvd* or elearn* or e-learn* or email* or e-mail* or e mail* or facebook or facetime or face time or forum* or handout* or hand-out* or hand out* or helpline* or hotline* or internet* or ipad* or iphone* or leaflet* or online or magazine* or mobile phone* or newsletter* or pamphlet* or palm pilot* or personal digital assistant* or pocket pc* or podcast* or poster? or skype* or smartphone* or smart phone* or social media or social network* or sms or text messag* or twitter or tweet* or video* or web* or wiki* or youtube* or manual* or publication* or literature or computer* or interactive or telephone* or phone*)).ti,ab.
16	((information* or educat*) adj3 (need* or requirement* or support* or seek* or access* or disseminat* or barrier* or service*)).ti,ab.
17	(support* adj3 (need* or requirement* or assess* or seek* or access* or barrier* or service*)).ti,ab.
18	((patient* or inpatient* or outpatient* or carer* or client* or user* or customer* or consumer* or caregiver* or care giver* or famil* or parent* or father* or mother* or spouse* or wife or wives or husband* or next of kin or significant other* or partner* or guardian* or relative* or sibling* or sister* or brother* or grandparent* or grandfather* or grandmother*) adj3 (belief* or attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or experience* or thought* or feeling* or opinion* or feedback*)).ti,ab.
19	or/13-18
20	8 and 12
21	19 and 20
22	limit 21 to (human and english language)
23	(exp child/ or exp pediatrics/ or exp infant/) not (exp adolescent/ or exp adult/ or exp middle age/ or exp aged/)
24	22 not 23

B.2 Health Economics literature search strategy

Health economic evidence was identified by applying economic evaluation and quality of life filters to the clinical literature search strategy in Medline and Embase. The following databases were also searched: NHS Economic Evaluation Database (NHS EED - this ceased to be updated after 31st March 2015), Health Technology Assessment database (HTA - this ceased to be updated from 31st March 2018) and The International Network of Agencies for Health Technology Assessment (INAHTA)

Table 7: Database parameters, filters and limits applied

Database	Dates searched	Search filters and limits applied
Medline (OVID)	Health Economics 1 January 2014 – 8 May 2024	Health economics studies Quality of Life studies Exclusions (animal studies) English language
	Quality of Life 1 January 2004 to – 8 May 2024	
Embase (OVID)	Health Economics 1 January 2014 – 8 May 2024	Health economics studies Quality of Life studies Exclusions (animal studies) English language
	Quality of Life 1 January 2004 to – 8 May 2024	
NHS Economic Evaluation Database (NHS EED) (Centre for Research and Dissemination - CRD)	Inception – 31 March 2015 (database no longer updated as of this date)	
Health Technology Assessment Database (HTA) (Centre for Research and Dissemination – CRD)	Inception – 31 March 2018 (database no longer updated as of this date)	
The International Network of Agencies for Health Technology Assessment (INAHTA)	Inception - 8 May 2024	English language

Medline (Ovid) search terms

1	Accidental Falls/
2	(fall or falls or falling or faller* or fallen or slip* or trip or trips or tripped or tripping or tumbl*).ti,ab.
3	or/1-2
4	letter/
5	editorial/
6	news/
7	exp historical article/
8	Anecdotes as Topic/
9	comment/
10	case report/
11	(letter or comment*).ti.

12	or/4-11
13	randomized controlled trial/ or random*.ti,ab.
14	12 not 13
15	animals/ not humans/
16	exp Animals, Laboratory/
17	exp Animal Experimentation/
18	exp Models, Animal/
19	exp Rodentia/
20	(rat or rats or mouse or mice or rodent*).ti.
21	or/14-20
22	3 not 21
23	limit 22 to english language
24	limit 23 to yr="2004 -Current"
25	23 and 24
26	Economics/
27	Value of life/
28	exp "Costs and Cost Analysis"/
29	exp Economics, Hospital/
30	exp Economics, Medical/
31	Economics, Nursing/
32	Economics, Pharmaceutical/
33	exp "Fees and Charges"/
34	exp Budgets/
35	budget*.ti,ab.
36	cost*.ti.
37	(economic* or pharmaco?economic*).ti.
38	(price* or pricing*).ti,ab.
39	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
40	(financ* or fee or fees).ti,ab.
41	(value adj2 (money or monetary)).ti,ab.
42	or/26-41
43	quality-adjusted life years/
44	sickness impact profile/

45	(quality adj2 (wellbeing or well being)).ti,ab.
46	sickness impact profile.ti,ab.
47	disability adjusted life.ti,ab.
48	(qal* or qtime* or qwb* or daly*).ti,ab.
49	(euroqol* or eq5d* or eq 5*).ti,ab.
50	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
51	(health utility* or utility score* or disutilit* or utility value*).ti,ab.
52	(hui or hui1 or hui2 or hui3).ti,ab.
53	(health* year* equivalent* or hye or hyes).ti,ab.
54	discrete choice*.ti,ab.
55	rosser.ti,ab.
56	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
57	(sf36* or sf 36* or short form 36* or shortform 36* or shortform36*).ti,ab.
58	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
59	(sf12* or sf 12* or short form 12* or shortform 12* or shortform12*).ti,ab.
60	(sf8* or sf 8* or short form 8* or shortform 8* or shortform8*).ti,ab.
61	(sf6* or sf 6* or short form 6* or shortform 6* or shortform6*).ti,ab.
62	or/43-61
63	25 and 42
64	limit 63 to yr="2014 -Current"
65	25 and 62

Embase (Ovid) search terms

1	falling/
2	(fall or falls or falling or faller* or fallen or slip* or trip or trips or tripped or tripping or tumbl*).ti,ab.
3	or/1-2
4	letter.pt. or letter/
5	note.pt.
6	editorial.pt.
7	case report/ or case study/
8	(letter or comment*).ti.
9	(conference abstract or conference paper).pt.
10	or/4-9

11	randomized controlled trial/ or random*.ti,ab.
12	10 not 11
13	animal/ not human/
14	nonhuman/
15	exp Animal Experiment/
16	exp Experimental Animal/
17	animal model/
18	exp Rodent/
19	(rat or rats or mouse or mice or rodent*).ti.
20	or/12-19
21	3 not 20
22	limit 21 to english language
23	limit 22 to yr="2004 -Current"
24	health economics/
25	exp economic evaluation/
26	exp health care cost/
27	exp fee/
28	budget/
29	funding/
30	budget*.ti,ab.
31	cost*.ti.
32	(economic* or pharmaco?economic*).ti.
33	(price* or pricing*).ti,ab.
34	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
35	(financ* or fee or fees).ti,ab.
36	(value adj2 (money or monetary)).ti,ab.
37	or/24-36
38	quality adjusted life year/
39	"quality of life index"/
40	short form 12/ or short form 20/ or short form 36/ or short form 8/
41	sickness impact profile/
42	(quality adj2 (wellbeing or well being)).ti,ab.
43	sickness impact profile.ti,ab.

44	disability adjusted life.ti,ab.
45	(qal* or qtime* or qwb* or daly*).ti,ab.
46	(euroqol* or eq5d* or eq 5*).ti,ab.
47	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
48	(health utility* or utility score* or disutilit* or utility value*).ti,ab.
49	(hui or hui1 or hui2 or hui3).ti,ab.
50	(health* year* equivalent* or hye or hyes).ti,ab.
51	discrete choice*.ti,ab.
52	rosser.ti,ab.
53	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
54	(sf36* or sf 36* or short form 36* or shortform 36* or shortform36*).ti,ab.
55	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
56	(sf12* or sf 12* or short form 12* or shortform 12* or shortform12*).ti,ab.
57	(sf8* or sf 8* or short form 8* or shortform 8* or shortform8*).ti,ab.
58	(sf6* or sf 6* or short form 6* or shortform 6* or shortform6*).ti,ab.
59	or/38-58
60	23 and 37
61	limit 60 to yr="2014 -Current"
62	23 and 59

NHS EED and HTA (CRD) search terms

1	MeSH DESCRIPTOR Accidental Falls EXPLODE ALL TREES
2	((fall or falls or falling or faller* or fallen or slip* or trip or trips or tripped or tripping or tumbl*))
3	#1 OR #2
4	(#3) IN NHSEED
5	(#3) IN HTA

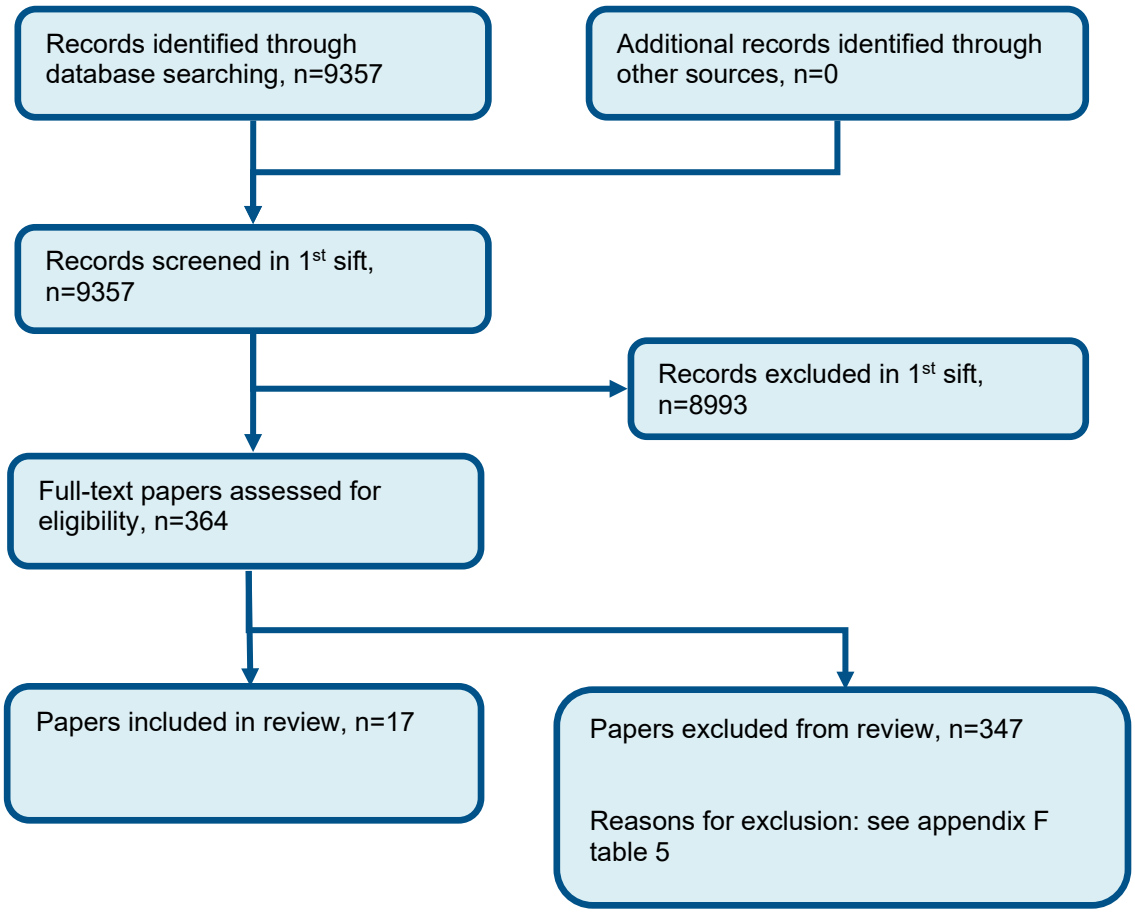
INAHTA search terms

1	("Accidental Falls"[mh]) OR (fall or falls or falling or faller* or fallen or slip* or trip or trips or tripped or tripping or tumbl*)
2	limit to english language

3	2004 - current

Appendix C Qualitative evidence study selection

Figure 1: Flow chart of qualitative study selection for the review education and information needs



Appendix D Qualitative evidence

Community setting

Study	Gemmeke 2022[4]
Aim	To explore the expectations of community-dwelling older patients regarding fall prevention services provided by community pharmacies
Population	One researcher selected patients from the pharmacy information system of a community pharmacy in Amsterdam, and another researcher invited them to participate in the focus groups. The following inclusion criteria were used for selection of patients: • Age ≥75 years. • Simultaneous use of at least five drugs, with at least one being a FRID (either cardiovascular or psychotropic) • Community- dwelling. • Physically and mentally able to attend the focus group in the community health centre. • Proficient in Dutch n=17; Male: 8, Female: 9; Mean age:82.1 years (SD 4.9), ≥1 fall experiences: 10 Strata: community dwelling
Setting	Community health centre
Study design	Qualitative focus group study
Methods and analysis	All data were collected between January 2020 and April 2020. Semi-structured telephone intakes of approximately 30 min were performed with participants prior to conducting the focus groups. These intakes aimed to obtain individual fall-related background information, such as previous fall experiences, applied precautions to reduce fall risk and interest in pharmacy fall prevention services. Participants were divided into three focus groups, resulting in five to seven participants per session. The duration of each session was 1.5– 2 hrs. The first focus group was chaired by an experienced pharmacy practice researcher, while two other researchers were second listeners, who occasionally stimulated group discussion and took field notes. All focus groups were audiotaped and transcribed verbatim afterwards, and all patients received a short report with the main findings of the focus groups. Data saturation was discussed after the third focus group. A topic list was made to guide the focus groups. First, the findings from the telephone intakes were briefly discussed in the focus groups. Thereafter, additional topics derived from findings of the intakes, the first focus group session and the literature, were addressed in those groups. The group discussion was followed by a game of DobbelFit. During the game, patients are challenged to perform simple exercises to improve their balance. Furthermore, the game contains a quiz element with questions on issues such as potential fall risk factors, the benefits of calcium and vitamin D supplementation and medication-related fall risk. The game was adapted for the focus groups by removing non-pharmacy-related questions and by reducing the number of exercise challenges.

Study	Gemmeke 2022[4]
	All audio recordings of the focus groups were transcribed verbatim. The intake forms and focus group transcripts were imported into NVivo Version 12 software, and participants' names were re-placed by a study code to ensure their anonymity. The transcripts were coded independently by two researchers, and discrepancies in coding were discussed until consensus was reached. Deductive coding was used—the codes were based on the topic list. A number of additional codes were identified during transcription (inductive coding). The precaution adoption process model (PAPM) was used in the data analysis. This model has often been used to describe patients' decision-making processes in a wide range of situations, including HPV vaccination and treatment for osteoporosis. The PAPM consists of seven stages, representing all stages of taking precautions to reduce risk, and it was considered as the most appropriate model to assess fall preventive health behaviour. In contrast to other health behaviour theories and models, the PAPM includes the stage at which patients are not yet aware of a threat or a risk. In the case of fall prevention, this applies to patients who are not afraid of falling and therefore have not (yet) taken precautions. The PAPM also investigates behavioural changes and patients' reasons for engaging.
Themes with findings	**Unawareness and non-engagement**
	Patients' perceived fall risk seemed to influence their engagement in fall prevention activities; specifically, a low perceived fall risk was often co-reported with a low interest in fall prevention. Those who were not interested in fall prevention services also indicated that they were not taking precautions to reduce fall risk. They stated that they were healthy, exercised and/or walked a lot. Although exercising could be seen as a precaution to prevent falls, these patients explicitly mentioned that they were not taking precautions to prevent falls. Cognitive pharmaceutical services (CPS; Strand et al., (2012)) are pharmaceutical services that offer provision of information and counselling to enable patients to take responsibility for their own care and correct medication use. Although many patients were positive about such CPS for older people, some patients had doubts about how pharmacists could contribute to fall prevention. They were also surprised that they were approached by the pharmacy to participate in this research. Many patients were unaware of the fact that medication use could increase fall risk. This was also seen during the DobbelFit game. Participants' understanding of fall-related drug side effects varied: Some patients had little understanding, while others were able to re-late side effects to fall risk. This was reflected in patients' answers to the focus group moderator's question regarding whether diuretics and hypnotics could increase fall risk: “Yes, when blood pressure decreases, you can become dizzy. But I don't fall because of that”.
	Undecided about acting
	Patients in this stage were undecided about acting on fall prevention. Informing them about fall risks seemed to aid in the decision-making process. Patients would like to receive more attention and appreciated receiving information from pharmacists about the potential fall risk- increasing effects of drugs: “Yes, [informing about fall risk-increasing drug effects] is definitely a good thing. It is part of prevention, and therefore, it is good. Yet, I don't know what I will do with the information.” Most patients stated that they primarily tried to solve health-related problems by themselves. They would search the internet for information about fall prevention or drugs. Articles in popular press were valued as well. They would subsequently consult relatives, neighbours or friends. Only when patients could not solve healthcare problems on their own they would consult a

Study	Gemmeke 2022[4]
	healthcare provider. Some patients said that they read patient information leaflets when they received the initial dispensing of a new drug. They expected that patient information leaflets contained relevant information about the fall risk-increasing side effects of drugs. However, patient information leaflets were not appreciated by all participants. The abundant description of side effects and the small font size caused some patients to immediately throw those leaflets into the bin. They had a preference for leaflets with a larger font size and more succinct information. Furthermore, patients were undecided or doubtful about pharmacy fall prevention services. Many patients emphasised the role of the general practitioner (GP) in keeping them well informed. They often preferred to consult their GP first about fall prevention as well as about drug information.
	Decided not to act
	Although many patients considered that part of their medication was superfluous, not all patients were interested in deprescribing. They either believed that in the absences of drug complaints, withdrawal efforts were unnecessary or believed their medications were essential to treat their disease(s). Although patients were positive regarding pharmacists regularly asking about recent fall incidents, they did not expect or want to receive lifestyle recommendations from pharmacists. Furthermore, patients mentioned receiving limited attention from pharmacists and hence thought that pharmacists would not have enough time to organise fall prevention care. Apart from pharmacists, patients also experienced receiving limited attention from doctors, including GPs. A few patients thought there might even be a relationship between age and the efforts of healthcare providers. When patients experience limited attention, it may hold them to continue consulting their healthcare providers about fall prevention.
	Acting
	Engagement with fall prevention was particularly evident in patients who were already taking precautions. For patients who had experienced a fall, precautions were related to the cause of the fall (e.g. careful on stairs when having fallen from stairs). Precautions most often focused on improving home safety and included the following: removing obstacles from the floor to keep the house neat, covering sharp edges with softer material and avoiding walking in socks or slippers. Other precautions were also mentioned, such as avoiding certain activities, use of a walking aid and participating in a community centre fall prevention programme. On the other hand, several patients perceived being at low risk of falling because of their daily exercises. All patients emphasised that daily exercises were important for their overall health status and for maintaining their fitness. Therefore, daily exercise alone could also be seen as some form of engagement with fall prevention. Apart from the precautions, most patients also said that they would like their medication to be reviewed. Some patients already even hoped that some medication could be withdrawn. In their opinion, the pharmacist could play an important role here
	Themes not extracted as unrelated to protocol: PAPM stage transitions
Funding	
Limitations and applicability of evidence	Moderate concerns. The researchers followed clear methods to ensure the validity and rigour of their qualitative analysis. However, the researchers did not provide insight into how their relationship with the participants may have influenced the focus group discussions.

Study	Gemmeke 2022[4]
	The inclusion of some questions that directly related to the review protocol, made the evidence applicable but it was focused on pharmacy fall prevention services so not generalisable to falls information in general. Additionally, the population included community residents in Amsterdam which may not be directly applicable to UK community setting.

Study	Host 2011[8]
Aim	To investigate older people's perceptions of and coping with falls, and what motivates them to join such programmes
Population	To elucidate a wide spectrum of older people's perception of and coping with falls, the participants were recruited consecutively among all men and women over 65 years who contacted an emergency department situated in the Copenhagen area because of falls and whose treatment did not require hospitalization. The sampling procedure lasted five weeks. Excluded from the study were persons who could not read and understand Danish, those with cognitive problems, and those who suffered from other physical and mental illnesses. n=14; Male: 5, Female: 9; Age range: 77 years (range 68-87), number of falls = 1: 7, number of falls >1: 7 Strata: community based
Setting	Community based Copenhagen, Denmark
Study design	Qualitative semi-structured interview study
Methods and analysis	Semi-structured interviews were conducted in June and August 2008. An interview guide was used that addressed the older person's views and perceptions of falling; how they handled and prevented falls; and what motivated them for health promotion activities. All interviews were tape-recorded and typewritten verbatim. Data were analysed using a phenomenographic approach tracing varying perceptions of the phenomenon of ''falling''. The analysis had four phases: Becoming familiar with the data and establishing an overall impression; identifying differences and similarities; developing descriptive categories; examining the underlying structure of the categories. The author was responsible for the analysis, which was supervised and discussed with the co-authors. An independent co-examiner was assigned to test the intersubjective agreement: categories, subcategories and quotations were presented separately to the co-examiner, who was then asked to match them. The agreement between the co-examiner and the researcher was almost perfect. Selected quotations from the interviews are presented in the text to facilitate the readers' evaluation of the trustworthiness of the results.
Themes with findings	**Falling has consequences** This category contains two subcategories: Fear of falling, and fear of the consequences of falling. Fall accidents had implications for older people's identity and autonomy, and they could lead to social isolation. At the same time, fear of being seriously ill and concerns for the relatives were important for how the participants experienced fall-accidents. Because of nervousness and fear of falling again, they became cautious when walking; they took smaller steps and did not go very far.

Study	Host 2011[8]
	Fall-accidents affected them psychologically, causing an irrational fear of falling. They did not dare to do things they knew they could. The older people feared the consequences of a fall. They feared bone fractures and the female informants feared they would suffer fractures due to osteoporosis. They were aware that osteoporosis was a risk factor to be aware of. Furthermore, the older people feared how their spouses would cope with the situation if they were admitted to a hospital due to a fall-accident.
	Coping with the situation
	This category includes three subcategories: Find own strategies, stop activities, and use knowledge and previous experience. The participants took care of the situation themselves and found strategies to avoid future falls or stopped activities that would increase their risk of falling. They had knowledge of how to prevent fall-accidents, and if their knowledge was insufficient, they consulted their family, friends or health professionals. Some devised their own strategies to prevent fall accidents. They prioritized between being active and living as they did before the fall-accident and becoming passive and therefore avoiding a fall. They needed help and deliberately chose strategies that would permit them to live as before the fall accident. The strategies were either passive or active and focused on the older person himself or herself or on their environment. If they could not handle activities of daily living themselves, they received help from friends or the public health system so that they could live as normal a life as possible. Some elderly people perceived that activities of daily living such as cleaning, gardening and shopping were good because they kept them going and prevented falls. However, some situations could involve a high risk of falling, for instance walking on a slippery surface or uneven sidewalks. In these situations, they chose strategies that gave them security, for instance by using a walking stick. Others stopped doing certain activities to avoid falling and they did not choose activities that made them scared and nervous and caused bodily pain. They thus perceived that physical activity was not good and therefore stopped the activity. The families and the general practitioner (GP) supported their choices. Conversely, some felt that it was a loss if they had to stop activities they had enjoyed because it increased their risk of falling. Some older people found it important to know how they could prevent themselves from falling. They had obtained such knowledge from participating in a course about fall-prevention, and this had implications for how they acted if they fell or how they handled the risk of falling. Even negative experiences offered useful information in relation to preventing falling.
	Support from the social network
	This category has two subcategories: Support from family and friends, and support from professionals. Psychosocial support from family and friends as well as the GP was instrumental for the older people in dealing with falls and their consequences. For some, support from family and friends were essential in preventing falls. Assistance from the spouse was particularly important for how the elder person handled fall-accidents and the risk of falling. For others, support from professionals was important in how they coped with falls and their prevention. The GP was a good support when they needed knowledge about appropriate and applicable preventive activities.
	Themes not extracted as unrelated to protocol: Motivation and demotivation, Emotional perception of falling
Funding	

Study	Host 2011[8]
Limitations and applicability of evidence	Moderate concerns. The researchers briefly described the methods used to ensure the validity and rigour of their qualitative analysis, but this lacked detail. Additionally, the researchers did not provide insight into how their relationship with the participants may have influenced the interview and analysis process. The aim of this study was related to the protocol, but it focused more on perceptions of falling and motivation for falls prevention so was not highly applicable. The study was based in the Denmark so may not be fully applicable to a UK based setting.

Study	Khong 2017[10]
Aim	To examine the views and preferences of community-dwelling older adults about seeking and receiving falls prevention information
Population	A convenience sample of people aged 60 and over in Perth, Western Australia (WA) was invited to participate in the Falls Prevention World Café community forum. The forum was publicised in various media to reach out to diverse groups of community-dwelling older adults. These approaches included seniors' radio shows, seniors' group meetings, seniors' newspapers, flyers, and health websites. Seventy-three older adults participated in the community forum, of whom 86% were female. Participants' mean age was 70 years old (range 60 to 87 years), and 58 participants (80%) were fully retired. Forty-three participants (59%) reported that they had not fallen in the past 12 months, while 30 (41%) reported one or more falls in the past year. n=73; Male: 10, Female: 63; Mean age: 70 years (range 60-87) Strata: community based
Setting	Community setting in one venue considered central in Perth, Western Australia
Study design	Qualitative community forum group discussions using a modified World Café approach
Methods and analysis	The forum was run based on World Café's seven integrated principles. Briefly, these are: 1) set context; 2) create a hospitable space; 3) explore the questions; 4) encourage everyone's contribution; 5) connect diverse perspectives; 6) listen together for patterns; and 7) share collective discoveries. Cafe table facilitators were either health care professionals or university academic staff who volunteered to facilitate the small group table conversations at the forum. The table facilitators were provided with information about the World Café's principles and approach, relevant current falls prevention evidence and the outline of the planned community forum by one of the researchers. The research team's main facilitator, who was experienced in community participatory research, facilitated the forum. Participants were welcomed by volunteers and invited to sit, in groups of six to eight people, at a table of their choice. The forum lasted three hours, which included time for morning tea. Café table facilitators led the table conversations, with each round of conversation lasting approximately 15 minutes. During each round, the forum participants conversed, discussed, and captured their views on pieces of small paper provided. At the end of each round, these pieces of paper were collated, and the table facilitator moved to the next table of participants. At the final stage of the forum, table facilitators led by the forum main facilitator, summarised key responses for each question to all present on large summary sheets.

Study	Khong 2017[10]
	Following the forum, data in the form of participants' comments on 438 pieces of paper, summary sheets and completed forum evaluation forms, were transcribed, and imported into QSR NVivo10. Data were thematically analysed by two research team members who had been present at the forum. Data were initially coded and key themes following the questions of the forum were assigned. The two research team members then discussed their initial coding and themes in order to reach consensus on themes and hierarchy of coding structure. Emerging selective key themes were displayed as an explanatory model. A third researcher with falls prevention expertise and who also attended the forum then reviewed the emerging themes. Any difference of opinion was discussed among the researchers until agreement was reached. Quantitative responses obtained from demographic data and participants' feedback about the forum were imported into SPPS Statistics 22. Descriptive statistics were used to summarise the data.
Themes with findings	**Factors that trigger a search for falls prevention information**
	Feedback from many participants highlighted that personal experience strongly influenced their decision to initiate seeking out falls prevention information. As one participant explained "it doesn't mean anything to me unless it happens". Primarily, having personally experienced a fall or near miss was reported as the key reason to start looking for information. Other personal factors that influenced participants' decisions to seek falls information included medical conditions that raised their risk of falling, such as "when my balance was compromised after having chemo" or vertigo. Triggering factors beyond personal experience included finding out about a friend or relative who had fallen. A smaller number of participants also reported that they decided to seek out falls prevention information after a media or awareness campaign including advertising, such as seeing a poster or pictures about falls, or reading about personal stories in community or seniors' newspapers.
	Sources and approaches to find falls prevention information
	Participants reported diverse approaches for seeking falls prevention information, although overarchingly most reported seeking information from health professionals and seniors' organisations. Health professionals, including doctors, allied health professionals and pharmacists were mentioned repeatedly. Health focused organisations such as the WA Government Department of Health were other health-related sources reported. Alternative sources of information, which were seen to be credible sources by participants, were seniors' organisations, such as Council on the Ageing (COTA), retirees groups and local seniors' centres. Senior specific interest groups such as seniors' exercise groups, bingo, or seniors' social gatherings, where there were opportunities to discuss health related topics with peers, were frequently reported as important settings for seeking falls prevention information. Many participants pointed out that "libraries are a good and often-used resource". They suggested that libraries could display posters with pictures and big prints to attract attention or provide information through workshops or by disseminating falls prevention leaflets. Local councils, shopping centres, sporting venues and public transport hubs such as bus or train stations were also reported to be places where reliable information could be sought. Media such as health websites and radio stations that focused on older adult audiences, and community seniors' newspapers were also used as sources of information.
	What makes falls prevention information more meaningful to you?
	Participants indicated they would prefer falls prevention initiatives that included information and practical strategies about how to manage their risk of falls. They also reported wanting to receive up-to-date information regarding other areas, such as knowledge about statistics related to falls (for example, how common falls were), and information about the consequences of

Study	Khong 2017[10]
	falls. In particular, they sought falls prevention strategies that were practical, convenient, and yet not too expensive. For example, a local public community centre exercise class was suggested as being more economical and accessible compared to paying for a membership at a private gym. Participants wanted information that was simple and easy to read and suggested that resources that were provided focus on visual illustrations and pictures rather than words. Participants preferred receiving information that focused on positive "prevention is better than a cure" recommendations and did not use the negative element of fear to encourage seeking information. They described this preference for positive images by stating that information should include "pictures that help build confidence" as well as depicting an element of "fun and a cheerful presence" rather than images which were associated with limiting physical capacity. One participant highlighted this by stating that messages should "cultivate a drive and motivation to do it".
	Preference for trustworthy sources for receiving falls prevention information
	Forum participants reported that they would be receptive to receiving falls prevention either from health professionals or from trained non-professionals. They also favoured information being given by a peer as long as the person was "properly trained". Peers were seen as people who could engender emotional connections by sharing personal stories about their experience and this approach was strongly favoured. A peer was deemed by forum participants as "someone like us…same age as self, circumstances that you can relate to, similar cultural background" because they "can talk from life experience as seniors have difficulty accepting information from someone who is young" and because "they (younger people) don't know what it is to fall". Regardless of who the person delivering the information might be, participants believed that they should be trained and be competent. Further to this, they reported that it was important that delivery was culturally appropriate, and that the person should be accustomed to working with older adults. Participants also suggested that other important attributes that the person should be patient, be a good listener and possess credibility regarding falls prevention.
	Interpersonal communication
	While qualifications, training and competency were perceived as important attributes, participants emphasised that the quality of the interpersonal communication, between the educator and the older adult was crucial. Specifically, participants noted that it was important that the person be "someone who is understanding and can communicate clearly". They also desired the person to have the skill and ability deliver messages confidently while being approachable. Many participants highlighted that it was important that the educator communicate with "respect and empathy, and have time to listen," when delivering falls prevention information. 'Have empathy; try to understand where that person is in their current position…with the horrible realisation that your body can no longer be relied upon.'
	Positive evidence-based perceptions and strategies to reduce falls
	Falls prevention practices described by participants could be broadly subdivided into positive and evidence-based strategies or non-evidence-based strategies. Evidence-based strategies that were identified reflected a focus on healthy ageing and included strategies that were related to vision, podiatry/footwear, home hazards, exercise, medication, and appropriate use of aids. Examples of these practical strategies for preventing falls included wearing shoes with a good sole grip; having one's eyesight tested; taking care when wearing bi-focal glasses; getting a review of medication that may affect their balance; and exercising regularly in order to strengthen muscles and maintain good balance.

Study	Khong 2017[10]
	Non-evidence-based perceptions and strategies to reduce falls
	A large number of forum participants reported practicing a range of non-evidence-based strategies. These practices could be grouped under three related domains, which were broadly defined as accepting the limitations of the ageing process, undertaking strategies primarily based on fear of falling and avoiding activities that were perceived as requiring the older person to take risks. Participants who suggested that it was important to accept the limitations of the ageing process suggested that this approach to falls prevention was realistic and recognised that the body is less robust compared to when younger. One participant commented "be realistic about our age to the things we do can cause a fall, be mindful and ask for help". Some participants were practising strategies that were based on their fear of falling. These participants expressed heightened anxiety and stated that they planned their activities with high levels of caution and restricted their activity. These participants strategies included "take it easy don't rush" or 'to stay vigilant". Avoidance of activities that were assessed by the older person as being risky was reported as a falls prevention strategy, with some participants intentionally limiting certain activities to accommodate their perceived increased falls risk. They commented "know your capabilities" and "knowing your limitations so do not go somewhere perceived dangerous".
	Community awareness and an understanding about falls and falls prevention
	The forum participants suggested repeatedly that falls prevention "should target the wider population and not just for older people". Consequently, participants strongly suggested that raising broad community awareness and targeting all ages to work together to prevent falls among older adults was important. This seemed to apply in particular to environmental considerations with many participants suggesting that local governments, transport, trades, town planners and architects of buildings and public venues should be informed about falls prevention for older adults and adopt falls prevention recommendations in their practices. Other suggestions related to this theme were that personal equipment should be "more trendy and decorated" and that older people needed to be portrayed in the media as "active healthy people".
Funding	
Limitations and applicability of evidence	Minor concerns. The researchers followed clear methods to ensure the validity and rigour of their qualitative analysis. The researchers provided an in-depth description of the World café approach to data collection and the analysis of the themes that emerged in participants' interviews. The majority questions directly relate to the review protocol, and a research aim makes this evidence highly applicable. This study was based in Western Australia so may not be directly applicable to an NHS setting.

Study	Ng 2022[12]
Aim	To explore older persons' perceptions about falls and their desired educational website characteristics.
Population	Participants were recruited using purposive sampling method. This form of sampling was employed to capture the comprehensive views of Malaysian older persons from different ethnicity, age groups, gender, and computer literacy levels. Community dwelling older persons aged 60 years and above, able to speak and understand English language were recruited from two senior citizens' clubs

Study	Ng 2022[12]
	located in Petaling Jaya, Selangor. Those with depression, dementia, and uncorrected hearing or vision impairment were excluded for the study. Depression status was assessed using the Geriatric Depression Scale (cut-off value >/=5), while cognitive status was assessed using the Visual Cognitive Assessment Test (cut-off value <18). Sample size is considered adequate when the researcher is assured that the topic was discussed in sufficient detail and no new information emerged with the on-going focus group. A total of 45 participants were screened for eligibility during activities specifically held for them at the respective senior citizens' clubs. All participants are weekly attenders of their respective senior citizens' club at their local district. Digital invitation flyer was sent to older persons through WhatsApp. Forty older persons who met the inclusion criteria were contacted through phone call for their interest to take part in focus group discussions. Of the 40 participants, 25 agreed to participate. n=25; Male: 5, Female: 20; Mean age: 72.08 years (range 61-83); falls history, yes: 21, no: 4; ethnicity: Malay: 10, Chinese: 11, Indian: 4. Strata: community based
Setting	Community based in Petaling Jaya, Selangor, Malaysia.
Study design	Qualitative focus group study
Methods and analysis	A group of older persons meeting the inclusion criteria were invited to discuss on a predetermined topic and the entire session was guided by the researcher and an assistant. Focus group discussions method was selected as falls is an issue of common interest among the older persons and group dynamics can facilitate optimal idea sharing. Number of older persons involved in each focus group discussions were limited to 6–7 participants considering age-associated physiological changes and to allow more effective interaction between participants. Focus group discussions were conducted at the senior citizens' clubs. All focus group discussions were led by the same moderator (CN, a female physiotherapist with degree qualification and currently enrolled as a master's student at one local university) and assisted by one post-graduate physiotherapy student. There is no relationship established between the moderator and the participants prior to the focus groups although participants were aware this research was being undertaken as part a higher degrees research study and that the moderator was the student. the focus group discussion was guided by a list of questions prepared in advance based on literature review. The entire discussion was audio taped. Audio-recorded data were imported to laptop and stored in an encrypted file. Only the research team members could get access to the data. Focus group discussions were carried out between December 2017 and April 2018 and each session lasted for an average of 1 hour and 15 minutes. Data collection ceased at the fourth focus group when no new information was generated. Initially, the FGD data were transcribed verbatim by the researcher (CN) and another independent individual listened to the audio recordings and checked with the transcripts to determine transcriptions accuracy. Following that, the transcripts were imported to NVivo software for inductive thematic analysis. This involved researcher familiarisation with the transcripts, and generation of themes, categories, and codes. Field notes taken by the assistant were used to supplement the verbal data and to provide context to each focus group. The research team cross-checked the generated codes, categories, and themes. Any disagreements about coding and themes were discussed until consensus was achieved. As means of enhancing rigour and trustworthiness of the research process, a range of strategies were used. These include adherence to a focus group guide, audiotaping the focus groups, transcribing verbatim

Study	Ng 2022[12]
	which was verified by an independent individual outside of the research team, cross checking the data analysis between the research team, and member checking. All data were de-identified to promote trustworthiness of the data analysis process as well.
Themes with findings	**Perceptions of falls in older persons**
	Sub-theme: Thoughts about falls. Participants held mixed views regarding falls. Some perceived falls in older persons as a preventable event, while some perceived it as non-preventable. Participants expressed their helplessness when discussing about falls. One participant even regarded fall as the will of God as it may still occur regardless of taking all necessary precautions. “Ageing is normal, falls is not necessary. It’s not normal to fall as you grow older. You more likely to fall is, not that you, old people have to fall.”
	The impact of falls on older persons. The impact of falls stated by participants included injuries such as fractures, dislocations or head injury, and immobilisation. Psychological effects consisted of fear, loss of self-confidence and depression following a fall. These psychological effects were seen to cause reduced social interaction, increased dependency, refusal to walk or move and reduced quality of life.
	Factors that result in falls. Participants mentioned a number of factors that may result in falls. For example, various medical conditions, consumption of too many medications and side effects of particular medications. In addition, participants frequently cited personal risky behaviours such as being in a hurry or performing hazardous actions as the cause of fall. Also, active pets or grandchildren can pose risks to fall in older persons. Environmental hazards provoked in depth discussion among the participants. Slippery floor, loose or improper rugs and mats, steps, insufficient lighting, and cluttered environment were reported to be dangerous to older persons.
	Actions taken when falls occurred
	Immediate actions to reduce falls impact. Participants emphasized on the importance of early recognition of a fall and the ability to recover balance or to avoid severe injuries due to a fall. “So when she fall ah, she said if I fell like normally, I would have knocked my head and would have got a haemorrhage or whatever. So she fell, and then she lifted up her head. So when she fall, her head didn’t touch the ground.”
	Getting up from the floor. The importance of remaining calm after a fall was indicated by all participants. This was viewed as the most important first step. Lacking strength, knee problems, and do not know how to get up were stated as the reasons of not being able to get up or needing help to get up from the floor after a fall. All participants pointed out that inappropriate ways of assisting older person who is on the floor after a fall was dangerous and might cause further injuries. “I think when a person fall, you know, try and collect your mind, don’t be frighten, and don’t be embarrassed. Don’t like the minute you fall, you want to get up. Don’t care what people say, don’t care. . .calm yourself down first. I think to remain calm is very very important before you do the next thing. . .”
	Ways to get help. Participants commented that mobile phone, bell, whistle, or emergency button could be used to summon help in the case of falling. Shouting out loud was also viewed as a useful alternative to get someone’s attention. “You cannot get up la, so might else lie down lo. And wait for people to come. . .. . .So. . .I think about 10 minutes, people passing by, ’Ah. . .help! Help! Help!’ and then help me up.”

Study	Ng 2022[12]
	Perceived prevention strategies for falls
	Physical activity. All participants mentioned about physical activity as a method to prevent falls. Among the physical activities perceived to be useful were Tai-chi, Qi Gong, balance exercises, strengthening exercises, stretching, walking and general body movements.
	Home hazard modifications. Home hazard modification as a strategy to prevent falls triggered considerable discussion among the participants. Suggested home hazard modifications included having adequate lighting, installing handrails, avoiding having steps, use of non-slip mats/rugs, clearing clutter from the floor, ensuring walking surfaces are dry, sticking contrast tape on the staircase and replacing squatting toilet to sitting toilet. “At home is, especially the floor for the older people. Even the rug ah, you need to make sure the rug is not slippery.”
	Footwear. Participants mentioned proper footwear to prevent falls. Shoe characteristics such as enclosed, easy to put on, lightweight, comfortable, well fitted, sturdy, low heeled and non-slip shoe sole were highlighted.
	Nutrition. Some participants stated the role of nutrition in preventing falls. Balanced diet and healthy eating were perceived as important. Water, protein, and fruit intake were discussed. The beliefs about how certain food should be consumed and the benefits of traditional herbs also emerged in the discussion.
	The use of mobility aids. Some participants agreed that walking aids can be used as a support to steady oneself. Although, a few participants provided examples of walking aids such as walking stick and walking frame, they appeared to be uncertain about the best selection. On the other hand, participants also discussed some factors that may hinder the use of walking aids among older persons. All factors mentioned were associated with the stigma towards the use of walking aids. One participant pointed out that one of her peers is using an umbrella as a substitute instead of walking stick due to embarrassment.
	Self-initiated precautionary approaches. This method of preventing falls received most comments and included walking strategy, practicing safe behaviours and being aware of falls. Participants perceived walking slowly and carefully, walking on a safe path and looking ahead while walking as some of the strategies to prevent falls. In addition, one participant indicated that she believed landing with the toes first can help to grip the floor which then prevent falls from happening. Examples of safe behaviours were holding onto someone or something for support, use appropriate tools or equipment to help with activities of daily living, staying in a familiar space, avoid sudden movements and rushing.
	End users’ requirements for falls educational website
	Presentation factors. Under this category, participants’ desired features were large font size, title and logo that attract users and colour contrast between background and text. Colourful website was viewed as one of the attractive features. Nevertheless, participants were inconclusive on what colour to be used on the website. One participant mentioned that decorative styles of typeface should not be used in a website for older persons as it challenges text readability. Apart from that, proper spacing and use of capital letters were commented. Moreover, participants also preferred consistent website layout and appealing website design. Special emphasis was placed on website headings. Participants stated that headings must be larger and in bold font, highlighted and come along with images. Looking into the aspect of information presentation, participants suggested short, precise, and direct sentences, minimizing the use of words, use numbered or bulleted list, and split different

Study	Ng 2022[12]
	information into pages. The use of simple language was also highlighted. All participants particularly highlighted on the use of images, illustrations, or videos to deliver information. Additionally, the use of images with relevant text input was also indicated and accepted by participants. “And there was a picture to help with, it cuts down the border, picture always speaks thousand words.”
	User control. Participants demanded navigation buttons such as ’Page up’, ’Page down’, ’forward’, or ’backward’ to ease the website navigation. “You-you have the arrow to go forward, backward, forward, backward. You can use arrow or you click on the arrow, and the next page come up. Or click back arrow or forward arrow, you know, that-that sort of thing.” Insertion of audio function and option to increase text size were discussed and received mixed responses from participants. Some participants agreed to have audio function on the website while some disagreed. Reasons provided were mainly concerned with language spoken or reading speed. Similarly, only a few participants perceived the option to increase text size to be useful for older persons. On the other hand, majority demanded large font size without the need to manually adjusting the font size. All participants preferred to have multi-language option on the website.
Limitations and applicability of evidence	Minor concerns. The researchers followed clear methods and provided a thorough description of the analysis process to ensure the validity and rigour of their qualitative analysis. The researchers explained their professional backgrounds and provided insight into how this may have influenced the focus group discussions and analysis process. The researchers provided an in-depth analysis of the themes that emerged. Many of the questions were directly related to the review protocol, which made the evidence highly applicable. The study was conducted in 2022 so the views are very up to date, however, as it was based in Malaysia and included Malay, Chinese and Indian participants, the population, cultural views, and healthcare setting may not be directly applicable to the UK and NHS healthcare system.

Study	Pohl 2015[13]
Aim	To explore older women’s and men’s understanding of fall risk and their experiences with safety actions taken for preventing falls.
Population	18 community-dwelling older women and men at least 70 years of age, the ability to speak and understand Swedish fluently, and having a variation of background variables regarding education level, marital status, previous occupation, history of falls, and exercising. In order to reflect the overall population regarding falls, it was decided that 30% of the participants should have experiences from at least one fall in the previous 12 months. Recruitment took place in seven senior citizen associations as a purposive sampling in September and October 2012 in Umeå, a university city in northern Sweden (latitude 63°N) with distinct summer and winter seasons. n=18; Male: 8, Female: 10; Age Mean: 74.6 years (SD 3.5), previous fall in past year: yes: 6, no: 12

Study	Pohl 2015[13]
	strata: community
Setting	Community centre in Umeå northern Sweden
Study design	Qualitative focus group study
Methods and analysis	Approach was a qualitative study based on focus group discussions. The research team consisted of experts from the fields of physiotherapy, informatics, e-health, and gender studies. To guide the discussions, a participatory and appreciative action and reflection approach was adopted. The 18 participants were divided into two groups of nine participants in each group prior to the first focus group session. Eight sessions—four sessions per group—were held in a spacey common room at a community centre once a month between October 2012 and January 2013. Each session lasted for 150 minutes, including a short coffee break. Each session had an overall aim of discussing experiences from fall risks in everyday life as well as interests and attitudes about physical activity in general. The specific topics of fall risk awareness and safety strategies were the main focus of these sessions at all times. The focus group discussions were led by a skilled moderator in a positive atmosphere in the spirit of PAAR with loose, broad, and open-ended questions in order to encourage the participants to freely speak their minds. During the last session, both focus groups were divided into three smaller groups of three participants each to ensure that everyone had their say. Two groups consisted of women only, two groups consisted of men only, and two groups were mixed. None of the researchers were present during the discussions in the smaller groups, but all discussions were digitally recorded. After 30 minutes of discussion, the participants were collected for a joint discussion within the larger focus group, and this was also recorded. A total of eight focus group discussions and six minor group discussions were conducted amounting to 22 hours of data. All focus group discussions were transcribed verbatim. Qualitative content analysis with an inductive approach was used to analyse the data. All researchers were involved in data analysis. The analysis was performed in several steps. First, the authors independently read the transcripts to get an overall understanding of the participant's views about, and experiences of, risk awareness. The text was then transferred to the qualitative data software program Open Code 4.01 and divided into meaning units. The meaning units were labelled with codes comprising several words or phrases related to the aim of this study. The codes were organized into preliminary categories and subcategories by two of the authors. To ensure trustworthiness, the categorisation was continuously discussed within the research group until consensus was reached. When uncertainties occurred, the original transcripts were reread by all authors to ensure credibility.
Themes with findings	**Recognising one's fall risks**
	Sub theme: Public information described the media's—especially television's—influence on initiating fall risk awareness. A reflection process was initiated if the participants had something to relate the new information to. One woman with longstanding insomnia had repeatedly tried sleeping pills and often felt dizzy in the morning. With great interest she had watched an interview with a professor of geriatric medicine. She says, "I heard [doctor's name] on television. He said that X [a common sleeping pill] was the worst tablet old people could take because then they would fall and break their legs and everything. And I was so upset about this, now I never take any sleeping pills. I'm retired—I can stay awake all night."
	Sub theme: Mutual experience sharing this described how the participants discovered that a new or deepened awareness of fall risks was achieved through the repeated sessions and mutual discussions with the other participants. By exchanging

Study	Pohl 2015[13]
	experiences and knowledge, the participants started to observe their own behaviour as well as the environment around them. They continued to reflect at home, talking to friends, family, and neighbours. From their peers in the project, they were given new ideas about helpful assistive devices and about small changes they could make that would lead to a safer environment. Few participants had given these issues much thought before participating in the project, and they stressed the importance of raising such issues in society more often. One woman (P2) with no history of previous falls said that it made her reflect when listening to one of the other participants talking about the slippery soles of her warm shoes when stepping off a bus onto icy ground in the winter. She turns to the woman and says, "I have actually thought about it...every time I get off a bus I think about you, and I was just thinking about that: 'Well, now the soles of my shoes are warmer, now I must be careful.'"
	Taking precautions
	Sub theme: Adapting movement strategies described both automatic as well as conscious adaptations. Some adaptations such as a slower gait or decreased step-length when walking on icy ground were not new but were reinforced. With ageing and less flexible bodies, the participants felt an increasing need for physical support or to alter their body positions during everyday life activities. One widower (P16) who now had the full responsibility for cleaning the house says, "My knee is so stiff that I have to lie flat on my back to vacuum under the bed." An additional need to look down at the feet while walking and to fix the gaze while balancing on one leg was also described.
	Sub theme: Adapting the environment this theme described safety precautions taken in everyday life, including removing loose carpets, using appropriate and safe footwear and anti-slip shoe devices, leaving a small light on during the night, using an anti-slip mat in the shower, replacing the bathtub with a shower, using a step ladder with a handle when collecting items from a higher level, and changing to spiked bicycle tires in the winter. Anti-slip shoe devices were found to be cheap and good fall protectors during the winter, particularly among women. The men tended to avoid these devices using a variety of excuses. In general men also had a delicate problem in relation to bicycling; they agreed among each other that it had become dangerous to step on and off a rolling men's bike while balancing on one pedal and tossing the other leg over the frame. One strategy was to use a woman's bike instead, which was mentioned with embarrassment and accompanied by amused laughter. Not all participants, however, chose to adapt their environment even though they knew there was a risk of falling.
	Sub theme: Compensating with assistive technology this theme described different ways to improve safety. Independence could be prolonged with small measures, but the opinions about assistive devices were divided. Women in general seemed to accept aids more easily than men. In order to maintain the appearance of being young and fit, the use of walking aids was often frowned upon. Ordinary crutches could be seen as a threat to a person's pride or as a necessary evil. Nordic walking poles were in general popular as balance supports and did not come with as much age-related stigma. It was also considered a major safety strategy to bring mobile phones when away from home. One woman with a history of several fractures says, "I never go out on long walks nowadays without the mobile phone, it's a security thing that I can call for help. It actually happened once, I was out when it was all wet and slippery, and nobody knew where I was. I had my car parked deep in the forest and my husband was away on a trip, and no one knew that I was away."
	Sub theme: Selecting activities this described different strategies related to choosing activities, avoiding activities, or just carrying on as usual. One woman explained that she would never dream of climbing up on top of a chair that was placed on a

Study	Pohl 2015[13]
	high bench like she used to when she was younger. Some participants described an increasing willingness to ask for help when performing activities, they felt were risky, for example, changing the curtains. Couples would cooperate when changing a light bulb or cleaning windows, and it was seen as an advantage to live with a partner. A fear of falling sometimes made people change their minds after negotiating with themselves about engaging in activities that were perceived as risky.
	Themes not extracted as unrelated to protocol: Deliberately ignoring fall risk, feeling limitations, Feeling pleased with changes, alarming experiences, gradually growing insights
Limitations and applicability of evidence	Moderate limitations The researchers followed clear methods to ensure the validity and rigour of their qualitative analysis and the researchers provided a detailed description of their professional backgrounds and how their may have influenced the interview and analysis process. The researchers provided an in-depth analysis of the interviews explained how the themes were reached. The study included several questions which did not directly align with the review protocol. However, several themes were deemed relevant, so the study was included and only these themes were extracted. The evidence was partially applicable as some questions were focused on patients currently knowledge and strategies used to prevent falls. The study was based in a community setting in northern Sweden therefore it may not be applicable to a UK based setting.

Study	Swancutt 2020[16]
Aim	The aim of this study was to develop an understanding of attitudes towards seeking help and using and teaching techniques to get up following a fall. The objectives were to: Interview older people who have experienced a fall, and their carers to establish what actions they take when they fall, and, how and why they make those decisions
Population	A purposive sampling strategy was employed to achieve a range in participant age, sex, living arrangements and co-morbidities. Inclusion criteria were for people aged 65 and over, living in Devon, with experience of a fall and inability to get up (with or without injury). Participants were identified from: (a) Older adults/carers who called an ambulance following a fall without requiring conveyance to hospital; (b) Older people (and carers) attending a local falls service. They were offered study information by their therapist or paramedic. If interested, participants completed a consent to contact form and were phoned and then visited by the researcher. The researcher held no pre-existing views about the falls services or individuals response to falling. All participants with experience of having a fall were recruited via falls rehabilitation services and outpatient clinics, and none through the ambulance service. The study sample consisted of 12 older people with experience of having a fall and 4 of their spouses. It also included 12 healthcare staff, however, only the views of older people with experience of falls were included in this review. n=12; Male: 5, Female: 7; Age range: 65-89 years (average 78), all participants had more than one fall. Strata: community based
Setting	Participants own homes based in Devon, UK

Study	Swancutt 2020[16]
Study design	Qualitative semi-structured interview study
Methods and analysis	Face-to-face and semi structured interviews, following a topic guide, were conducted with the participants who had experience of a fall. If the participant's spouse was present, they were also invited to contribute to the interview. Interviews were conducted at the participant's home and lasted up to 1 h. One researcher conducted the interviews. The researchers collecting data were female, working in health and research. The topic guide used for older people was developed in conjunction with public and patient involvement representatives. All data were audio recorded and underwent targeted transcription to facilitate rapid identification of relevant issues for refining findings. Field notes were taken during the interviews and data collection continued until saturation occurred. The data analysis was structured using the Framework approach to systematically analyse the data. Transcripts were read independently by two researchers; a coding framework was developed to represent the main themes in the data. Data analysis took a critical realist perspective and focussed on understanding the causal mechanisms underlying decisions made by older people and carers on what action they take when they fall. The transcripts were then double coded by members of the research team to ensure applicability of the coding framework. Where disagreement arose, the coding was discussed and resolved. Coded data was charted into the framework matrix (spreadsheet format). Within and between-case analysis was conducted to develop theoretical concepts from the initial coded categories, expanding on how initial actions and choices could be described conceptually. The wider research team and the stakeholder advisory group contributed to the interpretation of the findings. The stakeholder advisory group comprised three specialists in falls rehabilitation, three people with experience of falls and a carer with experience of helping people who fall. They supported the analysis with feedback on the meaning ascribed to the findings and as an independent member check to ensure the quality of analysis.
Themes with findings	**The environment**
	People commonly began by describing their immediate environment following a fall, including both the physical and the social environments. Whether they were indoors, or outdoors was viewed as significant, particularly in relation to what stable objects were nearby that might be used to 'pull' oneself up. Outdoors was viewed as more challenging as often an open space with no objects near and where no-one might pass to find them and offer help. The social setting, both immediate (who was with them or near enough to hear them), and wider (who they could call easily, or might drop by), gave a sense of safety and security, whether they chose to draw upon that resource or not. 'I know there's benches there [on that walk] and then there's the low walls that way. I sort of go in my mind what's where. So, if I did have a fall, I'm not saying it's going to be in that precise, but if I did, I knew I could help myself but there's not always people about". Many reported not wanting to 'bother' anyone.
	Physical ability
	Deteriorating physical ability was a common theme amongst all participants, this was especially noticed in those with long term conditions such as Parkinson's. Some described a lack of physical strength hampering the ability to move from the position of the fall. Where the individual had enough strength to move to a better position or location (including with assistance from another person), some could identify a situation from which they made the most effective use of the strength they had, such as shuffling or crawling to stairs indoors or a tree outdoors to use more of their upper body strength, rather than legs alone, illustrating the relationship between strength and environment.

Study	Swancutt 2020[16]
	Self-efficacy
	The concept of self-efficacy, i.e. attitude and beliefs about their own ability came through strongly, both with positive and negative beliefs. This concept generally seemed to originate from what seemed to be the psychological reaction to falling, building from the initial shock of the fall to a longer-term fear of falling and 'activity avoidance' therefore limiting personal exposure to risky activities or locations. Often people couldn't verbalise exactly what prevented them from learning getting up techniques. "I do find it difficult to get up. I do worry about it, especially, if I am on my own... I am a bit funny about this getting up business because in autumn … I went to balance classes … they were prepared to show any of us how to get up you know from the floor. I didn't want to do it; it was funny really... but I am funny about those sorts of things. I am trying not to fall now anyway that's the main thing. [why didn't want to try learning to get up?] I am not sure to be honest I know there was an elderly gentleman he was about my age, and he seemed very frail, but he went through it with the physio...which I thought was wonderful." However, one participant expressed an alternative view, of frustration rather than fear. Thus, it was not only the psychological impact of being fearful, but also their personal self-efficacy and confidence in their own ability.
	Themes not extracted as unrelated to protocol: A balancing act, Having the 'know-how'
Limitations and applicability of evidence	Moderate concerns. The researchers followed clear methods to ensure the validity and rigour of their qualitative analysis. However, the researchers did not provide insight into how their relationship with the participants may have influenced the interview and analysis process. The researchers provided an in-depth analysis of the themes that emerged from the interviews, however some themes only included views of healthcare professionals so were not extracted for this review. The aim of this study was very specific and only focused on views on getting up after a fall. While it provides very specific information on this theme it does not answer the wider review question. The study also includes a mixed population of patients, healthcare professionals and carers. The analysis was separate of each group, so it was possible to extract just the themes relevant to the patient group. Due to these factors, it was partially applicable. The study was based in the UK in Devon so was highly relevant to the NHS setting in the UK.

Study	Vincenzo 2022[17]
Aim	To explore older adults' perceptions about engagement in falls prevention behaviours using constructs from the Health Belief Model (HBM) theoretical framework.
Population	Individuals who participated in a prior, unrelated study at the University and were interested in participating in future studies were recruited. The inclusion criteria were adults >65 years of age, community-dwelling, and able to understand and answer the study questions. Guided by evidence that gender differences in attitudes and beliefs regarding falls prevention exists, two focus groups consisted solely of women, and two focus groups consisted solely of men. n=27; Male: 13, Female: 14; Mean age: 77.8 years, experienced fall in last year: yes: 10, no: 17

Study	Vincenzo 2022[17]
	Strata: Community based
Setting	Community setting. Two focus groups were conducted in a conference room at a university, one was in a conference room at a senior centre, and one was hosted at the house of a participant per their request. The study took place in Arkansas USA.
Study design	Focus groups were conducted using semi-structured interview guides
Methods and analysis	our focus groups of six to eight participants were conducted between December 2019 and February 2020. The primary researcher, a physical therapist with 20 years of experience and a trained qualitative researcher, served as the moderator for three focus groups, and a research assistant trained by the primary investigator who took field notes in the first three focus groups, moderated the fourth focus group. Ground rules were established at the start of each session (speak one at a time, be respectful, engage and share opinions and experiences). Focus groups were recorded on a digital voice recorder (Olympus WS-853, Pennsylvania). Before concluding the focus groups, the interviewer summarized themes regarding group and participants' perspectives for confirmability. Focus groups lasted between 1.25 – 1.5 hours. Participants received a $30 gift card. Data from the demographic questionnaires were entered into excel. Descriptive statistics were calculated. Interviews were uploaded to computerized software for initial transcription and edited for accuracy. Data from focus groups were analysed using deductive content analysis to identify, analyse, and interpret meaning and themes in the data. The HBM served as the framework for the analysis. A deductive approach was applied whereby key categories were pre-determined according to the HBM (perceived susceptibility, perceived severity, perceived barriers, cues to action, and self-efficacy). Meaning units were extracted from the focus groups and assigned a code which was placed under a pre-determined HBM category. During the final step, researchers reached a consensus on interrelationships between the research questions, codes, and core themes. Researchers agreed that data saturation, when no new information or themes emerge, was obtained with the four focus groups. Trustworthiness was ensured by engaging in member checking and investigator triangulation. Investigator triangulation was applied by having two researchers with expertise in fall prevention and qualitative research, read and code the data separately, followed by discussion and agreement on codes, themes, and exemplary quotes. Investigator triangulation also lessoned potential bias when applying data to the HBM codes
Themes with findings	**Potential Barriers to Engaging in Falls Prevention**
	Lack of Self-Perceived Susceptibility of Experiencing a Fall: Older adults' perceived susceptibility of experiencing a fall did not reflect their expressed general knowledge about falls and prevention. Some who had not experienced a fall did not believe that they were at risk for falling. "The threat is not there individually," and, "I think I'm just fine, I don't have any problems," and, "I hadn't worried about falling … I don't have a balance problem." Other participants suggested that older adults do not feel susceptible until they experience a fall, "You don't think about it until you have a problem," and "Until you go down, it just doesn't click," and "when I tripped, I wasn't aware… I didn't even imagine falling." Only one participant seemed to accept and recognize their susceptibility of experiencing a fall, "part of it is, we have to come to grips at some point. We have to accept the reality condition. We have to accept the fact that I am who I am and where I'm at and make adjustments."
	Lack of Self-efficacy to Prevent a Fall: Some participants recognized their susceptibility to falling and described falls as "inevitable", indicating a lack of self-efficacy to prevent a fall. "You're going to fall probably," and "You're waiting; something is going to happen." Another participant shared, "The times that I fell; I tried really hard to just fall. There's no stopping the fall."

Study	Vincenzo 2022[17]
	Other participants talked about preparing themselves for a fall, "practice getting up" from the floor in case they fall. One participant shared, "I get down on the floor because … my mom used to fall, and my husband used to fall."
	Lack of Falls Prevention Information from a Healthcare Provider: Although many older adults in the focus groups were aware of and engaged in some falls prevention behaviours, the majority of participants shared that they had not received information about falls prevention from their doctor. One participant stated, "My doctor always asks… have you had any falls in the last six months or a year or so? That kind of makes me more aware of it, but it's not really information." Another participant had a similar experience, "It's always their first question when you have an appointment, have you fallen? But then there's no follow-ups." One participant asked another participant in the group, "You said you've had a fall. Have you had a doctor asked you, and you said yes? What happens then?" Some participants were specific regarding the information they felt they lacked from their doctor. When I talked to the doctor after I fell, he did not ask me if I had any throw rugs or anything like that," and "When we go in for a wellness visit annually, or just go to see the doc, I never hear a word from them or even the nurses… how to prevent falls.
	Potential Facilitators to Engaging in Falls Prevention
	General Knowledge about Falls and Current Engagement in Falls Prevention: Focus group participants were generally aware of falls, consequences, and various interventions for falls prevention. One participant stated, "There's a lot of awareness that old people are falling." Another participant suggested, "It's common … I would think it's pretty high for folks over the age of 65 at least or 70 to have fallen at least one time in the last 10 years." When asked about how they could prevent falls, participants most frequently related prevention to being more "careful." The terms careful or cautious were used 39 times across all focus groups. Participants described, "As you get older, you're more careful," and "I am very careful … I never thought about falling before." Participants also mentioned the ways that they restricted their activities to be more "careful." For example, "I don't walk out here in the garden … that is really dangerous to me," and "I always opt-out of the stairs." Participants also mentioned they either are aware of or engage in various forms of exercise that may help prevent a fall (21 quotes), that they wear proper footwear (mentioned 9 times) and use rails on the stairs (mentioned 10 times).
	Perceived Benefit-Socializing with Group Activities: Socializing with group activities was the only theme that emerged as a perceived benefit to falls prevention. Participants made. several statements that exemplified this theme. For example, "getting out and about is a big thing…encouraging involvement," "doing things with people makes a big difference," and that with "classes and things…socialization can improve." One participant felt that group support and socializing helps with accountability, "Well, if you go and you can talk about, I had trouble with this, or I did this four times this week, and I feel so much better. Especially too of being older, I mean, the socialization for some people … maybe some people are like "I don't want to do it," but I think it's important and it reinforces, you doing it. And plus, there's some accountability if you do it in a group."
	Cues to Action from Family and Friends: Participants shared how cues to action arose from social influences such as their family or friend's involvement in falls prevention. One participant stated, "I have a close cousin that fell several times. Her family went in and removed all of her little throw rugs and everything." Others talked about adult children that check on them regularly, "My daughter checks on me every day," and "my son fixed the house and I have a lifeline," and "We've got a daughter, and she

Study	Vincenzo 2022[17]
	is always questioning both of us about how are you? What are you doing? What have you been doing? Be careful." One participant noticed their balance impairment when playing with their grandkids on a gaming system, I came to be aware that my balance was not what it used to be. My grandkids got a Wii … and it had a deal where you balance on it … it said I was 72 years old according to my balance. Two participants noted that friends and loved ones can provide valuable action to facilitate engagement in falls prevention. For example, "A loved one telling you or reminding you that something's wrong and you don't realize it," and "Friends, those really affect me when someone I know has something that they feel like they need to bring to me or make me aware." Finally, one participant indicated that going to the wellness centre with her spouse helps her with adherence, "My husband and I come every day, and if he didn't go, then I don't know if I would come every day."
	Cues to Action from a Doctor or Pharmacist: The majority of participants voiced how doctors could provide older adults with information to prevent falls and preferred their doctor to discuss falls prevention with them. One participant stated, "The doctor would say, this is what you need to do." Another explicitly preferred, If somebody's on a visit, the doctor says, after age … the statistics show that you are more apt to have a fall and here are some of the things that can happen at that age or as you get older. Some preferred receiving falls prevention information from a brochure provided by their doctor. One participant stated, "If he (your doctor) could discuss some of it with you, just a verbal discussion would be more lasting than handing you a brochure, but then we would look at the brochure." Another stated, "If the doctor doesn't have time to talk about it … a brochure or something, at least that's a start." Finally, one participant suggested there should be a policy for doctors to include falls prevention education as part of the Medicare well examination: We're probably all seeing doctors on some regular basis, and I think those practitioners or those physicians need to have some policy. Maybe at some point, when a person reaches a certain age, the risk becomes greater. That it needs to be a part of their well examination to educate us in those areas rather than waiting until we fall and break a hip and then say, Hey, you know, you shouldn't be doing that. A few participants suggested that pharmacists could provide cues to action. One participant would like to receive "handouts with prescriptions because your visits with the doctor are less frequent, but your prescription filling is pretty much ongoing." Another participant suggested the information be provided via "a flyer or something that a pharmacist would make available."
	Print Cues to Action: Along with suggestions of print materials that doctors or pharmacists could provide, participants mentioned other print/print materials that would increase older adults' engagement in falls prevention. For example, "A newspaper, a visible ad.," and "A magazine or a medical magazine." More specifically, two people mentioned the American Association of Retired Persons (AARP) magazine, "AARP magazine, but I haven't seen anything like that in there," and "I have noted articles in the AARP magazine. They're pretty good." One man suggested, "From time to time, you read about someone that's fallen out of the tree stand. The sports shooting magazines would have articles." Finally, one participant suggested that a poster or something would be helpful at "Doctor's appointments…in a waiting room… a poster or something".
	Audiovisual Cues to Action: Participants suggested different audiovisual modes to increase older adults' engagement in falls prevention. One participant suggested, "The doctor's office…a little screen in the waiting room… 30-second segments on falls and being careful." Another participant suggested that a visual machine like the blood pressure screening near the pharmacy would be helpful, In a pharmacy where you're having to stand and wait for your prescription. If there was a line on the floor, walk this line, how difficult or easy is it? Or some visual things like the little machine where you can take your blood pressure. Some participants suggested audiovisual options for broader dissemination. For example, a "Public service announcement… if

Study	Vincenzo 2022[17]
	you're a senior citizen, listen to this about falls and give tips periodically," and "State public television… half-hour snippets," and "CNN and fox news... stations that a lot of seniors listen to."
	Online Cues to Action: Participants mentioned using the internet to look up or provide information on falls prevention. Statements exemplified this, "My wife would go on the internet and learn all about it," and that to find out about falls prevention, another participant would "look at some information on the internet." Another participant suggested that there should be a falls prevention knowledge test on the internet because, "Popular things on the internet or quizzes…people like to answer questions about things, particularly if it has to do with their intelligence." Finally, another participant indicated they would like to receive falls prevention information from their health system or insurance, "an email that you knew was coming from a place you recognize."
	Reminders Cue to Action: Numerous participants felt that they needed reminders to engage in falls prevention, "Because we forget things, we need to be reminded." They suggested forms of reminders such as, "A ring, like a bell," or "A ding on your phone every day." However, only one participant suggested using a virtual assistant, for example, Amazon's Alexa, asking, "Have you walked today?".
Limitations and applicability of evidence	Moderate concerns. The researchers followed clear methods to ensure the validity and rigour of their qualitative analysis. However, the researchers did not provide insight into how their relationship with the participants may have influenced the interview and analysis process. Additionally details on study recruitment were not clear. The researchers provided an in-depth analysis of the themes that emerged from the focus groups. The inclusion of questions that directly relate to our review protocol, made this evidence applicable. However, some questions were less relevant and focused pm facilitators and barriers, so several sub themes were not extracted. The study took place in a community setting in the USA which may not be directly applicable to a UK setting.

Study	Vivrette 2011[18]
Aim	To (a) determine older adults' beliefs and attitudes about falls, including identifying the natural language used by older adults when talking about falls and the appropriate level of threat perception to motivate behaviour change; (b) identify which significant fall-risk behaviours are the most, and which are the least, amenable to behaviour modification; and (c) determine the acceptability of health-promotion/risk-reduction educational material in terms of amount and type of information provided, language, and imagery.
Population	Senior and community centres were contacted via telephone and asked to participate as research sites. Community-dwelling older adults were recruited from these centres in two separate study phases through posted fliers and newsletter announcements. In total, 45 older adults in Phase I and an additional 49 older adults in Phase II responded to recruitment efforts and were screened for eligibility; there was no overlap in participation between study phases. Participants were eligible if they were age 65 or older, were community dwelling, could understand and summarize the study purpose (to establish ability to self-consent for participation), were fluent in English, were able to hear well enough to participate in a group discussion, and were able to see well enough to read 14-point font. Reasons for nonparticipation included failure to meet eligibility criteria, scheduling conflicts, inability to be reached by study staff, and

Study	Vivrette 2011[18]
	refusal to sign the consent document. The sampling frame was constructed to represent the ethnically and economically diverse neighbourhood populations in Los Angeles County. Phase I n=19; Male: 3 Female: 16; Mean age: 73.7 years (SD 8.6); Ethnicity: Non-Hispanic White: 10, African American: 6, Hispanic: 1, American Indian/Alaska native: 1, other: 1 Phase II n=19; Male: 1, Female: 18; Mean age: 74.1 years (SD 6.6); Ethnicity: Non-Hispanic White: 5, African American: 9, Hispanic: 5, Strata: community based
Setting	Community setting in Los Angeles County.
Study design	Qualitative interview study
Methods and analysis	This prospective qualitative study was conducted with an iterative stepwise approach. Seven focus-group interviews (one per research site) in two separate study phases with community-dwelling seniors were conducted to determine perceptions of fall risks, the perceived level of threat associated with falling, and acceptability of risk reduction. Phase I interviews focused on identifying community seniors' existing knowledge and beliefs about falls. These results were incorporated into an evidenced-based fall-risk self-assessment with targeted educational material that was synthesized into a brochure format. The interviews were transcribed verbatim and coded for analysis using qualitative research software. Phase II interviews focused on community seniors' perceptions of acceptability and perceived usability of the self-assessment brochure. Each 60-min focus-group discussion was led by a trained moderator using discussion guides that were informed by the extended parallel process model framework to assess threat and motivation and by the transtheoretical model framework to gauge readiness to accept recommendations for behaviour change. Constant comparative analysis was performed, and grounded theories generated from interviews were tested in subsequent focus groups. This application of grounded theory produced conceptually rich data to predict how a process, such as our educational intervention, would relate to theories of behaviour change in this particular population. Data collection in each phase terminated when data saturation or redundancy was established.
Themes with findings	**Phase I: How Can Falls Be Prevented?**
	Participants spontaneously offered fall-prevention recommendations that ranged in relative difficulty to adopt. Seniors perceived exercise as the most readily acceptable fall prevention strategy, often offering personal examples of successful participation in exercise programs and independent physical activity. Formal exercise programs were accessible at senior and community centres, and walking was perceived as the easiest physical activity. One participant discussed the importance of exercise that targets balance training, saying, "The movement is important, but [also] trying to exercise exactly what you need … to find the exercise that you need to get the balance that you want." In addition to exercise, seniors in each focus group shared their own positive experiences with home modifications such as installation of grab bars in the shower and removal of hazardous throw rugs in their homes. Some seniors accessed specific agencies to help them with home safety. Despite

Study	Vivrette 2011[18]
	recognizing its importance for fall prevention, participants perceived using an assistive device as the most difficult fall-prevention activity for seniors to adopt. Participants attributed this difficulty to a social stigma associated with canes and walkers, particularly among older men. One participant shared a personal example: There are a lot of people that, to them, [a cane] is a projection of age, but a cane is just to keep your balance. My dad never used a cane and he fell in the yard. There's just something about using the cane or a walker that just turns them off. In general, vanity and maintaining independence were identified as key factors that influenced engagement in fall-prevention strategies. Strategies that negatively affected seniors' perceived sense of independence had less likelihood of endorsement.
	Phase I: What Is the Effective Level of Threat Perception?
	Many participants were not aware of the prevalence and severity of fall-related outcomes among older adults. Seniors were asked whether this information would motivate them to change their behaviours and engage in fall-prevention strategies. Although these facts were admittedly surprising to participants, they were also perceived as overly negative. Information about morbidity and mortality was "too scary" because "it takes your independence away." Reframing this information in a positive tone would be more effective in motivating behaviour because "people would listen to it." One new major theme emerged from the discussions. The concept of independence cross-cut spontaneous responses to the study questions. Maintaining independence was perceived as the key motivational strategy to reduce fall risk. Loss of independence was a more complicated notion involving the perceived stigma associated with aging, restriction of activity, and placement in a nursing home. Other beliefs, as well as knowledge, directly addressed the study questions.
	Phase I: How Should Fall-Prevention Messages Be Delivered to Promote Behaviour Change?
	Seniors generally felt responsible for managing their own health but were dissatisfied that doctors did not routinely address fall prevention during clinical visits. When asked if a doctor is the key person to motivate fall-prevention behaviour, a participant answered, "Heavens, no. You are not his responsibility; you are your own responsibility." Participants said that information on fall prevention would be well received when presented at a senior centre class or in an educational pamphlet made available at doctors' offices and community centres. Senior centres were perceived as a focal point for disseminating information because of the high volume of older adults who attend these centres and the informal social networks that exist there. "Word of mouth" was a key strategy for exchanging information among friends, relatives, and the community.
	Phase II Educational Intervention
	In the educational section of the brochure, four key recommendations for fall prevention were listed: improving strength and balance through exercise, making specific home modifications, having annual eye examinations, and talking to a doctor about falls. Many participants said that this section of the brochure could serve as a guide for discussions with their health care providers about fall-prevention strategies. The brochure was perceived as a way to focus doctors on issues of concern that may not be receiving attention or that seniors may have trouble articulating.
	Phase II Overall Appeal and Imagery
	Each group independently specified similar criteria for health-information brochures: attractiveness, relevance to older adults, relevance to health concerns, informativeness, and inclusion of information that could be shared with members of the

Study	Vivrette 2011[18]
	community. All groups agreed that, overall, the fall-risk self-assessment brochure met these criteria. The brochure was considered particularly strong in presenting new information (e.g., history of falling predicts future falls) that could be shared with others. Participants continued to point out that the dissemination route of health education in this population included informal networks of family and friends who share information with each other. Participants continued to emphasize that information about falls and fall prevention should remain positive and hopeful. For example, the title "Stay Independent—Avoid a Fall!" was received well, whereas a quote, "We are all just one fall away from the nursing home," was perceived as overly negative. Participants preferred images of active seniors participating in activity and exercise, grandparents interacting with grandchildren, and images presenting realistic depictions of older adults.
	Themes not extracted as unrelated to protocol: How Is Fall Risk Recognized by Older Adults? Fall-Risk Self-Assessment
Limitations and applicability of evidence	Moderate concerns. The researchers followed clear methods to ensure the validity and rigour of their qualitative analysis and the researchers provided an in-depth description the analysis of the themes that emerged in participants' interviews. However, the researchers did not provide insight into how their relationship with the participants may have influenced the interview and analysis process. There were several questions directly related to the review protocol, and several which were not entirely relevant and more focused on a specific risk assessment check list. These themes were not extracted for this review and the evidence moderately applicable. This study was based in the USA so may not be directly applicable to an NHS setting.

Hospital based

Study	Collins 2022[2]
Aim	To identify components of successful fall prevention education. To determine what a community-dwelling cohort of older Americans had received in terms of fall education and what forms of teaching and fall prevention interventions they believed would be helpful.
Population	The study included patients aged 65 years and older who had fallen or were at risk of fall based on age and frailty at a 781-bed tertiary care centre in the Northeast USA. The centre houses both an outpatient geriatric clinic and the region's only level 1 trauma centre that evaluates some 2500 trauma patients annually, nearly 40% of whom present after falls from standing height. Eligible patients were referred by the trauma service owing to recent history of treatment for a fall resulting in an injury or by geriatrics outpatient team owing to history of falling to the ground or perceived fall risk by the provider. Both outpatient individuals and those recently hospitalised for fall-related injuries were included. Referred patients were approached by the study team either in person at the conclusion of a clinic visit or by letter to participate in the study. Eligibility criteria included proficiency in spoken English and sufficient cognitive ability (as discerned by their clinicians based on patients' ability to consent for themselves) to participate in a face-to-face interview. Participation was voluntary and would require ability to present for a 1-hour face-to-face semi-structured interview.

Study	Collins 2022[2]
	n=10; Male: 4, Female: 6; Age Range: 71 to 80 years, ethnicity: Caucasian: 100%, mixed medical comorbidities, previous fall: yes: 90%, no:10% Strata: tertiary care centre
Setting	Tertiary care centre, Northeast USA
Study design	Qualitative interview study
Methods and analysis	Interviews were conducted in a small conference room at either the trauma surgery or geriatrics outpatient clinic locations. Interviews were conducted by two researchers from a team of four, who received training in qualitative interview skills, lasting for approximately 1 hour and recorded using a handheld Sony digital voice recorder with built-in microphone and USB. Each participant also completed a questionnaire with basic demographic information about their health and completed a mini-cognitive exam on the day of interview. Recorded interviews were professionally transcribed and pseudonyms were applied to maintain anonymity and transcripts were uploaded into NVivo V11 (QSR International, Melbourne AU) for qualitative analysis. The study plan was to enrol up to 20 participants, 10 from each clinical site or until no new themes emerged from the data (also known as achieving theme saturation), whichever occurred first. To determine theme saturation, the two study team members who conducted interviews also undertook a process of continuous coding as new data were being acquired and concluded the interviews when theme saturation was accomplished, which occurred by the tenth interview. Therefore, further enrolment was halted. Interviews were conducted from July 2012 to June 2013. Coding was then conducted by an independent team of five analysts who had not previously participated in conducting interviews or measuring theme saturation. Coding of each transcript was conducted independently with a weekly meeting to review content coded into existing and new themes based on the entry of two new transcripts into the analysis. This resulted in two independent reviews that overlapped, ensuring that by the end of coding, each transcript was subjected to analysis including all of the themes identified from other transcripts. Identification and grouping of themes were performed under the principles of grounded theory. The constant comparative method whereby new categories and themes were continuously analysed for connections and new ideas was employed until reaching theme saturation. Coding overlap was quantified to gauge the validity of the themes identified by analysts. Adjudication was performed by the principal investigator when disagreements over theme classification occurred. Theme saturation was achieved by the sixth transcript.
Themes with findings	**Prior fall education and knowledge regarding fall risks**
	Participants had very little personal experience with fall education. Nearly all stated that they had not received fall prevention education materials of any kind. The one patient who said they had seen materials initially said they had not seen anything, but eventually remembered “out in the waiting area they have lots of stuff on falls.” Six patients mentioned that although they had not received any formal education, they had either given or received information from other older adults in the community. The respondents were able to identify several factors that that would predispose an individual to falling. These included physiologic decline/medical conditions (8/10 participants reporting), underestimating limitations (7/10), environmental hazards (7/10), lack of situational awareness/rushing (4/10), improper/non-use of walking aid (3/10), positional transitions (2/10), and improper footwear (1/10).

Study	Collins 2022[2]
	Fall education suggestions - approach
	Respondents also expressed concern that any fall education might not be readily accepted by the older community. Three said that presenting the information in a positive way and emphasizing healthy aging would help make the message more palatable, whereas another said that approaching patients' families might be more successful. "People will migrate to something for older people, but it has to be on the basis of wellness. Part of wellness is not falling. I don't think any older person would just jump at the chance to go to a lecture about falling. You kind of got to sneak it in." Only one said they felt emphasising the seriousness of falls would be motivating. Another respondent said she thought the most important message was to tell people not to worry at all because worrying might increase falls. Only one respondent stated that he felt that fall education was not worthwhile because "there's nothing you can do."
	Fall education suggestions - format
	Participants made several suggestions regarding the best ways they believed fall education should be delivered. The most common suggestion was in-person discussions with physicians or other healthcare providers (7/10). Nearly all (9/10) stated that in-person education provided a personalized approach and would allow them to ask questions, with half of respondents saying that having a physician provide the information would be the most impactful. In comparison, just three participants suggested pamphlets (3/10 participants) indicating that having something to take home and look at would help their long-term retention. Importantly, two of the three participants suggesting pamphlets said these should be given alongside a discussion with their doctor. Other individual suggestions included community lectures, a movie to watch, and a comic strip.
	Fall education - content.
	When asked about what fall education should consist of, our cohort mentioned both physical and mental approaches to preventing falls. Half (5/10) mentioned home environment modifications such as grab bars, getting rid of scatter rugs, and improved railings, whereas three mentioned footwear, such as proper shoes and no-slip socks. Others (4/10) felt that it was to emphasize the importance of being aware of one's surroundings.
Limitations and applicability of evidence	Moderate limitations The researchers followed clear methods to ensure the validity and rigour of their qualitative analysis. However, the researchers did not detail their professional backgrounds or provide insight into how this may have influenced the interview and analysis process. The study only included a small sample of 10 participants due to reaching saturation. However, the study aimed to initially recruit 20 participants. The researchers provided an in-depth analysis of the interviews. The inclusion of questions that directly relate to the review protocol, and a research aim clearly in line with the protocol aim, makes this evidence highly applicable. The study was based in a tertiary care centre in the USA and therefore may not be applicable to an NHS tertiary care centre.

Study	Dabkowski 2022[3]
Aim	To explore the perceptions and experiences that influence a patient's understanding of their falls risk in Australian rural and regional public hospitals.
Population	Participants were recruited from acute medical, surgical, orthopaedic and rehabilitation wards across three rural/regional hospitals in the State of Victoria, Australia using a purposive sampling strategy. To participate in this study, inpatients were required to be aged ≥ 40 years, English-speaking and have ambulatory capacity prior to their admission. This age range was purposefully selected based upon retrospective clinical audit falls data from one of the participating regional hospitals, which established that falls were not limited to older adults. To determine cognitive status, participants were assessed by the researcher using a Standardised Mini-Mental State Examination (SMMSE) and were deemed eligible if they returned a score of ≥18. A score between 18 and 24 on the SMMSE can be used to indicate mild to moderate cognitive impairment. People with cognitive deficits are often omitted from research yet have an increased risk of falling in hospital. For this reason, the researchers extended the eligibility criteria to include inpatients with mild to moderate cognitive impairment. n=18; Male: 9, Female: 9; Age mean: 69.8 (SD± 12.7), Age range 41 to 84 years, Ward setting: rehabilitation wards (n = 7), orthopaedics (n = 5), acute/surgical (n = 3), specialised geriatric medical (n = 2) generalised medical ward (n = 1), Previous fall: Of the 18 participants, 67% had sustained a fall in the previous six months, with 28% of these falls occurring during their current hospital admission Strata: tertiary care centre
Setting	Three rural/regional hospitals in the State of Victoria, Australia
Study design	Qualitative interview study
Methods and analysis	Semi-structured interviews were used to explore patients' understanding of their fall risk in hospital. A total of 18 individual interviews were conducted from May 2022 to July 2022 at three regional public hospitals. The lead researcher conducted all of the interviews using a predetermined interview schedule. All interviews took place in participants' hospital rooms of their corresponding wards during the weekday with efforts made to ensure minimal disruption to the participants' clinical care and privacy. The interview times ranged from 4 min 21 s to 22 min, 13 s. The interviews were audio-recorded via two Dictaphones with the researcher taking field notes during and after the interviews. Demographic and relevant patient clinical information such as clinical fall risk status, was obtained by the lead researcher from patients' medical records immediately after the interview. Data collection continued until the lead researcher was satisfied that sufficient information power was achieved. Prior to data collection, it was estimated that approximately 15–20 interviews were needed for this research. The lead researcher has a clinical background of physiotherapy practice (14 years) and nursing practice (3 years) and has cared for patients both in an acute and community setting. The theoretical flexibility of reflexive thematic analysis was best suited to address the research question. The interviews were de-identified and transcribed by the lead researcher and subsequently compared to the audio-recording to confirm its accuracy. The mid- and post-interview field notes from the lead researcher were shared with the research team and reflected upon through debriefing

Study	Dabkowski 2022[3]
	sessions. To establish trustworthiness, the transcripts were independently coded by one researcher and co-verified by another. The research team independently analysed the coded data and created themes during a face-to-face meeting on the 27 September 2022, which resulted in highly comparable themes of the data. The major and minor themes were reviewed and refined until all authors were satisfied that the resultant analysis accurately represented their interpretation of the data.
Themes with findings	**Environment (Extrinsic)**
	Safe Mobilising in Hospitals Participants identified that hospitals can be a high-risk environment for falls. Hospital bathrooms were noted as the main concern, specifically the potential to fall in the shower. Slippery hospital floors were also highlighted because of the potential presence of water or bodily substances on these surfaces. One participant verified the need for suitable footwear, otherwise they would immediately slip over. Gait aids were considered essential for mobility; however, some spoke of their physical limitations with using such equipment, especially if they were not in close proximity. An organised hospital layout contributed to feelings of safety in one participant, “They’ve got to keep everything in its place. So that makes me feel safe”.
	Depending on Others to Prevent Falls Extrinsic influences such as nursing staff supervision and call buzzer technology were considered to be the main component to falls prevention in hospital. The assistance provided by nursing staff eliminated the need to engage in risk-taking behaviours, “If I ask for assistance it comes, so I don’t have to take any risks”. The reliance on nursing staff for transfers and personal hygiene/toileting was clearly voiced with most acknowledging that they would not hesitate to seek assistance. Frustrations were expressed with slow or unanswered buzzers, “There are times when I’m ringing for a bell. I’m ringing the red lights, and no one comes, and I want to use the bottle. They don’t come and I’m getting desperate”. Despite their obvious distress, participants were quick to defend the nurses and discussed their heavy workloads and patient priorities. They recognised the low staffing issues combined with the high acuity of some patients. Some people were also wary of using their call buzzer and cited altruistic reasons for not wanting to seek assistance, “I don’t expect them to drop everything for me. I just find I need help going to the toilet. I know they’re busy. Despite these misgivings, most participants would seek assistance as applicable because they appreciated the importance of staying safe. Additionally, one participant spoke about the presence of falls alert signs as reminders for additional monitoring by staff. The person elaborated on possible ideas for the future, “There needs to be some kind of collar, like an electronic tracking bracelet that they would put on the patients and nurses at the front desk who’ll be monitoring those bracelets to see where the patients are, once they bypass the sensor from their door from the room”. Again, this supports the assertion that extrinsic influences such as hospital staff and technology, are considered essential to staying safe in hospital. Although there is a reliance on nursing staff, participants asserted that patients needed to have accountability for their choices and behaviours in hospital. As a participant explained, “I think the patients have gotta take responsibility to some extent. You can’t just come in and be pandered over . . . patients gotta take responsibility for what they can do and what they can’t do. They can ask for assistance. That’s why we’ve got the bell”. This reinforces the importance of including the person as a ‘partner’ in falls prevention and safety management in hospital.
	Theme Two: Individual (Intrinsic)

Study	Dabkowski 2022[3]
	Insight into Own Needs Despite their past medical histories or current circumstances, some participants did not consider themselves to be at risk of falling in hospital. This was mostly attributed to their own personal behaviour and willingness to seek assistance, "'cause there's help always and I won't do anything unless I've got help with me. I won't try and do anything that I know I'm not gonna be able to do". Only a few participants identified their wish to retain their independence. Risk-taking behaviour was accepted as part of their recovery, "I do it myself, I just . . . there's no other, no other way to do it. I'm gonna have to do it at home". When participants were asked "why do patients fall in hospital?", most responses attributed the blame to the individual, rather than to the hospital environment. A variety of mechanical reasons for falling in hospital were revealed, such as balance difficulties, weakness or unsteadiness on one's feet. One participant who had experienced numerous hospital admissions offered, "I'm noticing a lot with old people they'll get up out of their bed. They might be gasping for oxygen, and they'll stand up too quickly out of bed. They'll try and catch themselves and then they'll start wandering or calling out and they'll lose blood pressure very quickly and they'll fall over. I've seen this happen a couple of times". This participant demonstrated a high level of insight, as they understood that falls could be attributed to medical conditions and not just mechanical causes. Participants also recognised that poor insight into their own needs could lead to falls in hospital. As one related, "Not concentrating, I believe. Or getting their ambitions and their capabilities mixed up. Just thinking they're better than they really are at the time".
	Confusion Increases the Risk Confused patients or those with dementia have an increased falls risk in hospital, according to participants. One person spoke about their recollections as a patient, "I've seen elderly patients get out of bed and wear bed pans as their shoes 'cause they thought they were their shoes. I've seen dementia people walk around and just fall over". Some acknowledged the unfamiliarity of hospitals compared to their usual surroundings, which could lead to disorientation. However, this was not limited to an unfamiliar hospital environment, as one participant spoke of their disorientation at home in the middle of the night, which led to multiple falls. The two participants with mild cognitive deficits provided their perspectives of their falls risk in hospital. One had good insight into their potential to fall, "If I'm not look well, not watched and guarded, probably yeah I could (fall)". In comparison, another person with mild cognitive deficits reported feeling "safe" in hospital. However, this person went on to describe their feelings of disorientation during their admission, "It was a small case of fright, I didn't know where the heck I was! I didn't know anything".
	Fear of Falling Interestingly, the fear of falling construct surfaced amongst many participants. One person spoke about their concerns, "I've just had a massive fall at home less than a week ago and I'm just absolutely terrified of falling again. This is where I make sure I've got one or two people with me when I get up and go to the toilet and back". This also indicates dependency on hospital staff in maintaining safety. Prior to their hospital admission, this person was fiercely independent and entry to a nursing home was considered unlikely. The psychological impact of a fall can impede a person's recovery and ability to remain independent; however, a 'fear of falling' does not always develop after a fall. As demonstrated in one participant, "I have never had a fall, that's why I'm so paranoid, I think. I just don't want to it's the last thing I want to do". This participant disclosed that they had witnessed the outcomes from falls in other family members, which led to dependence on others and decreased participation in society.
	Theme Three: Outcomes

Study	Dabkowski 2022[3]
	Awareness of Consequences Participants demonstrated awareness of the possible consequences of falling. They correctly identified the likelihood of soft tissue injuries, fractures, head trauma and even death as potential outcomes. As one participant noted, “They break their hip, get pneumonia and then they’re on their way out. They just don’t get better and better and it’s all part of the grand scheme of death basically”. They recognised the implications of these consequences for their future, thus appreciated the significance of falls prevention. Unfortunately, some of their awareness came from falls experience. Participants who had previously fallen, reflected on their experiences and shared their lessons learnt. These experiences shaped their beliefs and subsequently altered their approach to falls prevention. One patient who had a stroke explained, “After having my falls, it makes you concentrate more. ‘Cause it’s scary being on the floor, flopping around like a dying fish. So that’s what keeps you a lot more focused if you have had a fall”.
	Falls Education Participants valued the expertise of allied health professionals and appreciated the falls education they received. They understood the role of the health professional as key to their recovery, “I figured that they know what they’re doing, so if you want to get better, you listen and do”. Interestingly, many participants denied that they had received falls prevention education from hospital staff. In particular, the two people with mild cognitive deficits replied, “No. Be nice if they did”, with another commenting, “Not that I know of or remember. They may have, but I don’t remember”. Field notes depicted both patients as wearing orange grip socks, call buzzer nearby and their gait aid within reach. These participants may not have been informed that these strategies were part of their fall prevention plan, or their mild cognitive deficits may contribute to poor recollection. A few participants discussed their frustrations about receiving mixed messages and conflicting advice from health professionals. Feelings of “not being listened to” and poor communication were disclosed, including with family members. Some advocated for improved patient/clinician communication, with one even suggesting, “I always say to everybody to ring my wife first to keep her in the loop ‘cause when you get old like us they seem to think that your brain is gone and you can’t think for yourself”. Participants were receptive to falls education with some planning to attend outpatient falls prevention programs upon discharge. As one person noted, “If I survive this ordeal and come out of hospital, I’ll have to do something about it because it seems like simple little falls are gonna be a tragedy to me”.
	Retraining the Mind Concentration at all times and remaining “free of distractions” was considered essential to safe mobility in both hospital and at home. One person articulated their difficulty in adhering to falls prevention strategies, “Sometimes I forget, and I’ll start to head off and then the alarm goes, and I realise I’m not supposed to stand up. I’ve spent 70 years doing [things] how I want to, and I’ve been here a month it takes a long time to get over old habits. You know but I’m gonna have to learn because I can’t afford to have too many more falls”. There is a need for rehabilitation to prevent further falls, though participants recognised that change would not be instantaneous. Retraining the mind was considered essential to help participants adjust for their future, “Your mind is not [the] same as your body. Your mind is still strong, you know? But your body, it doesn’t give the same amount, so you have to work it out. What you can do and what you can’t do. You have to teach yourself, train yourself again to be really strong”. An insightful participant spoke about their need to consider their “future self ” above their pride. Participants remained realistic but hopeful that improvements could be attained for their future and they recognised their role in their recovery. Positive attitudes, hope and accepting responsibility were highlighted as the driving contributors to facilitate adaptations for their future selves.

Study	Dabkowski 2022[3]
Limitations and applicability of evidence	Minor limitations The researchers followed clear methods to ensure the validity and rigour of their qualitative analysis. The researchers described their professional backgrounds and provided insight into how this may have influenced the interview and analysis process. The researchers provided an in-depth analysis of the interviews. The inclusion of questions that directly relate to the review protocol, and a research aim clearly in line with the protocol aim, makes this evidence highly applicable. The study was based in 3 regional hospitals in rural Australia and therefore may not be applicable to an NHS tertiary care centre. The study also included several patients who were younger than the protocol population and were at risk of falls due to other conditions, however at the majority of patients were over 65 and the mean age was 69.8 years it was included.

Study	Heng 2021[6]
Aim	Explore hospital patient experiences of falls prevention education; 2. investigate barriers and facilitators to their understanding of, and adherence to, hospital falls prevention education programs; and 3. understand the preferences of patients for falls prevention education.
Population	The eligibility criteria for participation in the focus groups were: (i) hospitalized adults (>18 years old) who could speak, read, and understand English; and (ii) inpatients in Healthscope hospitals, Australia. Patients were excluded if they were: (i) scheduled for discharge prior to commencement of the focus group; (ii) medically unstable; and (iii) did not stay overnight in hospital (e.g., emergency department presentations, day surgery patients or day oncology patients). Patients were also excluded if they were judged to have limited cognitive capacity to participate in a focus group. This was assessed by nurse unit managers using their clinical judgement. n=11; Male: 3 Female: 8; Mean age: 78.4 SD (15.32) years, 100% hospitalised
Setting	Two Australian hospital sites belonging to the same private health network. Patients were recruited from five wards including acute medical, acute surgical, orthopaedic, and geriatric rehabilitation. Data collection occurred in Australian private hospitals. The focus groups were conducted at the hospitals in which the participants were inpatients.
Study design	Three facilitator guided focus groups
Methods and analysis	Between December 2019 and February 2020, a total of 11 of 33 potential participants were interviewed in three focus groups in private hospitals. Thematic analysis was used to identify and develop themes. This analytic framework allowed for in-depth exploration of the data to identify and analyse response patterns. An inductive approach was taken as there was limited evidence around the topic of patient perspectives about hospital falls prevention education. One researcher ensured accurate transcription of the data by comparing the audio recordings and verbatim transcripts. Two researchers independently examined and read the de-identified transcripts multiple

Study	Heng 2021[6]
	times to ensure familiarization and to identify codes and categories. Coded data were presented in spreadsheets and documents and were discussed in iterative stages. Categories and emerging themes were discussed between researchers via documented face-to-face or videoconference meetings. Once final themes and sub-themes were identified and consolidated, relevant participant quotations were selected to help to determine each theme.
Themes with findings	**Theme 1: Mismatch Between Perceived Risk and Actual Risk of Hospital Falls**
	All of the participants reported feeling safer in hospital than at home. They typically attributed this to the hospital environment being modified for safety. They also felt cared for and perceived that staff were available to supervise and assist them when they were unsteady or unable to mobilize independently. One participant felt safer because they did not need to complete their usual tasks of daily living, such as cooking, cleaning and working. Most participants did not know exactly what they should do to prevent falling whilst in hospital. Over half had limited knowledge about the different contributing factors to falls in hospital. Many had only a basic understanding of factors that increased the risk of falls whilst hospitalised. “Not really [at risk of falling], no. I mean, bit generally. I guess, as I’ve come out of each surgery and been weaker, that’s probably where the risk’s at. You know, when my blood pressure was low and I thought I could walk a bit more than I could”.
	Theme 2: Patient Education Experiences Were Inconsistent
	Falls prevention education varied between participants. Different methods of falls education delivery were also reported. Less than half of the participants described receiving verbal advice or instructions from staff (usually nurses) such as using the call bell, or not rushing to mobilise. Four reported only receiving fall prevention brochures with no face-to-face discussion on how to use them or what to focus on. “I was lucky in that the person who showed me into the room went to the trouble of drawing these brochures to my attention and suggested I really ought to read them. But it seems from what I’ve heard that it’s not a general policy”. Posters on falls prevention provided advice that was followed by some participants. Some people received physiotherapy and occupational therapy falls assessments, yet for others this did not occur. Four of the 11 participants had attended a falls education group whilst in hospital. The falls education groups were most often reported to be conducted by an occupational therapist and often focused on falls prevention after hospital discharge. Two participants had home visits by the occupational therapist to identify hazards and recommend environmental modifications for their home post-discharge. There were also inconsistencies in the timing of delivery of falls prevention education. Some patients were given falls education brochures on admission or prior to discharge yet had no explanation from clinicians regarding the content or how to apply the information. Many participants recognized the inconsistency and preferred the provision of standardised falls education.
	Theme 3: Empowering Patients to Prevent Their Own Falls Whilst in Hospital Was Valued
	Empowered patients within the focus groups appeared to be more receptive and willing to adhere to falls prevention education whilst in hospital. A history of strength and fitness seemed to predispose many participants to understand the importance of exercise in reducing falls. Prior experience of an active or healthy lifestyle was perceived to promote recovery and rehabilitation. Staff modelling of safe behaviour also allowed participants to identify hazards and increased their mindfulness of falls risks. Other factors that promoted empowerment included insight into their physical status associated with their medical condition, knowledge about consequences of a fall, reminders such as posters and pamphlets, and participation in group falls education. “One thing that … did influence my behaviour in this hospital was the signs up saying that shoes are safer than socks. So as a result of that, when I get up in the night to go to the

Study	Heng 2021[6]
	toilet … I put these slip-on shoes on rather than walk across in my socks. And that was a direct result of seeing that educational material posted up here". "Having just had a hip replacement, I'm very, very conscious of the dangers of falling so I'm always making sure I'm conscious where I'm putting my feet".
	Theme 4: Poor patient knowledge was a major barrier to falls prevention
	There were several perceived barriers to patients understanding their risk and preventing their own falls whilst in hospital. Knowledge deficits about falls prevention were a major barrier that could potentially be addressed with education. Four participants were reluctant to interrupt or burden staff by calling for assistance when they needed to mobilize. One person felt that supervision or assistance was unnecessary and had a misperception that they were independent despite significant disability. For some, reduced motivation, and poor understanding of the importance of exercise were barriers to engagement in strength and balance therapies to help reduce falls. Over a third of participants reported poor retention of previous falls prevention education or a gap in their knowledge about risk factors. One younger adult explained that falls education was not relevant to her because she thought she was not at risk of falling. Some older participants perceived falls to be inevitable with aging. Therefore, they did not always prioritize falls prevention practices. "I believe that aging, in itself, as you get older, quite a number of people start losing their balance, apart from other causes, just getting old is a part of it".
	Theme 5: Individual Preferences for Educational Delivery Mode Varied
	The participants reported individual preferences for the content and way in which education was delivered. Most people expressed a desire for consistent messages from all staff and for education to also be tailored to individual needs. "I think the trouble is, in any sort of organization, the people who have the information and know what should be done, it's so obvious to them and they understand it so well, that they don't necessarily realize that the people who need it don't know it all and have never heard of such a thing". For the content of falls prevention education, many participants preferred to know more about the consequences of falling, what to expect and do post-operatively, strategies to manage falls and options for information while hospitalized. Some wanted more direction on how to consult physiotherapists, nurses, and occupational therapists for information. Six participants advised that having falls prevention reminders such as posters and resources would be helpful. Small group interactive education was recommended by some people as a useful way of receiving falls prevention education.
1. Limitations and applicability of evidence	The researchers followed clear methods to ensure the validity and rigour of their qualitative analysis. The researchers detailed their professional backgrounds and explained they were unknown to the participants. The researchers provided an in-depth analysis of the themes that emerged in participants' focus groups, however some themes seemed to overlap. The inclusion of questions that directly relate to the review protocol, and a research aim clearly in line with the current topic and focused on information and education needs, makes this evidence highly applicable. However, it is only applicable to hospitalised inpatients. The study was based in 2 private hospitals in Australia so may not be directly applicable to an NHS hospital.

Study	Hill 2023[7]
Aim	To explore the knowledge of older consumers regarding preventing falls in hospital and their reflections on the education received during hospitalisation.
Population	Twenty-two older consumers and eight carers in two areas of the Perth metropolitan region participated in three focus groups, and a further 16 participants, (including one carer), completed an individual semi-structured interview. Inclusion criteria were having a history of being admitted to a hospital, having experiences related to falls, including falls in hospitals, being able to provide informed consent, communicating in English and being 65 years or older. Purposeful sampling was used to recruit community-dwelling older adults and their caregivers. Potential participants responded to the advertisement by phoning or emailing the research team, who presented written information about the study and obtained informed consent. n=37; Male: 13, Female: 24; Age: 60–64 =1, 65–69 =4, 70–74 =9, 75-79 =14, 80–84 =5, 85–89 =4 Fall or almost fall in hospital: yes: 7, no: 39; fall at home in the previous year: yes: 25, no: 21 Strata: hospital (participants are currently based in the community but study is focused on experiences in hospital)
Setting	Community-dwelling older adults from Western Australia who had a history of being admitted to a hospital, and having experiences related to falls, including falls in hospitals.
Study design	Focus group and semi-structured interview study
Methods and analysis	Exploratory, descriptive qualitative approaches entailing focus groups and semi-structured interviews were used to address the aim. The study was guided by the Capability-Opportunity-Motivation-Behaviour model (COM-B). Participants were given the choice to attend a focus group or a one-on-one interview either in person at a designated quiet, private location within a community centre or online using Microsoft Teams application. Focus groups lasted two to three hours and included three to ten participants. Two to three researchers facilitated each focus group with shared moderation and observation, with the observer taking notes. One researcher conducted individual semi-structured interviews, which took 45 to 60 minutes. Interviews and focus groups used a discussion guide that was followed to facilitate and steer the conversation. The researchers were experienced health professionals, all had research training, and two had educational qualifications. All researchers had worked directly with older people in research projects for at least 15 years, and one of the researchers was an older adult. The researchers conferred throughout, and interviews ceased when they agreed that data saturation had been reached, with no new data being generated and data gathered fitting into previously described themes. All qualitative data were audio recorded, transcribed verbatim and managed using NVivo (QSR International Pty Ltd.). Transcripts were manually checked by two researchers for accuracy and completeness. Thematic analysis using an inductive approach generated themes regarding people's falls knowledge. A six-phase guide to reflexive thematic analysis was followed: familiarity with the data set; generating initial codes; searching for themes; reviewing candidate themes (and producing a 'thematic map'); defining and naming themes, and producing the analytical report presented here. A deductive approach was used to code responses by theme and

Study	Hill 2023[7]
	assigned to the pre-determined COM-B model themes of capability, opportunity, and motivation. Subcategories with similarities were grouped within each generic category and then grouped under higher-order headings to reduce the number of categories through the collapse of like and unlike categories. Analysis began during the data collection phase to support decision-making regarding sampling and saturation. Several steps were taken to enhance the rigour and transparency of data collection and analyses, as well as documenting the active engagement of the researchers with the data – in line with the reflexive thematic analysis approach.
Themes with findings	**Distress and disempowerment caused by falls**
	Sub theme: Falls are a distressing experience Participants personal or family experiences of falls in the hospital engendered feelings of physical and psychological distress. Older consumers vividly recalled the heightened trauma of the fall. One participant recounted her anguish from a fall she experienced whilst awaiting surgery, stating, "…I was told that we'll [staff on the ward] give you a couple of really strong pain pills…that was fine, and I went into bed. Then I got up from bed again to go to the toilet…when I was coming back, I had a fall…near my bed…and hit my forehead on the ground" (P11).
	Sub theme: Falls can result in disempowerment and helplessness Many consumers described experiences of disempowerment and limited autonomy after a fall or when trying to prevent themselves from falling during their hospital stay. One participant described having his movements restricted after sustaining a fall in the hospital, "I had a fall trying to get outta bed, uh, on, on the first night… uh, and they used a, a hoist to get me up off the floor and then put an alert mat on the bed…so I wouldn't get out of bed again" (P14). Another participant described feeling disempowered and uncared for while trying to mobilise safely. "I needed to get out to the toilet…and I could not feel a bell anywhere. And when I said that next morning, they said, oh, it just fell off. It was on the floor…to make things worse, I could hear a few [staff]…. laughing and talking and carrying on … and nobody even found the bell on the floor for me" (P11).
	Uncertainty about how to behave safely while in hospital
	Sub theme: Unfamiliar, busy hospital environments and risk of falls Participants described how the opportunity to engage in safe behaviour was compromised due to unfamiliarity with the environment and personal context. Multiple consumers perceived that ward environments were consistently busy and hence not conducive to personalised assistance even when patients thought it was required. "From my experience, when they're doing handover, seven o'clock in the morning usually if you needed help, there was no point ringing the buzzer 'cause they weren't gonna come" (P14). Staff behaviour on the ward was also perceived to impact directly on patient safety.
	Sub theme: Medical problems impacted negatively on capability Consumers perceived they were not always physically or psychologically capable of safely engaging in their care while in hospital. "I was off my game at the beginning after being admitted" (P16). Another participant stated, "…I had no idea what day of the week, much less the month or date" (P32). One participant described the problem of being dizzy when unwell, stating that "...one of the things that does happen is people have reached for their walking aid and slipped over. Yeah, too dizzy" (P34).
	Sub theme: Feeling deterred from seeking assistance Motivation cues were described vividly by most older consumers as deterring them from seeking assistance. Participants' strong perceptions were of staff being 'too busy to help' and some patients expressed feelings that their needs were of low priority for staff attention. One participant reflected that "…you press the bell, you wait your turn, because the nurses have got other jobs to do, you gotta wait" (P30) and another stated, "…I mean

Study	Hill 2023[7]
	they do their best, but having been in there… (I) know how many times that bell gets ignored" (P13). Older consumers consistently identified an apparent paradox between needing help and seeking help, confusing them about how to remain safe on the ward, with one stating: "I know that people are hesitant to call a nurse in hospital because nurses are busy" (P33). Some participants were aware that lack of staff assistance was compromising their safety. "I was told if I wanted to go for a walk to ask for it, but the staff is so short that they're helping me walk around when somebody else really needs treatment, so you don't do it and you just struggle on your own" (P13). Overall, consumers expressed an understanding that staff tasks might lead to limitations in interactions and timely assistance. One consumer stated "…I appreciate the nurse's job is they don't have a moment to spare…they work very hard" (P5).
	Sub theme: Feeling compelled to engage in unsafe behaviour Untimely responses to ringing the call bell for assistance, particularly for going to the toilet, was viewed as being forced to take action (no choice) alone, even if the consequences were detrimental to safety, creating a 'detriment versus dignity' situation. Participants emotionally described undignified toileting experiences. One participant stated "...I don't know, but having a pee or poo in your pants isn't a great feeling. Absolutely not! It's so degrading" (P14). Another explained her frustration: "It doesn't make sense to me, if you ring the bell for the toilet and they don't show up for half an hour…What do you do? completely lose your dignity?" (P11).
	Inadequate education to develop capability and motivation
	Sub theme: Surprised to hear that falls prevention is important when in hospital Participants were consistently surprised to be asked about their recall of receiving hospital falls education. Multiple participants in at one focus group table stated emphatically (with nodding from all participants) "No" (P2) or "Not me" (P6). One interviewee stated, "I don't recall anything to do with falls at all" (P28). Another participant reflected "…I spent all this time in hospital...I didn't see one thing about falls. Nobody even spoke to me about falling, so I wasn't aware that it was an issue" (P13). One consumer summarised their falls education experience over multiple hospital admissions by stating, "…I don't think it [how to prevent falls in hospital] was explained very well. And I was back and forth to the hospital for about a year" (P20).
	Sub theme: Sporadic information or education about falls prevention A few participants recalled specific information about falls being provided with variation in the content and quality. Participants who received verbal falls prevention information from a health professional described it as a highly positive experience that had assisted their safe behaviour. One consumer recounted what the physiotherapist had said, "…I want to explain to you what you can and can't do right from the beginning. The hospital physio was very good…very clear" (P20). Another participant recalled being given clear instructions about ringing the bell for assistance, stating "…[staff] did say if I felt I wasn't able to do it [get up safely] to buzz them and they would come and assist" (P31). Participants' experiences of educational falls prevention resources in hospital, such as signs, charts or brochures to assist them being safe were mixed, with one stating "…the information [provided] in hospitals is a bit overwhelming" (P34), while another participant stated "…there was an information book at the bedside" (P16).
	Sub theme: Need to raise consumers' awareness about falls in hospital Participants spontaneously extended their reflections to describe the dangers of older patients' heightened risk of falls while in hospital and were cognisant of the need for more direct awareness raising. "The self-realisation or whatever you need to do... I just think that would not be occurring for people…they just would assume they felt OK before they came into hospital. They've felt OK lying in bed and…they don't factor

Study	Hill 2023[7]
	in the medication or the sedation or anaesthetic or whatever" (P34). This reflection was supported by other participants who commented, "…sometimes after, well a stroke or maybe even after surgery or some illness. patients often overestimate their ability to move…which is dangerous" (P14). One consumer expressed that there was a mismatch between staff and older patients about the need for help with more overt communication required. "I sort of think expecting people to know they need help is the biggest problem… older patients have to be told you cannot get out of bed without help for the first 24 hours or something" (P34).
	Sub theme: Prior learning as an older adult Participants' knowledge and decision-making about reducing their risk of falls in hospital was predominantly based on their prior learning from experiences about falls as an older adult in the community. Nearly all participants expressed some knowledge that contributed to their current capability to engage in falls prevention. A participant commented that he had learned how important it was to be careful at night, "Because it's a dark room you'll be more conscious of the fact. you could hurt yourself and be more careful" (P5). Another recounted her safe actions at home: "I can't rush as much as I used to…to dress, I have to sit and then put on my clothes" (P19). Other participants were cognisant of falls being a problem associated with ageing. "I'm very aware that I'm not as stable as I'm used to be and so I'm probably overcautious…" (P31).)". One participant expressed a view, that as an adult learner, older patients should take personal responsibility for falls prevention "I couldn't help thinking it was just a bit one-sided… fall prevention is always the patient's responsibility and I know that the staff wouldn't think that, but it's gotta start with yourself." (P32).
	Communication is inadequate
	Sub theme: Inconsistent and confusing communication Multiple participants spontaneously expanded their reflections about receiving inconsistent falls prevention education and their confusion about how to behave while in hospital to suggest that an underlying problem in hospitals was inadequate communication. Feedback included not being listened to and not receiving relevant and important information. One patient described her feelings by stating "you press the button, but you have no way of letting anyone know that you're desperate…" (P23), while another stated that the main problem was "…not being given any information, not being told what was going on…" (P11). One participant commented that "…when I went into the ward, the information was important, but was behind the patient's head on the wall so the patient couldn't see it!" (P34). Another patient expressed frustration at her knowledge being ignored, stating "…nobody would listen to me because they didn't have the paperwork – it was not sent from another hospital so they wouldn't listen…" (P3).
	Sub theme: Essential safety information not presented Inadequate communication included relevant safety information not being explained to the patient. An older consumer recounted how there was a bedside communication board to promote safe assistance, but it was not useful because staff did not keep it updated. "…it was in the ward...and the nursing staff is supposed to write on it - who's looking after you and comments – but it never got used …. nobody paid any attention to it" (P13).
	Sub theme: Family exclusion from conversations Family members and older consumers were strongly critical of family being excluded from conversations about care. One older person stated "I would like it if I can talk to my family, and they know what was going on. You don't have to keep the family in the dark" (P23).
	Themes not extracted as unrelated to protocol: Underlying attitudes of ageism

Study	Hill 2023[7]
Funding	The study was funded by a Research Excellence Award to Anne-Marie Hill, a program of the Western Australian Future Health Research and Innovation Fund. Anne-Marie Hill is supported by a National Health and Medical Research Council (NHMRC) of Australia Investigator (EL2) award (GNT1174179) and the Royal Perth Hospital Research Foundation.
Limitations and applicability of evidence	Minor limitations The researchers followed clear methods to ensure the validity and rigour of their qualitative analysis and the researchers provided a detailed description of their professional backgrounds and how their may have influenced the interview and analysis process. The researchers provided an in-depth analysis of the interviews and focus groups and explained how the themes were reached. The inclusion of questions that directly relate to the review protocol, and a research aim clearly in line with the protocol aim, makes this evidence highly applicable. As the study was published in 2023 the evidence is also very up to date. The study was based in a hospital setting in Western Australia therefore it may not be applicable to a UK based NHS setting. The population included family members and carers, however, as the results were presented separately it was possible to just include the views of the patients for the purposes of this review meaning it did not affect its applicability.

Study	Kerr 2023[9]
Aim	To describe older people's engagement in fall prevention strategies and behaviours recommended by their primary-care providers.
Population	12 participants, including two family members (a wife and a daughter). Half of the falls occurred in women, half in men, with an age range of 69–95 years. To recruit participants for interviews a falls prevention nurse used the incident reports to flag with the research team inpatients who experienced a fall with unimpaired cognitive ability who were suitable to interview, or an appropriate family member, and also gave them a Participant Information and Consent Form. Additional inclusion criteria included aged over 65 years and English-speaking. Participants were offered a $50 (AUD) gift card for their time. n=12; Male: 6, Female: 6; Age: Mean = 81.5 years All participants had experienced a fall in a healthcare facility Strata: Catholic private hospital
Setting	The study was conducted across two sites of a private, Catholic hospital in Australia
Study design	Semi-structed interview study
Methods and analysis	Interviews occurred over the phone and in-person. Participants were asked open questions about their history of falling, their thoughts and feelings around falls, their experience of falling as an inpatient, and the care that they received in relation to the fall. All interviews were conducted, recorded and transcribed by the first author. The transcriptions were then analysed using Braun and Clarke's steps of

Study	Kerr 2023[9]
	thematic analysis (Braun & Clarke, 2022). In the first phase of analysis, transcriptions were read, re-read and notes were made for potential codes. This was followed by the second phase which consisted of initial coding of the data. Finally, in the third phase, the codes were grouped into themes which were discussed by the team. The researchers (including a Falls Prevention Nurse) met frequently to discuss emerging themes to ensure trustworthiness of the findings.
0 Themes with findings	**Physical environment**
	This theme describes the recurring elements of the physical environment that appeared in participant interviews. There were several parts of the physical environment which were repeatedly discussed in participant's interviews: bathrooms, beds, and the unfamiliarity of hospitals. The majority of interview participants were on the way to the toilet and/or had a fall involving a bed. Further to these two factors, the disorientation that is felt in unfamiliar healthcare settings can be a strong contributing factor to falls as it can be experienced as strange and disorienting.
	Communication
	Communication as a theme covers the ways which messages about falls prevention and management were conveyed to the participants. Three different modes of communication were raised by the participants, including a pamphlet on falls that the healthcare facility produces, the posters around the wards and communication with and between healthcare workers, for example one participant emphasised the presence of posters, ‘everywhere it says ‘call, do not fall” (Diedre). Participants clearly valued communication but found it lacking in certain regards. Several participants stated that healthcare professionals had not talked about falls with them: Interviewer: You did not think the staff talked to you at all about[falls]; Patient: They did not talk to me. (Matthew, 95, Man).
	Perceptions of risk
	This theme covers participants' perceptions relating to both past and future risk of falling. For the majority of participants, they did not consider themselves a high risk, and many expressed that they did not think about falls: I did not consider myself a high risk of falling…Until I was admitted to hospital in [the city], I was reasonably mobile with the assistance of my wife, by which I mean, with her beside me, but able to mobilise quite independently. (Jim, 69, Man) This was even the case for a man who had multiple falls in the com- munity, including an incident when he fractured his ribs. He stated that he had not thought about it because he was ‘trying to pretend I'm not getting old’. (Paul, 77, Man). A few participants were more cautious, and clearly articulated risk mitigation strategies that they had (e.g. use of aids and supports, taking things slowly, assessing the environment):I learnt how to cope with it and I knew that I could not change directions quickly, so I would not change directions quickly, so I worked with it, worked with my balance. (Barbara, 70, Woman). Most participants who acknowledged their risk were living with long-term conditions that affected their mobility and balance (e.g. Multiple sclerosis, Parkinson's disease). Participants consideration of risk was influenced by the following themes of ageism, feelings towards the fall, and independence and dignity (e.g. Viktoria took ‘un-necessary risk’ to maintain independence). Risk as related to ageism is shown by Paul as quoted above, despite repeatedly falling, was denying falls risk because he associated it with ‘getting old’. Further, whether someone was affected emotionally or not by the fall could influence the degree to which they considered themselves at risk, for example, one participant through being dismissive of the significance f the fall (which included a head strike), downplayed her level of risk: Well, I did not think it was very much at all, as far as I was concerned, the fall wasn't much, so

Study	Kerr 2023[9]
	that was it.(Lillian, 82, Woman). Such reactions to falls may represent a way of coping with the fall and protecting oneself from ongoing negative emotional responses.
	Independence and dignity
	The final theme relates to the important personal senses of independence and dignity, which were seen as connected (i.e. to have dignity one must do things for oneself independently). Participants made many comments which indicated the high value of ongoing independence. Participants acknowledged that the nurses were in a position of authority (that is, telling them what to do) and they were in the position of choosing whether to obey: I wanted to go to the toilet and I had instructions to call, and get someone to go with me when I went to the toilet, not to go by myself, right, um, and, it was about two o'clock in the morning and I wanted to go to the toilet, I rang the bell, and I did not have the patience to wait so I got up to go, um, the male nurse arrived on the scene just after I fell, but, you know, that was just after the fall, but, yeah, I say it's my fault because I should not have been there.(Thomas, 79, Man). However, it was clear from participants that it was not as simple as just being 'non-compliant' with nurses' advice—sometimes it was the choice of doing what the nurses said (calling for help to go to the toilet) or maintaining dignity (not being incontinent). This is exemplified in the following quote: The knee swelling is still huge and I'm not getting the exercise that I should've had, and so, because they just stopped everything then, and would not let me get up to the toilet by myself, but I was getting up to the toilet by myself prior to all that, this fall, they told me not to, but I was, because, it's not their fault, you ring the bell, they are so busy, and if you wait for that bell, you have weed yourself, you know? Because, you get out, you sit here, you wait awhile, a couple of times I've put it on, like they have said, and I've gone in there and back before they have known, but I know you are not supposed to do that. (Sally, 81, Woman). Another important point raised by participants within this theme is that older people do not want to be a burden or 'put people out': I've always been a very good patient, I never bother anybody, I never want anyone to come and help me, as long as I can handle it, I'll handle it. (William, 86, Man). The desire to not be a burden may be related to maintaining a sense of dignity, that is, when you become a burden on other people, you may experience a sense that your worth in society has diminished.
	Themes not extracted as unrelated to protocol: Explanations, Experiences of care, feelings towards the fall, ageism
Funding	NR
Limitations and applicability of evidence	Severe limitations The researchers did not describe methods in any detail. Patients were offered €50 to participate in the study which can lead to sampling bias. The researchers did not provide insight into how their relationship with the participants may have influenced the interview and analysis process. There was a lack of overall details explaining how the interviews were conducted or how themes were reached. The overall aim and interview questions related to the review protocol but were not specific to information needs. This study was based in a private catholic hospital in Australis so may not be directly applicable to an NHS setting. The study also took place in 1993 so inpatient care, pharmacological treatments and mobility aids etc have likely changed significantly since then and may not be fully applicable. The population included family members and carers, however, as the results were presented separately it was possible to just include the views of the patients for the purposes of this review meaning it did not affect its applicability.

Study	Kippenbrock 1993
Aim	To identify falls risk factors from the patient's point of view
Population	Subjects consisted of elderly patients hospitalized in a large Midwestern acute care hospital. Patients who fell were identified by a computerized incident reporting method. Nineteen patients were interviewed during a 4-week period. The patients were located on 12 medical surgical units in the hospital. There were 11 males and 8 females in the fall sample, and their ages ranged from 60 to 85. n=19; Male: 11 Female: 8; Age range: 60-85 years Strata: community based
Setting	12 medical surgical wards in a midwestern acute care hospital in the USA
Study design	Qualitative interview study
Methods and analysis	Interviews were conducted within 48 hours of each patient's fail. Open-ended questions were directed to the patient's perceptions of the fall, the factors related to the fall, the outcomes, such as descriptions of injuries and treatments, and suggestions for preventing falls. The consent of each patient was received before the interview. The patients' records were reviewed, and observations by health care professionals were solicited to validate the interviews and confirm the risk factors
Themes with findings	**Confusion**
	The most frequent risk factor identified by the elderly patients who fell was confusion, which occurred 10 times or with 53% of the patients. Confusion was identified by the patients with statements such as, "I get mixed up," "I get confused," or "My memory is bad." Two cases of dementia were confirmed on the chart by the physician. Many of the patients in this study experienced intermittent episodes of confusion. Of the confused patients, 4 of the 10 patients (including the two identified with dementia) did not recall falling. Several of the confused patients fell during the night shift. Perhaps, the darker environment, not being fully awake, and decreased interaction with personnel contributed to a confused episode. As one patient said, "I think I'm home." Frequent falling was also a problem among the confused patients. Two of the three patients who fell twice during their hospitalization had a risk factor of confusion. One of these patients also had a fall history documented on admission. The other patient in the sample with a documented fall history identified confusion as a factor in his falling while a patient. The potential for injury was very high for the confused patients in this study. One patient was found out of bed with his arm stuck between the mattress and siderails, half sitting on the floor.
	Cardiovascular diagnosis/mobility of lower extremities
	Two risk factors tied for the second highest occurring risk factor in the sample group: a cardiovascular medical diagnosis and decreased mobility of the lower extremities. Eight patients, or 42% of the group, had a cardiovascular diagnosis. Because most of these patients were taking antihypertensive medications, there is the possibility that orthostatic hypotension was a cause for falling. A comment by one patient included, "The nurses told me not to get up alone, but I thought I'd be OK.".

Study	Kippenbrock 1993
	Eight elderly patients, or 42% of the sample, had decreased mobility of the lower extremities, and six of these patients used some kind of walking aid. Four used a walker, one a wheelchair, and one a cane. However, two male patients were not using walkers at the time of their falls. One of these patients left his walker at home and the other, also identified as being confused, had only been using a walker for 2 days and was not using it when he fell. Patients' comments included, "I fell at home, too" and "I should have known better and called the nurses. I do better with my walker. My wife's bringing it."
	Orthopaedic diagnosis
	Decreased mobility of the lower extremities was closely related to the risk factor of an orthopaedic medical diagnosis. The five patients, or 26% of the sample group, identified as having an orthopaedic diagnosis also had decreased mobility of the lower extremities. Diagnoses included two patients with left leg amputation, one with a fractured hip, one having had spinal surgery, and one with degenerative joint disease.
	General weakness
	The fourth highest occurring risk factor was general weakness, which occurred six times, or with 32% of the patients. These elderly patients found when trying to get out of bed or attending to elimination needs that they were weaker than they anticipated. One of these patients also had a cardiovascular diagnosis. Comments included, "My legs were weak, and I sat on the floor" and "I guess I didn't know how weak I was."
	Elimination needs
	The last risk factor, elimination needs, never occurred in isolation. Falling while attending to elimination needs occurred in five patients, or 26% of the sample. Three of the patients identified weakness as an additional factor to their falling, one had an orthopaedic diagnosis, and one was confused. Four patients fell going to the bathroom or in the bathroom. One patient fell attempting to reach the bedpan in the bedside stand. A comment made by a patient included, "I guess I didn't know how weak I was. After using the toilet, I grabbed the sink and my chest hit a plastic wastebasket." Another patient said, "I got up to go to the bathroom and the next thing I knew I was down."
	Other factors
	Less common risk factors were also identified by the interviewers. One elderly patient had a diagnosis of cancer, and another was diagnosed with depression. One patient had a history of alcohol abuse, another who fell had an intravenous catheter in place, and one other patient was blind in one eye. Fall injuries and related treatments are worth noting. The treatments consisted of cleaning the abrasion, and one patient had skin closures applied above the eyebrow. During the interviews, the patients described some of the above injuries. One stated he fell but did not hurt himself, and another complained of a sore back. When asked how to prevent future falls, a common theme of asking for help prevailed. Comments included: "I call the nurse now," "I should have asked for help. When I put on my light, they come right away," and "It was my fault. I know I need help to get up now." Other patients described how to keep their independence while preventing future falls. One patient who fell when trying to reach his bedpan stated, "I could keep the bedpan in bed with me." Another patient stated his wife is bringing his walker from home for him to use.

Study	Kippenbrock 1993
Limitations and applicability of evidence	Severe concerns. The researchers did not describe sampling procedures or methods in any detail. There was no information on analysis methods or how the themes were reached. The researchers did not provide insight into how their relationship with the participants may have influenced the interview and analysis process. There was a lack of overall qualitative detail in the themes, and these mainly consisted of brief statements regarding the risk factors patients presented with. The overall aim and interview questions related to the review protocol, but the themes derived from these did not provide great detail of patient insights and therefore this evidence was only partially applicable. This study was bas4ed in acute medical wards in a hospital in the USA so may not be directly applicable to an NHS setting. The study also took place in 1993 so inpatient care, pharmacological treatments and mobility aids etc have likely changed significantly since then and may not be fully applicable.

Study	Shuman 2019[15]
Aim	To describe recently hospitalised older adults' perceptions about: (a) their overall risk for falls, factors contributing to fall risk, and actions they can take to prevent falls at home; (b) information they received at discharge to prevent falls at home; and (c) their awareness and perceptions regarding the usefulness of three CDC STEADI older adult fall prevention brochures (Check for Safety, Stay Independent, and What You Can Do to Prevent Falls).
Population	Participants were recruited from three adult medical-surgical floors in a 450-bed community medical centre located in Michigan. Inclusion criteria were individuals (a) ≥65 years old; (b) identified as moderate-to-high risk for falls during hospitalization (defined as a Morse Fall Scale score ≥25; Morse, Morse, & Tylko, 1989); (c) discharged to home; (d) English speaking; and (e) able to participate in an interview within 4 weeks of discharge from the hospital. Patients were excluded if they were deemed confused (i.e., delirious) as determined by the Confusion Assessment Method (CAM) screening tool (Inouye et al., 1990), or had a history of dementia documented in their medical record. n=9; Male: 3, Female: 6; Mean age: 77 years (SD 5.15); mixed medical diagnosis; 100% community-based post hospital discharge; ethnicity: 100% Caucasian.
Setting	Three adult medical-surgical floors in a 450-bed community medical centre located in Michigan
Study design	Qualitative interview study
Methods and analysis	Data were collected January through June 2017 via face-to-face interviews (lasting 45 to 60 minutes) conducted by the primary author using a semi-structured interview guide with open-ended questions. The interview guide was reviewed and critiqued by two external nurse scientists and pre-tested with volunteers for completeness, accuracy, and flow. At the end of the interview, participants were shown three no-cost brochures from the STEADI Initiative of the CDC (2017). The study team selected the brochures because of their relevance to the respondent population and applicability to the post-discharge period.

Study	Shuman 2019[15]
	Interview audio recordings were transcribed verbatim by two members of the research team. Transcriptions were then read twice and checked for accuracy against the audio recordings prior to data analysis. Data were analysed using constant comparative methods (Corbin & Strauss, 1990; Glaser & Strauss, 1967). Four investigators individually performed initial coding to identify minor themes. Minor themes were then compared and discussed until consensus was reached. Next, the investigators individually organized minor themes into major themes. Major themes were then compared and discussed until consensus was reached. Trustworthiness was established through credibility (peer debriefing, member checking during interviews, and prolonged engagement); dependability (inquiry audit); and confirmability (reflexivity).
Themes with findings	**Avoidance and Caution as Fall Prevention**
	Avoiding potential fall situations. Participants reported using avoidance and caution as first-line fall prevention strategies. Having something nearby to hold onto or grab in case of a fall was reported by participants as important for avoiding and preventing falls. Participants recalled experiences of "almost falls" and stated that walls, furniture, sinks, door and window frames, and grab bars gave them something to hold onto, preventing a fall to the floor. Participants stated that they avoided situations and obstacles that may contribute to a fall. As one participant remarked, "I don't get on steps too often without somebody holding me."
	Being very careful. A second fall prevention strategy reported by many participants was the use of caution, such as heightened awareness of surroundings, and being careful when walking. One participant stated: I watch where I walk. I'm walking real cautiously and kinda touching the wall…You have to watch where you are walking and the unevenness of the cement and things, and even getting out of the car, are you stepping on a fl at surface or is there a little curb.
	Limited Fall Prevention Information During Transition from Hospital to Home
	No falls information received at discharge. Participants were asked about information provided to them at discharge regarding falls and fall prevention. Some participants reported in-hospital fall prevention activities, including bracelets given to patients at risk for falls and nursing staff support with ambulation, transfer, and toileting for at-risk patients. However, one respondent reported use of self-reliance to prevent falls while hospitalised, rather than engaging in hospital prevention strategies (e.g., nurse-provided ambulation assistance): [The nurses told me] be careful. Don't fall. [But] I do it [fall prevention] on my own. I take my time and do what I have to do to keep from falling…using the IV [intravenous] pole to push myself to the bathroom and hang onto the bed to get to the bathroom…hang onto the door and then you got rails inside the bathroom, so I hang onto the rails. When asked about the day of discharge, none of the participants recalled receiving written or verbal general information regarding falls or their own personal fall risk. In addition, some participants reported that they did not read the provided discharge materials. One participant stated, "I don't recall anybody talking about falls…I think it would probably be a good idea to bring it up."
	No awareness of Centres for Disease Control and Prevention (2017) STEADI materials. At the end of the interview, participants were shown three brochures from the CDC STEADI Initiative. None of the participants reported previously seeing these brochures, making remarks such as: "I haven't seen any of these; I'm surprised." However, upon review, participants found the brochures to be helpful and wanted to use them, particularly Stay Independent and Check for Safety. Regarding Stay Independent, one participant stated: I think rating your risk factor is important because maybe you think you are low risk and

Study	Shuman 2019[15]
	you did a little quiz like that and you find out, well I'm really not, so I think that partly would be helpful, I think they need to address it, period. Regarding Check for Safety, another participant remarked: This is very helpful too, very helpful. I think they should give all these to people when leaving the hospital, I really truly do, because I mean they are going to be more prone to read something like this than the discharge papers.
	Themes not extracted as unrelated to protocol: Sedentary Behaviours and Limited Functioning, Prioritization of Social Involvement, Low Perceived Fall Risk and Attribution of Risk to External Factors
Limitations and applicability of evidence	Minor concerns. The researchers followed clear methods to ensure the validity and rigour of their qualitative analysis. However, the researchers did not detail their professional backgrounds or provide insight into how this may have influenced the interview and analysis process. The researchers provided an in-depth analysis of the themes that emerged in participants' interviews. The inclusion of several questions that directly relate to the review protocol, and a research aim makes this evidence applicable. However other questions were not directly related to the protocol and focused on participants perceptions of their overall fall risks so have not been extracted for this review. This study was based in the USA included only 9 patients who have been discharged from hospital to a community setting. This may not be directly applicable to an NHS setting.

Care home

Study	Bergeron 2018[1]
Aim	To explore how older women living in continuing care retirement communities (CCRCs) engage in shared decision making about their health and independence after experiencing a fall. To learn more about who they consult, why they consult them, and the kind of communication that occurs during these decision-making consultations.
Population	Inclusion criteria were English-speaking women, 65 years of age or older, who presented no evidence of cognition and memory issues as assessed informally by CCRC staff, and who had experienced a fall within the previous 6 months that resulted in at least a minor injury, such as a bruise, a cut, or pain that limited their activities for at least 1 day. Five participants were recruited through flyers and formal presentations, and by word-of mouth. At one CCRC, a staff collaborator recruited 12 participants who met the eligibility criteria and were willing to participate. No differences have been detected in participants depending on the method of recruitment. Each individual provided written informed consent and at the conclusion of each interview, each participant received US$30 (cash or an equivalent-value gift card) in recognition for her contribution to the research. The study sample consisted of 17 primary informants and 11 secondary informants. Only the views of the primary informants were included in this review.

Study	**Bergeron 2018[1]**
	n=17; Male: 0, Female: 17; Mean age: 88.9 years (SD 3.9), ethnicity: white: 100%, 1 fall in past 6 months: 100% Strata: continuing care retirement communities
Setting	Two CCRCs in the southeastern United States
Study design	Qualitative semi-structured interview study
Methods and analysis	Interviews were conducted between December 2013 and June 2014. Primary informant interviews ranged from 30 minutes to 120 minutes (mean = 60 minutes; SD = 23.11). Separate semi-structured interview guides for the primary and secondary informants were used. Following pilot interviews, minor adjustments to the format and wording of the interview guides were made. Interviews were conducted in person, in the older women's homes. They focused on the women's post-fall decision making, the type of information or advice they sought or received from others, and the perceived credibility and trustworthiness of these information sources. At the conclusion of the primary informant interviews, a 10-item demographic survey (e.g., year of birth, race, marital status, education) and questions about the informant's fall (e.g., location of most important fall, injuries experienced) was verbally administered. To ensure complete and accurate data recording in case of recorder failure, each interview was audio recorded using both a digital recorder and an audio recorder on a cellular telephone. Employing grounded theory coding techniques, multiple investigators individually performed line-by-line, inductive, open coding of the same two interviews. The coding team then met compared the initial open codes, discussed variations in focus, content, and interpretation, and collaborated on the creation of an initial coding scheme. Examples of initial codes included direct and indirect decisions, type of advice provided, roles in decision making, decision-making barriers faced, and decision-making processes. Subsequently, the primary analyst uploaded this initial coding scheme and all transcripts into the computer software NVivo 10, which facilitated data management. As the analysis progressed, other codes and categories emerged, and similarly coded texts were sorted and compared within and across codes. An axial coding process was used, and all transcripts were reviewed to distinguish variations within and across each category and eventually three broad themes were identified. When subsequent re-readings did not yield any distinctly different analysis categories, it was agreed that data saturation was reached.
Themes with findings	**Openness to reliance on other** Women who appeared to have been quite independent prior to experiencing a fall (i.e., they walked by themselves, made their own beds, and attended social events without requiring direct assistance from others) reported not relying on others in making post-fall decisions. Some decisions (e.g., deciding to "be more careful") were not particularly difficult to make and did not require others' input. However, some participants reportedly maintained a deliberate stance of independence related to their post-fall decision making, even when involving others in the process would have been helpful. Women who reported being open to others' participation in their post-fall decision making recognised the need for advice and valued input and support from others. For example, Mrs. Jones related that she obediently followed her doctors' orders: "I don't do anything unless my doctor tells me. She tells me what medicine to take and when I can exercise." Others, like Mrs. Smith, readily admitted to trusting and following their adult children's advice: "My daughter tells me what to do. [Laughing] I mean I

Study	Bergeron 2018[1]
	usually do what she says." Several participants' responses indicated that although they might solicit or receive others' opinions and advice, they clearly maintained the power to make their own decisions.
	Assessment of information sources
	These older women reported having assessed both the information source (i.e., family member or professional) and their credibility. They tended to perceive professionals as credible, trustworthy, and knowledgeable sources of information. Perhaps because of their more formal relationship with the clients, the CCRC staff or health care professionals reported conversations in which they actively listened and made suggestions: "I've told her to do what she feels like doing. If it hurts, don't do it and if she feels like doing more, do a little more, but to rest when she needs to rest." Participants' accounts of their post-fall communication with professionals portrayed interactions that were direct and clear in which the interactants adhered to more prescribed, formal roles, and communication patterns, such as asking for and receiving specific information or advice. In general, women described trusting the professionals with whom they regularly interacted and relied on them for aspects of their post-fall decision making: "They're professionals; they knew what they were doing." In contrast, they perceived family members as available, helpful, and trustworthy sources of information, but not necessarily the most credible sources of information in terms of post-fall decision making. Family members with formal education and training in a relevant field were an exception: "My daughter is getting a degree in counselling and so she's pretty knowledgeable." Women who perceived a lack of credibility among information sources reported difficult interactions and dialogues related to post-fall decision making. In some cases, they admitted not having been completely open and honest with others regarding their fall, for reasons ranging from personal pride to fear of being moved to another level of care (i.e., assisted living).
Limitations and applicability of evidence	Minor concerns. The researchers followed clear methods to ensure the validity and rigour of their qualitative analysis. However, the researchers did not provide insight into how their relationship with the participants may have influenced the interview and analysis process. The researchers provided an in-depth analysis of the themes that emerged from the interviews and explained in detail how the relevant themes were reached. The inclusion of some questions that directly related to the review protocol, made the evidence applicable. However, the population included residents living in continuing care retirement communities in America which may not be directly applicable to UK community setting. The population also included family members and healthcare professionals carers, however, as the results were presented separately it was possible to just include the views of the patients for the purposes of this review.

Study	Schoberer 2016[14]
Aim	To explore residents', family members' and nursing staffs' needs and expectations regarding a fall prevention brochure.
Population	A convenience sample of residents, family members or informal caretakers and nursing staff who were able to attend a 2-h focus group were included. The specific inclusion criteria for residents were being a long-term resident (having stayed at least since 6 months in the nursing home) and having a risk of falling e defined according to the National Institute for Health and Care Excellence14 as residents

Study	Schoberer 2016[14]
	over 65 years old with a fall history and/or gait or balance disorders. Residents with mild cognitive declines were not excluded as they represent the nursing home population. Study also included the views of family members or informal caretakers and nursing staff in the focus groups but only the results from the patient population have been included. n=25 patients; Male: 7, Female: 18; Mean age: not reported; fall experience in the last year: yes: 17, no: 8 Strata: care home residents
Setting	Three Austrian nursing homes with more than 50 beds in the federal state of Styria were selected by computer-generated randomization from a ministerial database.36 The directors of the nursing homes received an invitation letter in July 2014; additionally, they were informed about the study by phone by the first author.
Study design	Qualitative focus group study
Methods and analysis	The nine focus group discussions were performed separately with residents, family members and nursing staff in each participating nursing home, between September and November 2014. A moderator (first author) and an assistant moderator conducted the focus groups. The moderator, a former geriatric hospital nurse, was experienced in conducting interviews with older adults. The participants were informed about the moderators' work, but there was no relationship between the moderator or the assistant moderator and the participants beyond the focus groups' discussions. An interview guideline with opening, introductory, transition, key and ending questions was used. If fall brochures were not known, different examples of brochures (with different lengths, formats, contents) were handed out for review. When participants were talking about their experiences with falls and causes of falls, the moderator asked if these experiences would be important to include in a fall prevention brochure. The focus group discussions were electronically audio-recorded and lasted an average of 54 min (between 42 and 60 min). The data were analysed separately for residents, members and nursing staff. The recorded discussions were transcribed into an abridged transcript. A qualitative content analysis was performed by designing a concept-driven coding frame (deductive category application). The coding frame, developed by the first author, is based on fall preventive strategies and topics usually discussed in international guidelines and layout dimensions mentioned in appraisal tools for brochures. The coding frame consists of main categories and subcategories, specifying relevant aspects, and values specifying the meaning. Each category and subcategory were provided with a definition, anchor examples and coding rules. The minimum coding unit was a phrase. The first focus group transcript was assigned to the categories by two researchers independently and consensus was checked. The few discrepancies were solved by discussion and the coding rules were refined. The remaining focus group transcripts were assigned to the categories by the first author and checked by a second researcher. The first author reduced the data assigned to the categories by generalization and summary (e.g. binding, integration) to the main statements. Finally, the main statements of residents, members and nursing staff were compared and contrasted and discussed between the first three authors. MAXQDA 11 was used to manage the data.
	Intrinsic fall risks, including behavioural-related risks

Study	Schoberer 2016[14]
Themes with findings	Information needs about intrinsic risk factors, behavioural-related risk factors and how to deal with them were combined because the topics overlapped. There were few statements from residents concerning the importance of information about person-related fall risk factors. Residents felt that some falls cannot be avoided, especially when one fears falling. 'When you feel that there is anxiety, it is too late. Then you are already on the floor. You cannot remain standing.'
	Extrinsic fall risks and how to remove them
	Information needs about extrinsic risk factors and how to deal with or remove extrinsic fall risks were also combined due to overlapping. Residents related many fall events due to environmental risk factors. Based on these, they recommended including advice about adequate shoes, the importance of good lighting, and using grab handles. 'Most falls occur because you are not looking carefully, or because of bad shoes, slippery shoes.' There was uncertainty about what constitutes adequate shoes. Most residents were aware of the danger of carpets and knew how to handle slippery floors. Although residents felt well informed about extrinsic risks, they found it important to be included in a brochure. 'This is the most important aspect: one's surroundings.'
	Physical activity
	For some residents, incorporating physical activity based on the recommendations in a brochure would be conceivable. Others remarked that such activities are unrealistic because of their poor health state. However, motivation to do physical activities was seen as an important element. 'Since turning 60 I have done therapy [exercise]. You have to tell people that they should do something. But not everyone wants to.'
	Medical devices
	Residents considered their walking aids as sacred. In general, they were satisfied with them and were not interested in other options since their handling was familiar. 'You have to go in such a way that you can put on the brake at any time. Never sit down [on the walker] without applying the brakes.' Hip protectors and non-skid socks were unfamiliar to residents and there was limited interest in learning more about them. They argued that nurses and family members ought to decide when medical devices should be utilised.
	Coping strategies after a fall event
	Residents found importance in knowing what they can do when a fall occurs, and they are not able to get up. They described their experiences with awkward situations.
	Structure and layout of the brochure
	There was broad consensus among the residents, family members and nursing staff that the brochure should be short and concise, with many pictures and no larger than A5 size. Residents argued that the most important facts, in large font, supported by pictures, would be useful for them. Topics that should be included in a fall prevention brochure according to residents were extrinsic fall risks, including appropriate footwear and illumination and coping strategies after a fall event.

Study	Schoberer 2016[14]
Limitations and applicability of evidence	Minor concerns. The researchers followed clear methods to ensure the validity and rigour of their qualitative analysis. The researchers explained their professional backgrounds and provided insight into how this may have influenced the interview and analysis process. The researchers provided an in-depth analysis of the themes that emerged from the focus group discussions. The inclusion of questions that directly related to the review protocol, made the evidence highly applicable. The population included residents from three Austrian care homes which may not be directly applicable to UK based care homes and it was unclear whether these were private or state funded care homes. The population also included healthcare professionals and carers, however as the results were presented separately it was possible to just include the views of the patients.

Appendix E GRADE-CERQual tables

E.1 Qualitative evidence summary

Table 8: Summary of evidence – Community environment

Study design and sample size			Quality assessment		
Number of studies contributing to the finding	**Design**	**Findings**	**Criteria**	**Rating**	**Overall assessment of confidence**
Promoting empowerment - **Focus on maintaining independence** (Khong 2017[10], Collins 2022[2], Ng 2022[12]; Vivrette 2011[18])					
4	A combination of individual interviews (3 studies) and focus-groups (1 study)	Participants highlighted that information about falls and fall prevention should remain positive and hopeful. They preferred receiving information that focused on "prevention is better than a cure" and did not use the negative element of fear to encourage change. Maintaining independence and empathising healthy agung was perceived as the key motivational strategy to reduce fall risk.	Limitations	Minor limitations[a]	LOW
			Coherence	No concerns about coherence	
			Relevance	Minor concerns about relevance[b]	
			Adequacy	No concerns about adequacy	
Promoting empowerment - **Knowledge promotes empowerment** (Heng 2021[6], Khong 2017[10], Gemmeke 2022[4], Host 2011[8])					
4	A combination of individual interviews (1 studies) and focus-groups (3 studies)	Participants suggested that empowerment can be promoted through knowledge of their physical status and risks associated with certain medical conditions or medications. Knowledge about fall risks, prevention strategies, and group falls education also fostered feelings of empowerment. Participants valued up to date practical information that was convenient and not too expensive.	Limitations	Moderate limitations[a]	LOW
			Coherence	No concerns about coherence	
			Relevance	Minor concerns about relevance[c]	
			Adequacy	No concerns about adequacy	
Promoting empowerment - **Support from social network** (Host 2011[8], Vincenzo 2022[17]; Pohl 2015[13], Vivrette 2011[18])					
4	A combination of individu	Psychosocial support from family and friends as well as the GP was instrumental for older people in preventing falls and dealing with their	Limitations	Moderate limitations[a]	LOW
			Coherence	No about coherence	

Study design and sample size			Quality assessment		
Number of studies contributing to the finding	**Design**	**Findings**	**Criteria**	**Rating**	**Overall assessment of confidence**
	al interviews (2 studies) and focus-groups (2 studies)	consequences. Participants believed that socialising and group classes helped with accountability, reinforcement and provided encouragement for maintaining preventative behaviours and promoting healthy activities. Informal networks of family and friends also played a crucial role in disseminating information among older adults and raising awareness.	Relevance	Minor concerns about relevance[b]	
			Adequacy	No concerns about adequacy	
(a) majority of studies had minor limitations, with common actors including lack of discussion of the role of the researcher					
(b) Minor concerns about relevance as the majority of studies were non-UK based.					
(c) Minor concerns about relevance as the majority of studies were either non-UK based, or from mixed strata (one or two studies was based in a hospital setting but included themes relevant to this finding in a community setting). One study was focused only on pharmacological interventions related to fall risk.					
Fear of falling and avoidance - Psychological effects of fear (Host 2011[8]; Ng 2022[12]; Swancutt 2020[16]; Khong 2017[10]; Vivrette 2011[18]; Dabkowski 2022[3])					
5	Individual interviews (6 studies)	Fear of falling, and fear of the consequences of falling had implications for older people's identity, autonomy, and independence. Fall-accidents affected participants psychologically and could result in an irrational fear of falling and prevent them from engaging in their usual activities. The impact of falls cited by participants included injuries (i.e. fractures, dislocations, or head injury) and immobilisation. Psychological effects consisted of fear, loss of self-confidence and depression following a fall. These psychological effects were seen to cause reduced social interaction, increased dependency, refusal to walk or move and reduced quality of life.	Limitations	Minor limitations[a]	LOW
			Coherence	No about coherence	
			Relevance	Moderate concerns about relevance[b]	
			Adequacy	No concerns about adequacy	
Fear of falling and avoidance - Being very careful and activity avoidance (Host 2011[8]; Ng 2022[12]; Swancutt 2020[16]; Pohl 2015[13]; Khong 2017[10]; Vincenzo 2022[17]; Heng 2021[6]; Shuman 2019[15]; Dabkowski 2022[3]; Viverette 2011[18])					
10	A combination of individual intervie	Participants reported using avoidance and caution as first-line fall prevention strategies. When asked about how they could prevent falls, participants most frequently related prevention to being more "careful." Participants stated that	Limitations	Minor limitations[a]	LOW
			Coherence	No about coherence	
			Relevance	Moderate concerns	

Study design and sample size			Quality assessment		
Number of studies contributing to the finding	**Design**	**Findings**	**Criteria**	**Rating**	**Overall assessment of confidence**
	ws (6 studies) and focus-groups (4 studies)	they implemented strategies such as not rushing, taking smaller steps, using walking aids, having something nearby to hold on to, being vigilant of ones surroundings and asking for help. Avoidance of activities and obstacles that may contribute to a fall was also regularly mentioned, as one participant remarked, "I don't get on steps too often without somebody holding me."		about relevance[b]	
			Adequacy	No concerns about adequacy	

(a) The majority of studies had minor limitations, with common actors including lack of discussion of the role of the researcher and sample size.

(b) Moderate concerns about relevance as the majority of studies were non-UK based or from mixed strata (one or two studies was based in a hospital setting but included themes relevant to this finding in a community setting). One study (Swancutt 2020)[16] included a mixed population of older adults and carers or healthcare professionals, only the themes reported by the older adults were extracted and included in this review. One study (Dabkowski 2022)[3] included a younger population of participants with some <65 years old. However, the mean age was >65 so the study was included.

Poor knowledge/ lack of information - Lack of Self-Perceived Susceptibility of Experiencing a Fall (Vincenzo 2022[17]; Gemmeke 2022[4])					
2	2 focus group studies	Older adults' perceived susceptibility of experiencing a fall often did not match their actual falls risk and their knowledge in general about falls prevention. Many participants stated they did not feel susceptible until they experienced a fall. Other participants believed that as they were healthy, exercised and/or walked a lot they were not at risk.	Limitations	Minor limitations[a]	VERY LOW
			Coherence	No concerns about coherence	
			Relevance	Minor concerns about relevance[b]	
			Adequacy	Minor concerns about adequacy[c]	
Poor knowledge/ lack of information - Lack of Falls Prevention Information from a Healthcare Provider (Vincenzo 2022[17], Vivrette 2011[18]; Heng 2021[6]; Gemmeke 2022[4]; Shuman 2019[15])					
5	A combination of 2 interview and 3 focus group studies	Although many participants were aware of and engaged in some falls prevention behaviours, the majority stated that they had not received any information about falls prevention from their doctor or healthcare professional. They often attributed this to lack of healthcare professional time and were disappointed that doctors did not	Limitations	Minor limitations[a]	LOW
			Coherence	No concerns about coherence	
			Relevance	Minor concerns about relevance[d]	

Study design and sample size			Quality assessment		
Number of studies contributing to the finding	**Design**	**Findings**	**Criteria**	**Rating**	**Overall assessment of confidence**
		routinely address fall prevention during clinical visits.	Adequacy	No concerns about adequacy	
(a) majority of studies had minor limitations, with common actors including lack of discussion of the role of the researcher and sample size *(b) Minor concerns about relevance as the majority of studies were non-UK based. One study was focused only on pharmacological interventions related to fall risk.* *(c) Minor concerns for adequacy as only 2 studies focused on this area. While these were detailed and rich in data, it is unclear whether additional studies may change the conclusions.* *(d) Minor concerns about relevance as the majority of studies were either non-UK based, or from mixed strata (one or two studies was based in a hospital setting but included themes relevant to this finding in a community setting). One study was focused only on pharmacological interventions related to fall risk.*					
Information on Risk factors - Extrinsic risk factors (Ng 2022[12], Swancutt 2020[16], Heng 2021[6], Schoberer 2016[14], Pohl 2015[13]; Collins 2022[2]; Vivrette 2011[18]; Gemmeke 2022[4] Host 2011[8])					
9	A combination of 5 interview and 4 focus group studies	Participants highlighted several environmental risk factors that people at risk of falling should be aware of including loose rugs or mats, poor lighting clutter, active pets, slippery floor and steps. They also cited the importance of wearing correct fitting footwear with a good grip, the use of mobility aids and installation of equipment such as grab rails in the home.	Limitations	Moderate limitations[a]	VERY LOW
			Coherence	No concerns about coherence	
			Relevance	Moderate concerns about relevance[b]	
			Adequacy	No concerns about adequacy	
Information on Risk factors - Intrinsic risk factors and prevention strategies (Viverette 2011[18], Swancutt 2020[16]; Ng 2022[12]; Schoberer 2016[14], Khong 2017[10], Pohl 2015[13]; Kippenbrock 1993[11]; Collins 2022[2]; Gemmeke 2022[4])					
9	A combination of 4 interview and 5 focus group studies	Participants emphasised the importance of early recognition of a fall risk and taking relevant actions to prevent these. These included improving strength and balance, learning fall strategies to avoid severe injuries, understanding physical limitations (i.e. weakness, poor balance) or medical conditions and medications that may increase risk of falls. Other strategies mentioned were having annual eye examinations, talking to the GP about falls, regular medication reviews and podiatry input.	Limitations	Moderate limitations[c]	VERY LOW
			Coherence	No concerns about coherence	
			Relevance	Moderate concerns about relevance[d]	
			Adequacy	No concerns	

Study design and sample size			Quality assessment		
Number of studies contributing to the finding	**Design**	**Findings**	**Criteria**	**Rating**	**Overall assessment of confidence**
				about adequacy	
(a) majority of studies had moderate limitations, with common actors including lack of discussion of the role of the researcher and concerns about the sample size.					
(b) Moderate concerns about relevance as the majority of studies were either non-UK based, or from mixed strata (one or two studies were based in a hospital or residential care setting but included themes relevant to this finding in a community setting). One study was focused only on pharmacological interventions related to fall risk. One or two studies included a mixed population of older adults and carers or healthcare professionals, only the themes reported by the older adults were extracted and included in this review.					
(c) The majority of studies had moderate limitations, with common actors including lack of discussion of the role of the researcher, concerns about the sample size and the rigour of analysis.					
(d) Moderate concerns about relevance as the majority of studies were either non-UK based, or from mixed strata (one or two studies were based in a hospital or residential care setting but included themes relevant to this finding in a community setting). One study was focused only on pharmacological interventions related to fall risk. Two studies included a mixed population of older adults and carers or healthcare professionals, only the themes reported by the older adults were extracted and included in this review. One study was conducted in 1993 so may not be relevant to older adults experience of falls prevention today.					
Content - Exercise and balance Viverette 2011[18], Vincenzo 2022[17]; Ng 2022[12]; Schoberer 2016[14], Heng 2021[6], Gemmeke 2022[4])					
6	A combination of 2 interview and 4 focus group studies	Despite being a well-established component of falls prevention classes, participants' views on exercise and balance training were mixed. Some perceived exercise as the most readily available fall prevention strategy and emphasised that daily exercises were important for their overall health status and for reducing fall risk. Conversely, others believed that these activities were unrealistic due to poor health state and posed a risk. Some participants were completely unaware of falls prevention as a form of fall prevention.	Limitations	Minor limitations[a]	VERY LOW
			Coherence	Minor concerns about coherence[b]	
			Relevance	Moderate concerns about relevance[c]	
			Adequacy	No concerns about adequacy	
Content - Pharmacological input Gemekke 2022[4]					
1	Focus group study	Many participants were unaware that medication use could affect falls risk. Minimal information was provided by pharmacists about the potential fall risk effects of drugs and many participants were sceptical in the pharmacists role in falls prevention. After learning about side effects of certain medications some patients wanted their medication to be	Limitations	Minor limitations[a]	VERY LOW
			Coherence	No concerns about coherence	
			Relevance	Minor concerns about relevance[d]	

Study design and sample size			Quality assessment		
Number of studies contributing to the finding	**Design**	**Findings**	**Criteria**	**Rating**	**Overall assessment of confidence**
		reviewed, however many were not interested in deprescribing.	Adequacy	Minor concerns about adequacy[e]	
Content - **Equipment and technology** Dabkowski 2022[3]; Pohl 2015[13]; Ng 2022[12], Host 2011[8], Schoberer 2016[14], Vincenzo 2022[17], Vivrette 2011[18], Gemmeke 2022[4]					
8	A combination of 4 interview and 4 focus group studies	Participants identified a number of ways to improve safety and reduce risk through the use of external aids or technology. Suggestions included use of walking aids such as sticks or rollator frames and the use of hip protectors (however, these were often used reluctantly and associated with social stigma). Several participants cited the importance of their mobile phone as a means of getting help and would not go out without one. Other suggestions included falls alarms, the use of fitness trackers to detect falls and monitor exercise and SMART phones or virtual assistant (ie Alexa) as a way to set medication reminders. One study mentioned the use of video games such as the Wii fit as a way to measure and monitor balance impairment.	Limitations	Minor limitations[a]	LOW
			Coherence	No concerns about coherence	
			Relevance	Moderate concerns about relevance[f]	
			Adequacy	No concerns about adequacy	
Content - **Getting up off the floor** Schoberer 2016[14]; Swancutt 2020; Ng 2022[12]; Vincenzo 2022[17]					
4	A combination of 2 interview and 2 focus group studies	Participants discussed concerns and strategies around getting up off the floor after a fall. Several participants mentioned identifying stable objects at home or along walks that they could use to assist getting up and practicing getting up off the floor. The importance of remaining calm after a fall was highlighted by some participants and many considered the social setting and who was with them or nearby to help. Participants agreed that care must be taken when assisting someone who is on the floor after a fall as some techniques could be dangerous and cause further injuries.	Limitations	Minor limitations[a]	Low
			Coherence	No concerns about coherence	
			Relevance	Moderate concerns about relevance[g]	
			Adequacy	No concerns about adequacy	

Study design and sample size			Quality assessment		
Number of studies contributing to the finding	Design	Findings	Criteria	Rating	Overall assessment of confidence
(a) majority of studies had minor limitations, with common actors including lack of discussion of the role of the researcher and concerns about the sample size. *(b) Minor concerns about coherence. Views on the exercise varied between participants and studies, some highlighted it as an important falls prevention strategy and others were not aware or believed it may be dangerous.* *(c) Moderate concerns about relevance as the majority of studies were either non-UK based, or from mixed strata (one or two studies were based in a hospital or residential care setting but included themes relevant to this finding in a community setting). One study was focused only on pharmacological interventions related to fall risk.* *(d) Minor concerns about relevance as the majority of studies were non-UK based. One study was focused only on pharmacological interventions related to fall risk.* *(e) Minor concerns for adequacy as only 1 study focused on this area. While, this study was very detailed and rich in data, it is unclear whether additional studies may change the conclusions.* *(f) Moderate concerns about relevance as the majority of studies were either non-UK based, or from mixed strata (one or two studies were based in a hospital or residential care setting but included themes relevant to this finding in a community setting). One study was focused only on pharmacological interventions related to fall risk. One or two studies included a mixed population of older adults and carers or healthcare professionals, only the themes reported by the older adults were extracted and included in this review. One study included some adults aged below <65, however as the mean age of participants was over 65 years it was included.* *(g) Moderate concerns about relevance as the majority of studies were either non-UK based, or from mixed strata (one study was based in a residential care setting but included themes relevant to this finding in a community setting). Two studies included a mixed population of older adults and carers or healthcare professionals, only the themes reported by the older adults were extracted and included in this review.*				
Delivery of information and support - In person education with a professional (Khong 2017[10], Host 2011[8], Heng 2021[6]; Collins 2022[2], Vincenzo 2022[17], Bergeron 2018[1], Vivrette 2011[18], Gemmeke 2022[4]					
8	A combination of 4 interview and 4 focus group studies	The majority of participants preferred falls information delivered by a healthcare professional as they believed them to be more experienced and credible. Participants also favoured information being given by a peer as long as the person was "properly trained". They highlighted that the delivery should be culturally appropriate, and the educator should be accustomed to working with older adults. Participants cited patience, empathy, confidence, approachability, and having time to listen as the main attributes they sought from their educator	Limitations	Minor limitations[a]	LOW
			Coherence	No concerns about coherence	
			Relevance	Moderate concerns about relevance[b]	
			Adequacy	No concerns about adequacy	
Delivery of information and support - Community groups Heng 2021[6]; Collins 2022[2], Vincenzo 2022[17], Khong 2017[10], Vivrette 2011[18], Gemmeke 2022[4], Pohl 2015[13]					

Study design and sample size			Quality assessment		
Number of studies contributing to the finding	**Design**	**Findings**	**Criteria**	**Rating**	**Overall assessment of confidence**
7	A combination of 2 interview and 5 focus group studies	a number of participants suggested senior, or community centres were a valuable way of delivery falls information as word of mouth was a key strategy for exchanging information amongst older adults. Senior specific interest groups such as exercise groups, bingo, or seniors' social gatherings, where there were opportunities to discuss health related topics with peers, were frequently reported as important settings for seeking falls prevention information.	Limitations	Minor limitations[a]	LOW
			Coherence	No concerns about coherence	
			Relevance	Moderate concerns about relevance[b]	
			Adequacy	No concerns about adequacy	
Delivery of information and support - Written information Heng 2021[6]; Collins 2022[2], Schoberer 2016[14], Shuman 2019[15], Vincenzo 2022[17], Khong 2017[10], Viverette 2011[18]					
7	A combination of 3 interview and 4 focus group studies	Many participants suggested that brochures or pamphlets on falls prevention were a good adjunct to falls education delivered in person. Others felt that written information alone was adequate as well as a first line strategy to falls prevention and to raise awareness. Participants suggested posters or pamphlets could be on display or handed out in GP practices, pharmacies, hospitals or public spaces such as libraries.	Limitations	Minor limitations[a]	VERY LOW
			Coherence	Minor concerns about coherence[c]	
			Relevance	Moderate concerns about relevance[d]	
			Adequacy	No concerns about adequacy	
Delivery of information and support - Internet and audio-visual Pohl 2015[13], Vincenzo 2022[17], Khong 2017[10], Ng 2022[12]					
4	A combination of 1 interview and 3 focus group studies	Several participants mentioned using the internet as a potential source of falls prevention information. Others suggested audiovisual options for information dissemination such as screens in pharmacies or GPs waiting rooms, or public service announcements on the TV or radio.	Limitations	Minor limitations[a]	LOW
			Coherence	No concerns about coherence	
			Relevance	Minor concerns about relevance[e]	
			Adequacy	No concerns about adequacy	

Study design and sample size			Quality assessment		
Number of studies contributing to the finding	**Design**	**Findings**	**Criteria**	**Rating**	**Overall assessment of confidence**
(a) The majority of studies had minor limitations, with common actors including lack of discussion of the role of the researcher and concerns about the sample size *(b) Minor concerns about relevance as the majority of studies were either non-UK based, or from mixed strata (one study was based in a hospital setting but included themes relevant to this finding in a community setting). One study was focused only on pharmacological interventions related to fall risk.* *(c) Minor concerns about coherence. Preference for written information instead of face-to-face education or as and adjunct to in person information varied between the studies.* *(d) Moderate concerns about relevance as the majority of studies were either non-UK based, or from mixed strata (one or two studies were based in a hospital or residential care setting but included themes relevant to this finding in a community setting). One study included a mixed population of older adults and carers or healthcare professionals, however, only the themes reported by the older adults were extracted and included in this review.* *(e) Minor concerns about relevance as the majority of studies were non-UK based.*					
Presentation - Website – Ng 2022[12], Khong 2017[10], Vincenzo 2022[17]					
3	A combination of 1 interview and 3 focus group studies	Participants described desired features for online information including colourful web pages large font size, correct spacing, use of titles and logos that attract users and good colour contrast between the background and text. Participants requested navigation buttons such as 'Page up', 'Page down', 'forward', or 'backward' to ease the website navigation. Features such as the insertion of audio function and option to increase text size were discussed and received mixed responses from participants. Many participants suggested having a multi-language option on the website.	Limitations	Minor limitations[a]	LOW
			Coherence	No concerns about coherence	
			Relevance	Minor concerns about relevance[b]	
			Adequacy	No concerns about adequacy	
Presentation - Brochure and written presentation – Khong 2017[10]**,** Vincenzo 2022[17], Viverette 2011[18]					
3	A combination of 1 interview and 2 focus group studies	Participants wanted information that was simple and easy to read and suggested that resources that were provided focus on visual illustrations and pictures rather than words. They suggested concise information on the most important facts in large font and relevant to older adults. Participants wanted to see images of active seniors participating in activity and exercise.	Limitations	Minor limitations[a]	LOW
			Coherence	No concerns about coherence	
			Relevance	Minor concerns about relevance[b]	
			Adequacy	No concerns	

Study design and sample size			Quality assessment		
Number of studies contributing to the finding	**Design**	**Findings**	**Criteria**	**Rating**	**Overall assessment of confidence**
				about adequacy	
(a) The majority of studies had minor limitations, due lack of discussion of the role of the researcher.					
(b) Minor concerns about relevance as the majority of studies were non-UK based.					

Table 9: Summary of evidence - hospital environment

Study design and sample size			Quality assessment		
Number of studies contributing to the finding	**Design**	**Findings**	**Criteria**	**Rating**	**Overall assessment of confidence**
Inconsistent messages and limited information - (Heng 2021[6]; Collins 2022[2]; Shuman 2019[15]; Dabkowski 2022[3]; Hill 2023[7]; Kerr 2023[9])					
6	A combination of individual interviews (5 studies) and focus-groups (1 study)	Falls prevention education varied between participants. Different methods of falls education were reported along with inconsistences in the timing of the information delivery. Some people received physiotherapy and occupational therapy falls assessments, yet for others this did not occur. A few participants discussed their frustrations about receiving mixed messages and conflicting advice from health professionals regarding fall prevention strategies i.e. use of aids or wearing correct footwear.	Limitations	Minor limitations[a]	LOW
			Coherence	No concerns about coherence	
			Relevance	Moderate concerns about relevance[b]	
			Adequacy	No concerns about adequacy	
Depending on others to prevent falls – (Heng 2021[6]; Dabkowski 2022[3]; Hill 2023[7]; Kerr 2023[9])					
4	A combination of individual interviews (3 studies) and focus-	Extrinsic influences such as nursing staff supervision, call buzzer technology, falls bracelets and falls alarms were considered to be the main component to falls prevention in hospital. The assistance provided by nursing staff eliminated the need to engage in risk-taking behaviours. Frustrations were expressed with slow or unanswered buzzers and some	Limitations	No concerns about limitations	LOW
			Coherence	No concerns about coherence	
			Relevance	Moderate concerns	

Study design and sample size			Quality assessment		
Number of studies contributing to the finding	**Design**	**Findings**	**Criteria**	**Rating**	**Overall assessment of confidence**
	groups (1 study)	patients were reluctant to use there buzzer and waste staff time.		about relevance[b]	
			Adequacy	Minor concerns about adequacy[c]	
Confusion and unfamiliar environments – (Kippenbrock 1993[11], Dabkowski 2022[3], Hill 2023[7], Kerr 2023[9])					
4	Individual interviews (4 studies)	Confused patients or those with dementia have an increased falls risk in hospital, according to participants. Some acknowledged the unfamiliarity of hospitals compared to their usual surroundings, which could lead to disorientation and increase risk.	Limitations	Moderate concerns about limitations[d]	VERY LOW
			Coherence	No concerns about coherence	
			Relevance	Moderate concerns about relevance[e]	
			Adequacy	No concerns about adequacy	
Information needs (Heng 2021[6]; Collins 2022[2]; Shuman 2019[15]; Dabkowski 2022[3]; Hill 2023[7])					
5	A combination of individual interviews (4 studies) and focus-groups (1 study)	Most people expressed a desire for consistent messages from all staff and for education to also be tailored to individual needs. Participants wanted to know more about the consequences of falling, what to expect and do post-operatively, strategies to manage falls and options for information while hospitalised. Some wanted more direction on how to consult physiotherapists, nurses, and occupational therapists for information.	Limitations	Minor concerns about limitations[a]	LOW
			Coherence	No concerns about coherence	
			Relevance	Moderate concerns about relevance[b]	
			Adequacy	No concerns about adequacy	
Perceived risk and hospital risk – (Heng 2021[6]; Kippenbrock 1993[11]; Dabkowski 2022[3]; Hill 2023[7], Kerr 2023[9])					
5	A combination of 4	Despite their past medical histories or current circumstances, many participants did not consider themselves to be at risk of falling in hospital and felt	Limitations	Moderate concerns about limitations[d]	VERY LOW

Study design and sample size			Quality assessment		
Number of studies contributing to the finding	**Design**	**Findings**	**Criteria**	**Rating**	**Overall assessment of confidence**
	interview and 1 focus group study	safer than they did at home. This was in part due to a lack of insight into their limitations and also attributed to the hospital environment being modified for safety and to a sense of safety and help was always on hand. One participant felt safer because they did not need to complete their usual tasks.	Coherence	No concerns about coherence	
			Relevance	Moderate concerns about relevance[e]	
			Adequacy	No concerns about adequacy	
Perceived risk and hospital risk – (Hill 2023[7], Kerr 2023[9])					
2	2 interview studies	Participants identified an apparent paradox between needing help and seeking help, confusing them about how to remain safe on the ward. Some participants were aware that lack of staff assistance was compromising their safety, and many appreciated that this was due to lack of time. Untimely responses to ringing the call bell for toileting needs, was viewed as being forced to take action alone, even if the consequences were detrimental to safety, creating a 'detriment versus dignity' situation. Another point raised by participants within this theme is that they did not want to be a burden or 'put people out'. The desire to not be a burden may be related to maintaining a sense of dignity, that is, when you become a burden on other people, you may experience a sense that your worth in society has diminished.	Limitations	Moderate concerns about limitations[d]	VERY LOW
			Coherence	No concerns about coherence	
			Relevance	Moderate concerns about relevance[f]	
			Adequacy	Minor concerns about adequacy[c]	

(a) The majority of studies had minor limitations, with common actors including lack of discussion of the role of the researcher and concerns about the sample size.

(b) Moderate concerns about relevance as the majority of studies were non-UK based. One study included a younger population of participants with some <65 years old. However, the mean age was >65 so the study was included. Two studies included a mixed population of older adults and their carers, however only the views of older adults were extracted for the purposes of this review.

(c) Minor concerns for adequacy as only 2 study touched on this area and it is unclear whether additional studies may change the conclusions

(d) The majority of studies had moderate limitations, with common actors including lack of discussion of the role of the researcher and concerns about the sample size or rigour of analysis.

Study design and sample size			Quality assessment		
Number of studies contributing to the finding	**Design**	**Findings**	**Criteria**	**Rating**	**Overall assessment of confidence**
		(e) Moderate concerns about relevance as the majority of studies were non-UK based. One study was conducted in 1993 so may not be relevant to older adults experience of falls prevention today. One study included a younger population of participants with some <65 years old. However, the mean age was >65 so the study was included. Two studies included a mixed population of older adults and their carers, however only the views of older adults were extracted for the purposes of this review. *(f) Moderate concerns about relevance as both studies were non-UK based. Both studies included a mixed population of older adults and their carers, however only the views of older adults were extracted for the purposes of this review.*			

Table 10: Summary of evidence – residential care environment

Study design and sample size			Quality assessment		
Number of studies contributing to the finding	**Design**	**Findings**	**Criteria**	**Rating**	**Overall assessment of confidence**
Equipment (Schoberer 2016)[14]					
1	1 focus-group study	Residents considered their walking aids as sacred. In general, they were satisfied with them and were not interested in other options. Hip protectors and non-skid socks were unfamiliar to residents and there was limited interest in learning more about them. They believed that nurses and family members ought to decide when medical devices should be utilised.	Limitations	No concerns about limitations	VERY LOW
			Coherence	No concerns about coherence	
			Relevance	Moderate concerns about relevance[a]	
			Adequacy	Moderate concerns about adequacy[b]	
Risks and fall prevention (Schoberer 2016[14], Bergeron 2018[1])					
2	A combination of individu	Participants expressed an information need about risk factors and how to deal with them. Residents related many fall events due to environmental risk factors	Limitations	Minor concerns about limitations[c]	VERY LOW

Study design and sample size		Findings	Quality assessment		
Number of studies contributing to the finding	**Design**		**Criteria**	**Rating**	**Overall assessment of confidence**
	al interviews (1 study) and focus-groups (1 study)	and recommend including advice about adequate shoes, the importance of good lighting, using grab handles and being aware of slippery floors or carpets. Several residents mentioned the importance of intrinsic and behavioural-related risk factors and some suggested that incorporating information on physical activity in a brochure would be conceivable.	Coherence	No concerns about coherence	
			Relevance	Minor concerns about relevance[a]	
			Adequacy	Minor concerns about adequacy[d]	
Information sources (Bergeron 2018)[1]					
1	1 individual interview study	Most participants tended to perceive professionals as credible, trustworthy, and knowledgeable sources of information. Participants trusted the professionals with whom they regularly interacted and relied on them for aspects of their post-fall decision making. In contrast, they perceived family members as available, helpful, and trustworthy, but not the most credible. Women who perceived a lack of credibility among information sources reported difficult interactions and, in some cases, admitted not having been completely honest with others regarding their fall. Reasons for this ranged from personal pride to fear of being moved to another level of care.	Limitations	Minor concerns about limitations[c]	VERY LOW
			Coherence	No concerns about coherence	
			Relevance	Minor concerns about relevance[e]	
			Adequacy	Minor concerns about adequacy[b]	

(a) Minor concerns about relevance as the study/studies were non-UK based. The study/studies also included a mixed population of older adults and carers or healthcare professionals, however, only the themes reported by the older adults were extracted and included in this review.

(b) Minor concerns for adequacy as only 1 study touched on this area, and it is unclear whether additional studies may change the conclusions.

(c) The majority of studies had minor limitations, with common actors including lack of discussion of the role of the researcher.

(d) Minor concerns for adequacy as only 2 studies touched on this area, and it is unclear whether additional studies may change the conclusions.

Minor concerns about relevance as the study/studies were non-UK based. The study/studies also included a mixed population of older adults and carers or healthcare professionals, however, only the themes reported by the older adults were extracted and included in this review. The study also only included women and included an older population than the other studies with the mean age 88.9 years.

Appendix F Excluded studies

F.1 Clinical studies

Table 11: Studies excluded from the qualitative review

Study	Code [Reason]
Kiyoshi-Teo, H., Northrup-Snyder, K., (2022) "Adapted" Motivational Interviewing to Engage Hospital Nurses in Fall Prevention Education" OJIN: The Online Journal of Issues in Nursing Vol. 27, No. 2.	- Population not relevant to this review protocol
Abad-Corpa, E., Lidon-Cerezuela, B., Meseguer Liza, C. et al. (2021) The care in the prevention of falls in elderly people: Meta-summary of qualitative articles. Atencion Primaria 53(7): 102067	- Study not reported in English
Abraham, Samuel P (2012) Psychiatric nursing directors' perceptions of the factors contributing to patient falls in psychiatric inpatient units. Psychiatric Nursing Directors' Perceptions of the Factors Contributing to Patient Falls in Psychiatric Inpatient Units: 188p-188p	- Population not relevant to this review protocol
Ackerman, I.N.; Soh, S.-E.; Barker, A.L. (2019) Physiotherapists' falls prevention knowledge, beliefs, and practices in osteoarthritis care: A national cross-sectional study. Arthritis care & research	- Population not relevant to this review protocol
Ahmad Ainuddin, Husna, Romli, Muhammad Hibatullah, Hamid, Tengku Aizan et al. (2021) An Exploratory Qualitative Study with Older Malaysian Stroke Survivors, Caregivers, and Healthcare Practitioners About Falls and Rehabilitation for Falls After Stroke. Frontiers in public health 9: 611814	- Population not relevant to this review protocol
Alhuwail, Dari and Koru, Gunes (2016) Identifying Home Care Clinicians' Information Needs for Managing Fall Risks. Applied clinical informatics 7(2): 211-26	- Population not relevant to this review protocol
Alhuwail, Dari and Koru, Gunes (2016) Leveraging health information technology for fall-risk management in home care: A qualitative exploration of clinicians' perspectives. Home Health Care Management & Practice 28(4): 241-249	- Population not relevant to this review protocol
Alhuwail, Dari and Koru, Güneş (2016) Leveraging Health Information Technology for Fall-Risk Management in Home Care. Home Health Care Management & Practice 28(4): 241-249	- Population not relevant to this review protocol
Allatzas, Renee C. (2018) The Effects of Hourly Rounding on Patient Safety and Satisfaction. Effects of Hourly Rounding On Patient Safety & Satisfaction: 1-1	- Study does not contain an intervention relevant to this review protocol
Allen, Terry (2004) Preventing falls in older people: evaluating a peer education approach. British journal of community nursing 9(5): 195-200	- Population not relevant to this review protocol
Alves Gomes Silva, Yara Fernanda, Maciel Diniz, Luciana Pessoa, Vidal Teles, Maria Emília et al. (2022) NURSES' KNOWLEDGE ON FALL PREVENTION OF SURGICAL PATIENTS IN THE LIGHT OF THE NURSING PROCESS. Revista Baiana de Enfermagem 36: 1-10	- Population not relevant to this review protocol
Aminzadeh, F, Edwards, N, Lockett, D et al. (2000) Utilization of bathroom safety devices, patterns of bathing and toileting, and bathroom falls in a sample of community living older adults. Technology & Disability 13(2): 95-103	- Study does not contain an intervention relevant to this review protocol
Ang, Seng Giap Marcus; O'Brien, Anthony Paul; Wilson, Amanda (2019) Understanding carers' fall concern and their management of fall risk among older people at home. BMC geriatrics 19(1): 144	- Population not relevant to this review protocol

Study	Code [Reason]
Arkkukangas, Marina and Cederbom, Sara (2023) Movement toward an evidence-Based, digital fall prevention future-Perceptions from a physiotherapy perspective. Physiotherapy theory and practice 39(1): 128-136	- Population not relevant to this review protocol
Arkkukangas, Marina, Cederbom, Sara, Tonkonogi, Michail et al. (2021) Older adults' experiences with mHealth for fall prevention exercise: usability and promotion of behavior change strategies. Physiotherapy Theory & Practice 37(12): 1346-1352	- Study does not contain an intervention relevant to this review protocol
Arkkukangas, Marina, Sundler, Annelie J, Söderlund, Anne et al. (2017) Older persons' experiences of a home-based exercise program with behavioral change support. Physiotherapy Theory & Practice 33(12): 905-913	- Study does not contain an intervention relevant to this review protocol
Arnold, Catherine; Lanovaz, Joel; Banman, Danelle (2022) Is it a Macho Thing? Older Adults' Perceptions of Gender Differences inFall Prevention Class Participation. Journal of Applied Gerontology 41(8): 1952-1959	- Study does not contain an intervention relevant to this review protocol
Aronsson, Kenneth; Bjorkdahl, Ida; Wireklint Sundstrom, Birgitta (2014) Prehospital emergency care for patients with suspected hip fractures after falling - older patients' experiences. Journal of clinical nursing 23(2122): 3115-23	- Study does not contain an intervention relevant to this review protocol
Atay, Selma; Vurur, Sevda; Erdugan, Necla (2017) Opinions of Nurses About the Evaluation of Risk of Falling Among Inpatients. Rehabilitation nursing: the official journal of the Association of Rehabilitation Nurses 42(6): e19-e24	- Population not relevant to this review protocol
Audsley, S., Kendrick, D., Logan, P. et al. (2021) Keeping adults physically active after Falls Management Exercise (FaME) programmes end: development of a physical activity maintenance intervention. Pilot and Feasibility Studies 7(1): 108	- Study does not contain an intervention relevant to this review protocol
Ayhan Oncu, Yasemin and Seren Intepeler, Seyda (2022) Nurses' view of implementation evidence-based fall prevention interventions: A qualitative study. Journal of nursing management 30(1): 234-242	- Population not relevant to this review protocol
Ayton, Darshini, Morello, Renata, Natora, Aleksandra et al. (2018) Perceptions of falls and falls prevention interventions among Personal Alert Victoria clients. Health & social care in the community 26(6): 970-978	- Study does not contain an intervention relevant to this review protocol
Ayton, Darshini, O'Brien, Penny, Treml, Jonathan et al. (2017) Nurses' perceptions of preventing falls for patients with dementia in the acute hospital setting. Australasian Journal on Ageing 36(4): e70-e72	- Population not relevant to this review protocol
Ayvat, E., Dogan, M., Ayvat, F. et al. (2024) Usefulness of the Berg Balance Scale for prediction of fall risk in multiple sclerosis. Neurological Sciences	- Study design not relevant to this review protocol
Bailey, C, King, K, Dromey, B et al. (2010) Fear of falling and older adult peer production of audio-visual discussion material. Educational Gerontology 36(9): 781-797	- Study aim is not relevant to this review protocol
Baixinho, Cristina Lavareda, Dixe, Maria Dos Anjos, Henriques, Maria Adriana et al. (2021) The fear of falls in the caregivers of institutionalized elders. Revista gaucha de enfermagem 42: e20200258	- Population not relevant to this review protocol

Study	Code [Reason]
Ballinger, C and Clemson, L (2006) Older people's views about community falls prevention: an Australian perspective. British Journal of Occupational Therapy 69(6): 263-270	- Study does not contain an intervention relevant to this review protocol
Ballinger, Claire and Payne, Sheila (2000) Falling from Grace or into Expert Hands? Alternative Accounts about Falling in Older People. British Journal of Occupational Therapy 63(12): 573-579	- Study aim is not relevant to this review protocol
Bamford, Claire, Wheatley, Alison, Shaw, Caroline et al. (2019) Equipping staff with the skills to maximise recovery of people with dementia after an injurious fall. Aging & mental health 23(11): 1524-1532	- Population not relevant to this review protocol
Baris, Veysel Karani and Seren Intepeler, Seyda (2019) Views of key stakeholders on the causes of patient falls and prevention interventions: A qualitative study using the international classification of functioning, disability and health. Journal of clinical nursing 28(34): 615-628	- Population not relevant to this review protocol
Barker, Anna L, Morello, Renata T, Ayton, Darshini R et al. (2017) Acceptability of the 6-PACK falls prevention program: A pre-implementation study in hospitals participating in a cluster randomized controlled trial. PloS one 12(2): e0172005	- Study does not contain an intervention relevant to this review protocol
Bell, Hege Therese; Steinsbekk, Aslak; Granas, Anne Gerd (2015) Factors influencing prescribing of fall-risk-increasing drugs to the elderly: A qualitative study. Scandinavian journal of primary health care 33(2): 107-14	- Study does not contain an intervention relevant to this review protocol
Bell, Hege Therese; Steinsbekk, Aslak; Granas, Anne Gerd (2017) Elderly users of fall-risk-increasing drug perceptions of fall risk and the relation to their drug use - a qualitative study. Scandinavian journal of primary health care 35(3): 247-255	- Study does not contain an intervention relevant to this review protocol
Bergeron, Caroline D., Friedman, Daniela B., Messias, DeAnne K. Hilfinger et al. (2016) Older women's responses and decisions after a fall: The work of getting “back to normal”. Health Care for Women International 37(12): 1342-1356	- Study does not contain an intervention relevant to this review protocol
Bergeron, Caroline D, Friedman, Daniela B, Spencer, S Melinda et al. (2018) An Exploratory Survey of Older Women's Post-Fall Decisions. Journal of applied gerontology: the official journal of the Southern Gerontological Society 37(9): 1107-1132	- Study design not relevant to this review protocol
Bertelsen, Ann Sophia, Ryg, Jesper, Masud, Tahir et al. (2019) Wishes and needs of older persons who have experienced a fall: A qualitative study. Nursing open 6(3): 1105-1112	- Study aim is not relevant to this review protocol
Blaylock, S.E.; Vogtle, L.K.; Warren, M. (2017) Accessible Fall Prevention Interventions for Older Adults with Low Vision. Topics in Geriatric Rehabilitation 33(4): 280-285	- Study does not contain an intervention relevant to this review protocol
Blaylock, S.E., Warren, M., Lein, D.H. et al. (2022) Providing Accessible Fall Prevention Education for Older Adults with Low Vision. Topics in Geriatric Rehabilitation 38(3): 208-214	- Study does not contain an intervention relevant to this review protocol
Borkan, J.M.; Quirk, M.; Sullivan, M. (1991) Finding meaning after the fall: Injury narratives from elderly hip fracture patients. Social Science and Medicine 33(8): 947-957	- Study does not contain an intervention relevant to this review protocol
Brown, C.J., Gottschalk, M., Van Ness, P.H. et al. (2005) Changes in physical therapy providers' use of fall prevention strategies following a multicomponent behavioral change intervention. Physical Therapy 85(5): 394-403	- Study design not relevant to this review protocol

Study	Code [Reason]
Brownsell, S and Hawley, M (2004) Fall detectors: do they work or reduce the fear of falling?. Housing, Care & Support 7(1): 18-24	- Study does not contain an intervention relevant to this review protocol
Burgon, Clare, Darby, Janet, Pollock, Kristian et al. (2019) Perspectives of healthcare professionals in England on falls interventions for people with dementia: a qualitative interview study. BMJ open 9(2): e025702	- Population not relevant to this review protocol
Buri, H and Dawson, P (2000) Caring for a relative with dementia: a theoretical model of coping with fall risk. Health, Risk & Society 2(3): 283-293	- Study does not contain an intervention relevant to this review protocol
Burton, Elissa, Boyle, Eileen J, O'Connell, Hilary et al. (2021) Community care staff attitudes towards delivering a falls prevention exercise intervention to community care clients. Health & social care in the community 29(2): 416-424	- Study does not contain an intervention relevant to this review protocol
Burton, Elissa, Lewin, Gill, O'Connell, Hilary et al. (2018) Can community care workers deliver a falls prevention exercise program? A feasibility study. Clinical interventions in aging 13: 485-495	- Study does not contain an intervention relevant to this review protocol
Butler, M; Kerse, N; Coggan, C (2003) The experiences of staff concerning the introduction and impact of a fall prevention intervention in aged care facilities: a qualitative study. Australasian Journal on Ageing 22(4): 218-221	- Population not relevant to this review protocol
Carling, Anna; Nilsagard, Ylva; Forsberg, Anette (2020) Making it work: experience of living with a person who falls due to multiple sclerosis. Disability and rehabilitation 42(7): 940-947	- Population not relevant to this review protocol
Cary, Michael P Jr, Hall, Rasheeda K, Anderson, Amber L et al. (2018) Management Team Perceptions of Risks and Strategies for Preventing Falls Among Short-Stay Patients in Nursing Homes. The health care manager 37(1): 76-85	- Population not relevant to this review protocol
Cattaneo, D., Gervasoni, E., Pupillo, E. et al. (2019) Educational and Exercise Intervention to Prevent Falls and Improve Participation in Subjects with Neurological Conditions: The NEUROFALL Randomized Controlled Trial. Frontiers in Neurology 10: 865	- Study design not relevant to this review protocol
Cederbom, Sara; Bjerk, Maria; Bergland, Astrid (2022) A qualitative study exploring physical therapists' views on the Otago Exercise Programme for fall prevention: a stepping stone to "age in place" and to give faith in the future. Physiotherapy Theory & Practice 38(1): 132-140	- Population not relevant to this review protocol
Cerderbom, Sara; Bjerk, Maria; Bergland, Astrid (2020) The tensions between micro-, meso- and macro-levels: physiotherapists' views of their role towards fall prevention in the community - a qualitative study. BMC health services research 20(1): 97	- Population not relevant to this review protocol
Charlton, Kimberly; Murray, Carolyn M; Kumar, Saravana (2018) Getting help quickly: older people and community worker perspectives of contingency planning for falls management. Disability and rehabilitation 40(2): 159-167	- Population not relevant to this review protocol
Charrette, Ann L., Sullivan, Karyn M., Kucharski-Howard, Janna et al. (2020) Physical therapy and pharmacy interprofessional education in the context of a university pro bono physical therapy setting. Journal of Interprofessional Care 34(3): 315-323	- Population not relevant to this review protocol
Chauvin, Stephanie, Durocher, Evelyne, Richardson, Julie et al. (2022) Experiences of a home-based fall prevention exercise	- Study does not contain an intervention relevant to this review protocol

Study	Code [Reason]
program among older adults with chronic lung disease. Disability and rehabilitation 44(19): 5513-5519	
Chegini, Z., Shariful Islam, S.M., Kolawole, I. et al. (2022) An educational intervention to improve self-efficacy and knowledge of falls prevention among hospitalized patients. International Journal of Health Promotion and Education 60(4): 217-228	- Study design not relevant to this review protocol
Choi, Jiwon and Hwang, Sun-Kyung (2024) The Impact of Physical Performance and Fear of Falling on Fall Risk in Hemodialysis Patients: A Cross-Sectional Study. Korean Journal of Adult Nursing 36(1): 63-73	- Study design not relevant to this review protocol
Chou, William C, Tinetti, Mary E, King, Mary B et al. (2006) Perceptions of physicians on the barriers and facilitators to integrating fall risk evaluation and management into practice. Journal of general internal medicine 21(2): 117-22	- Population not relevant to this review protocol
Clancy, Anne and Mahler, Marianne (2016) Nursing staffs' attentiveness to older adults falling in residential care - an interview study. Journal of clinical nursing 25(910): 1405-15	- Population not relevant to this review protocol
Clemson, Lindy, Donaldson, Alex, Hill, Keith et al. (2014) Implementing person-environment approaches to prevent falls: a qualitative inquiry in applying the Westmead approach to occupational therapy home visits. Australian occupational therapy journal 61(5): 325-34	- Population not relevant to this review protocol
Collins, Courtney E, Chandra, Arnav, Nguyen, Bryan et al. (2020) The Rose-Colored Glasses of Geriatric Fall Patients: Inconsistencies Between Knowledge of Risk Factors for and Actual Causes of Falls. Gerontology & geriatric medicine 6: 2333721420967884	- Study does not contain an intervention relevant to this review protocol
Colón-Emeric, Cathleen S., Pinheiro, Sandro O., Anderson, Ruth A. et al. (2014) Connecting the Learners: Improving Uptake of a Nursing Home Educational Program by Focusing on Staff Interactions. Gerontologist 54(3): 446-459	- Study design not relevant to this review protocol
Considine, Julie, Berry, Debra, Mullen, Maureen et al. (2023) Nurses' experiences of using falls alarms in subacute care: A qualitative study. PloS one 18(6): e0287537	- Population not relevant to this review protocol
Cortis, Lauren J. (2017) A qualitative study to describe patient-specific factors that relate to clinical need for and potential to benefit from a medication management service in palliative care. Journal of Pharmacy Practice & Research 47(1): 34-40	- Study does not contain an intervention relevant to this review protocol
Covington, Kelley R., Atler, Karen E., Bailey, Jessica James A. et al. (2021) "Life Isn't as Carefree as It Used to Be": A Mixed-Methods Evaluation of the Experiences of Women with Fear of Falling During Cancer Survivorship. Rehabilitation Oncology 39(1): 38-47	- Study does not contain an intervention relevant to this review protocol
Covington, Kelley R, Atler, Karen E, Schmid, Arlene A et al. (2020) Understanding fall risk for older adults with cancer: An evaluation of experts' perceptions. Journal of geriatric oncology 11(2): 263-269	- Population not relevant to this review protocol
Currie, LM (2004) Development and testing of an automated Fall-Injury Risk Assessment Instrument. Development & Testing of an Automated Fall-injury Risk Assessment Instrument: 196p-196p	- Study does not contain an intervention relevant to this review protocol
Da Silva, Carolyn P, Carlegis, Megan, Suchma, Kyle et al. (2014) Falling, Balance Confidence, and Fear of Falling After Chronic Stroke. Physical & Occupational Therapy in Geriatrics 32(4): 353-367	- Study does not contain an intervention relevant to this review protocol

Study	Code [Reason]
de Clercq, Hendrika; Naude, Alida; Bornman, Juan (2020) The perspectives of healthcare practitioners on fall risk factors in older adults. Health SA Gesondheid 25: 1-9	- Population not relevant to this review protocol
de Jong, Lex D, Lavender, Andrew P, Wortham, Chris et al. (2019) Exploring purpose-designed audio-visual falls prevention messages on older people's capability and motivation to prevent falls. Health & social care in the community 27(4): e471-e482	- Study does not contain an intervention relevant to this review protocol
de la Cuesta-Benjumea, Carmen; Ramis-Ortega, Emilia; Arredondo Gonzalez, Claudia Patricia (2019) To manage a complex dependency: The experience of caregiving after a fall. Journal of advanced nursing 75(1): 138-149	- Population not relevant to this review protocol
De La Cuesta-Benjumea, Carmen, Lidón-Cerezuela, Beatriz, Abad-Corpa, Eva et al. (2021) Managing and keeping control: A qualitative synthesis of nursing and care staff strategies to prevent older people from falling. Journal of Advanced Nursing (John Wiley & Sons, Inc.) 77(7): 3008-3019	- Population not relevant to this review protocol
Delaforce, Alana, Li, Jane, Grujovski, Melisa et al. (2023) Creating an Implementation Enhancement Plan for a Digital Patient Fall Prevention Platform Using the CFIR-ERIC Approach: A Qualitative Study. International journal of environmental research and public health 20(5)	- Population not relevant to this review protocol
Dickinson, Angela, Horton, Khim, Machen, Ina et al. (2011) The role of health professionals in promoting the uptake of fall prevention interventions: a qualitative study of older people's views. Age and ageing 40(6): 724-30	- Study aim is not relevant to this review protocol
Dillon, Lisa L; Clemson, Lindy; Keay, Lisa J (2022) Stakeholder perspectives of fall prevention for older Australians with vision impairment: "it's just a matter of adapting them accordingly". Disability and rehabilitation 44(7): 1084-1090	- Population not relevant to this review protocol
Dolan, Hanne, Rishel, Cindy, Rainbow, Jessica G et al. (2022) Relying on myself: The lived experience of being at risk for falling in the hospital among older adults. Geriatric nursing (New York, N.Y.) 47: 116-124	- Study does not contain an intervention relevant to this review protocol
Dollard, Joanne, Braunack-Mayer, Annette, Horton, Khim et al. (2014) Why older women do or do not seek help from the GP after a fall: a qualitative study. Family practice 31(2): 222-8	- Study does not contain an intervention relevant to this review protocol
dos Santos, R.B., Lago, G.N., Jencius, M.C. et al. (2021) Older adults' views on barriers and facilitators to participate in a multifactorial falls prevention program: Results from Prevquedas Brasil. Archives of Gerontology and Geriatrics 92: 104287	- Study does not contain an intervention relevant to this review protocol
Dudziec, M., Lee, L., Reilly, M. et al. (2021) Exploring the impact of balance impairments and falls in people with CMT. Journal of the Peripheral Nervous System 26(3): 349-350	- Study does not contain an intervention relevant to this review protocol
Dykeman, Catherine S, Markle-Reid, Maureen F, Boratto, Lorna J et al. (2018) Community service provider perceptions of implementing older adult fall prevention in Ontario, Canada: a qualitative study. BMC geriatrics 18(1): 34	- Population not relevant to this review protocol
Elskamp, A.B.M., Hartholt, K.A., Patka, P. et al. Why older people refuse to participate in falls prevention trials: A qualitative study. Experimental Gerontology	- Study does not contain an intervention relevant to this review protocol

Study	Code [Reason]
Evron, Lotte; Schultz-Larsen, Kirsten; Fristrup, Tine (2009) Barriers to participation in a hospital-based falls assessment clinic programme: an interview study with older people. Scandinavian journal of public health 37(7): 728-35	- Study does not contain an intervention relevant to this review protocol
Faes, Miriam C, Reelick, Miriam F, Joosten-Weyn Banningh, Liesbeth W et al. (2010) Qualitative study on the impact of falling in frail older persons and family caregivers: foundations for an intervention to prevent falls. Aging & mental health 14(7): 834-42	- Population not relevant to this review protocol
Fehlberg, Elizabeth A., Cook, Christa L., Bjarnadottir, Ragnhildur I. et al. (2020) Fall Prevention Decision Making of Acute Care Registered Nurses. JONA: The Journal of Nursing Administration 50(9): 442-448	- Population not relevant to this review protocol
Finch, Tracy, Fay, Michaela, Smith, Joanne et al. (2022) Using care and support planning to implement routine falls prevention and management for people living with frailty: A qualitative evaluation. PloS one 17(10): e0275974	- Population not relevant to this review protocol
Flaherty, L.M., Schoeppe, J., Kruse-Jarres, R. et al. (2018) Balance, falls, and exercise: Beliefs and experiences in people with hemophilia: A qualitative study. Research and Practice in Thrombosis and Haemostasis 2(1): 147-154	- Study does not contain an intervention relevant to this review protocol
Flowers, Kelli, Wright, Kylie, Langdon, Rachel et al. (2016) Intentional rounding: facilitators, benefits and barriers. Journal of clinical nursing 25(910): 1346-55	- Population not relevant to this review protocol
Fortinsky, Richard H, Baker, Dorothy, Gottschalk, Margaret et al. (2008) Extent of implementation of evidence-based fall prevention practices for older patients in home health care. Journal of the American Geriatrics Society 56(4): 737-43	- Population not relevant to this review protocol
Francis-Coad, J., Lee, D.-C.A., Haines, T.P. et al. (2021) Fall prevention education for older people being discharged from hospital: Educators' perspectives. Health Education Journal 80(8): 908-920	- Population not relevant to this review protocol
Francis-Coad, Jacqueline, Etherton-Beer, Christopher, Bulsara, Caroline et al. (2017) Can a web-based community of practice be established and operated to lead falls prevention activity in residential care?. Geriatric Nursing 38(2): 133-140	- Population not relevant to this review protocol
Francis-Coad, Jacqueline, Watts, Tessa, Bulsara, Caroline et al. (2022) Designing and evaluating falls prevention education with residents and staff in aged care homes: a feasibility study. Health Education (0965-4283) 122(5): 546-563	- Study design not relevant to this review protocol
Frie, Brenda L, Brueggemann, Alvina D, Dutton, Lisa L et al. (2020) Identifying Fall Prevention Content in Graduate Healthcare Curricula. Journal of allied health 49(3): e123-e129	- Population not relevant to this review protocol
Friedman, Susan M., Gillespie, Suzanne M., Medina-Walpole, Annette M. et al. (2013) “Geriatricizing” Hospitalists: Identifying Educational Opportunities. Gerontology & Geriatrics Education 34(4): 409-420	- Population not relevant to this review protocol
Galambos, Colleen, Rantz, Marilyn, Back, Jessie et al. (2017) Older Adults' Perceptions of and Preferences for a Fall Risk Assessment System: Exploring Stages of Acceptance Model. Computers, informatics, nursing : CIN 35(7): 331-337	- Study does not contain an intervention relevant to this review protocol
Galambos, Colleen, Rantz, Marilyn, Craver, Andy et al. (2019) Living With Intelligent Sensors: Older Adult and Family Member Perceptions. Computers, informatics, nursing : CIN 37(12): 615-627	- Study does not contain an intervention relevant to this review protocol

Study	Code [Reason]
Gallagher, B, Corbett, E, Freeman, L et al. (2001) A fall prevention program for the home environment. Home care provider 6(5): 157-63	- Study does not contain an intervention relevant to this review protocol
Gallinagh, R, Nevin, R, Campbell, L et al. (2001) Relatives' perceptions of side rail use on the older person in hospital. British journal of nursing (Mark Allen Publishing) 10(6): 391-9	- Population not relevant to this review protocol
Garcia, Adriana, Marciniak, Dagmara, McCune, Lauren et al. (2012) Promoting Fall Self-Efficacy and Fall Risk Awareness in Older Adults. Physical & Occupational Therapy in Geriatrics 30(2): 165-175	- Study design not relevant to this review protocol
Gardiner, Siobhan, Glogowska, Margaret, Stoddart, Catherine et al. (2017) Older people's experiences of falling and perceived risk of falls in the community: A narrative synthesis of qualitative research. International Journal of Older People Nursing 12(4): na-npag	- Study does not contain an intervention relevant to this review protocol
Gaspar, A.G.M. and Lapao, L.V. (2022) A Digital Health Service for Elderly People with Balance Disorders and Risk of Falling: A Design Science Approach. International Journal of Environmental Research and Public Health 19(3): 1855	- Study design not relevant to this review protocol
Gegen, T., Tumosa, N., Paniagua, M.A. et al. (2010) Falling short on falls: What elder patients want in regard to falls prevention. Journal of the American Geriatrics Society 58(suppl1): 105	- Conference abstract
Gemmeke, Marle, Koster, Ellen S, van der Velde, Nathalie et al. (2023) Patients' experience with a community pharmacy fall prevention service. Exploratory research in clinical and social pharmacy 9: 100223	- Study does not contain an intervention relevant to this review protocol
Gettel, C.J., Hayes, K., Shield, R.R. et al. (2020) Care transition decisions after a fall-related ED visit: a qualitative study of patients' and caregivers' experiences. Academic emergency medicine: official journal of the Society for Academic Emergency Medicine	- Study does not contain an intervention relevant to this review protocol
Gettel, Cameron J, Hayes, Kelsey, Shield, Renee R et al. (2020) Care Transition Decisions After a Fall-related Emergency Department Visit: A Qualitative Study of Patients' and Caregivers' Experiences. Academic emergency medicine: official journal of the Society for Academic Emergency Medicine 27(9): 876-886	- Study does not contain an intervention relevant to this review protocol
Gettens, Stephanie, Fulbrook, Paul, Jessup, Melanie et al. (2018) The patients' perspective of sustaining a fall in hospital: A qualitative study. Journal of clinical nursing 27(34): 743-752	- Study does not contain an intervention relevant to this review protocol
Ghahfarrokhi, Shahrzad Habibi, Khankeh, Hamid Reza, Akbari Kamrani, Ahmad Ali et al. (2016) What is a key step in the falling process in older people? A qualitative study in an Iranian context. Educational Gerontology 42(3): 209-219	- Study does not contain an intervention relevant to this review protocol
Gibson, K, Greene, DP, Sample, PL et al. (2010) Fall Prevention: Relatedness of Adherence to Recommendations and Self-Rated Knowledge. Physical & Occupational Therapy in Geriatrics 28(3): 215-224	- Study design not relevant to this review protocol *use of secondary data*
Govercin, Mehmet, Koltzsch, Y, Meis, M et al. (2010) Defining the user requirements for wearable and optical fall prediction and fall detection devices for home use. Informatics for health & social care 35(34): 177-87	- Study does not contain an intervention relevant to this review protocol
Graham, Karly, Birt, Linda, MacGregor, Alexander et al. (2019) "It's my own fault": Accounts and consequences of falling when living with rheumatoid arthritis. Musculoskeletal care 17(4): 346-353	- Study does not contain an intervention relevant to this review protocol

Study	Code [Reason]
Grant, Alasdair; Mackenzie, Lynette; Clemson, Lindy (2015) How do general practitioners engage with allied health practitioners to prevent falls in older people? An exploratory qualitative study. Australasian journal on ageing 34(3): 149-54	- Population not relevant to this review protocol
Gray Miceli, DL (2001) Changed life: a phenomenological study of the meaning of serious falls to older adults. Changed Life: A Phenomenological Study of the Meaning of Serious Falls to Older Adults: 210p-210p	- Study aim is not relevant to this review protocol
Gumber, Leher, Timmons, Stephen, Coupland, Carol et al. (2022) 'It is designed for everybody to find their own level and to improve themselves'; views of older people and instructors of the Falls Management Exercise (FaME) programme. Age & Ageing 51(2): 1-9	- Study does not contain an intervention relevant to this review protocol
Gustavsson, Johanna; Jernbro, Carolina; Nilson, Finn (2018) There is more to life than risk avoidance - elderly people's experiences of falls, fall-injuries and compliant flooring. International Journal of Qualitative Studies on Health & Well-Being 13(1): 1-1	- Study does not contain an intervention relevant to this review protocol
Habib Perez, Olinda D, Martin, Samantha, Chan, Katherine et al. (2022) A qualitative photo-elicitation study exploring the impact of falls and fall risk on individuals with subacute spinal cord injury. PloS one 17(6): e0269660	- Study does not contain an intervention relevant to this review protocol
Hagedorn, D.K. and Holm, E.A. (2010) Compliance and satisfaction with a comprehensive falls intervention programme. European Geriatric Medicine 1(6): 348-351	- Study does not contain an intervention relevant to this review protocol
Haggqvist, Beatrice, Stenvall, Michael, Fjellman-Wiklund, Anncristine et al. (2012) "The balancing act"--licensed practical nurse experiences of falls and fall prevention: a qualitative study. BMC geriatrics 12: 62	- Population not relevant to this review protocol
Hahn, Erin E, Munoz-Plaza, Corrine E, Lee, Eric Anthony et al. (2021) Patient and Physician Perspectives of Deprescribing Potentially Inappropriate Medications in Older Adults with a History of Falls: a Qualitative Study. Journal of general internal medicine 36(10): 3015-3022	- Study aim is not relevant to this review protocol
Haines, T.P. and McPhail, S. (2011) Threat appraisal for harm from falls: Insights for development of education-based intervention. Open Longevity Science 5: 9-15	- Study design not relevant to this review protocol
Hakvoort, Lysette, Dikken, Jeroen, van der Wel, Maaike et al. (2021) Minimizing the knowledge-to-action gap; identification of interventions to change nurses' behavior regarding fall prevention, a mixed method study. BMC Nursing 20(1): 1-13	- Population not relevant to this review protocol
Hale, Leigh Anne; Mirfin-Veitch, Brigit F.; Treharne, Gareth J. (2016) Prevention of falls for adults with intellectual disability (PROFAID): a feasibility study. Disability & Rehabilitation 38(1): 36-44	- Study does not contain an intervention relevant to this review protocol
Halen, Carolina, Gripenberg, Susanne, Roaldsen, Kirsti Skavberg et al. (2022) "A manageable and challenging fall prevention intervention with impact on society" - older women's perspectives on participation in the stayBalanced training programme. Physiotherapy theory and practice 38(13): 2806-2816	- Study aim is not relevant to this review protocol
Halvarsson, Alexandra, Ståhle, Agneta, Halén, Carolina et al. (2016) “Better safe than sorry”: a qualitative content analysis of participant's perspectives of fall-related concerns and balance in older women with osteoporosis after balance training. Disability & Rehabilitation 38(8): 796-802	- Study does not contain an intervention relevant to this review protocol

Study	Code [Reason]
Hancox, Jennie E, van der Wardt, Veronika, Pollock, Kristian et al. (2019) Factors influencing adherence to home-based strength and balance exercises among older adults with mild cognitive impairment and early dementia: Promoting Activity, Independence, and Stability in Early Dementia (PrAISED). PloS one 14(5): e0217387	- Study does not contain an intervention relevant to this review protocol
Hanson, Heather M (2023) Fall-related stigma in older adulthood: A mixed methods approach to understanding the influence of stigma on older adults' reported attitudes and behaviours regarding falls. Dissertation Abstracts International: Section B: The Sciences and Engineering 84(2b): no-specified	- Study design not relevant to this review protocol
Harbison, Alicia J and Prabhu, Sheela (2019) Causation and Treatment Algorithms for Elderly Patients who have Fallen in the Twin Tiers. Cureus 11(12): e6513	- Study does not contain an intervention relevant to this review protocol
Hawley, H (2009) Older adults' perspectives on home exercise after falls rehabilitation: understanding the importance of promoting healthy, active ageing. Health Education Journal 68(3): 207-218	- Study does not contain an intervention relevant to this review protocol
Hawley-Hague, Helen; Roden, Amy; Abbott, Jo (2017) The evaluation of a strength and balance exercise program for falls prevention in community primary care. Physiotherapy Theory & Practice 33(8): 611-621	- Study does not contain an intervention relevant to this review protocol
Hawley-Hague, Helen, Tacconi, Carlo, Mellone, Sabato et al. (2021) One-to-One and Group-Based Teleconferencing for Falls Rehabilitation: Usability, Acceptability, and Feasibility Study. JMIR rehabilitation and assistive technologies 8(1): e19690	- Study does not contain an intervention relevant to this review protocol
Hawley-Hague, Helen, Tacconi, Carlo, Mellone, Sabato et al. (2020) Smartphone Apps to Support Falls Rehabilitation Exercise: App Development and Usability and Acceptability Study. JMIR mHealth and uHealth 8(9): e15460	- Study does not contain an intervention relevant to this review protocol
Haynes, Abby, Gilchrist, Heidi, Oliveira, Juliana S et al. (2022) "I wouldn't have joined if it wasn't online": understanding older people's engagement with teleyoga classes for fall prevention. BMC Complementary Medicine & Therapies 22(1): 1-12	- Study does not contain an intervention relevant to this review protocol
Hedley, Laura, Suckley, Nicola, Robinson, Lisa et al. (2010) Staying Steady: a community-based exercise initiative for falls prevention. Physiotherapy theory and practice 26(7): 425-38	- Study design not relevant to this review protocol
Hemp, Renee (2021) Implementation of the catch a falling star program to reduce the risk of falls in older adults. Dissertation Abstracts International: Section B: The Sciences and Engineering 82(12b): no-specified	- Study design not relevant to this review protocol
Heng, Hazel, Kiegaldie, Debra, Slade, Susan C et al. (2022) Healthcare professional perspectives on barriers and enablers to falls prevention education: A qualitative study. PloS one 17(4): e0266797	- Population not relevant to this review protocol
Hill, Anne-Marie, Francis-Coad, Jacqueline, Haines, Terry P et al. (2016) 'My independent streak may get in the way': how older adults respond to falls prevention education in hospital. BMJ open 6(7): e012363	- Study aim is not relevant to this review protocol
Hill, Anne-Marie, Hoffmann, Tammy, Beer, Christopher et al. (2011) Falls after discharge from hospital: is there a gap between older peoples' knowledge about falls prevention strategies and the research evidence?. The Gerontologist 51(5): 653-62	- Study design not relevant to this review protocol
Hill, Anne-Marie, McPhail, Steven M, Francis-Coad, Jacqueline et al. (2015) Educators' perspectives about how older hospital patients can	- Population not relevant to this review protocol

Study	Code [Reason]
engage in a falls prevention education programme: a qualitative process evaluation. BMJ open 5(12): e009780	
Hiroko, Kiyoshi-Teo (2017) Fall Prevention Practice Gap Analysis: Aiming for Targeted Improvements. MEDSURG Nursing 26(5): 332-335	- Study design not relevant to this review protocol
Ho, Portia, Bulsara, Caroline, Patman, Shane et al. (2020) Exploring enablers and barriers to accessing health services after a fall among people with intellectual disability. Journal of Applied Research in Intellectual Disabilities 33(3): 604-617	- Study does not contain an intervention relevant to this review protocol
Hoffman, Geoffrey J., Shuman, Clayton J., Montie, Mary et al. (2019) Caregivers' views of older adult fall risk and prevention during hospital-to-home transitions. Applied Nursing Research 47: 10-15	- Population not relevant to this review protocol
Hoke, Linda M and Zekany, Rachel T (2020) Two Sides to Every Fall: Patient and Nurse Perspectives. Critical care nurse 40(6): 33-41	- Study does not contain an intervention relevant to this review protocol
Holliday, N., Ward, G., Fielden, S. et al. (2015) Exploration of information needs and development of resources to inform and support those at risk of falling. Technology and Disability 27(12): 31-40	- Population not relevant to this review protocol
Honaker, JA (2006) A team approach risk of falling assessment and remediation program for community dwelling older adults with a fear of falling and balance disorders. Team Approach Risk of Falling Assessment & Remediation Program for Community Dwelling Older Adults with a Fear of Falling & Balance Disorders: 184p-184p	- Study does not contain an intervention relevant to this review protocol
Honaker, Julie A and Kretschmer, Laura W (2014) Impact of fear of falling for patients and caregivers: perceptions before and after participation in vestibular and balance rehabilitation therapy. American journal of audiology 23(1): 20-33	- Study does not contain an intervention relevant to this review protocol
Horton, Khim (2008) Falls in older people: the place of telemonitoring in rehabilitation. Journal of rehabilitation research and development 45(8): 1183-94	- Study does not contain an intervention relevant to this review protocol
Horton, Khim and Dickinson, Angela (2011) The role of culture and diversity in the prevention of falls among older Chinese people. Canadian journal on aging = La revue canadienne du vieillissement 30(1): 57-66	- Study aim is not relevant to this review protocol
Howard, Brenda S., Beitman, Candace L., Walker, Beth Ann et al. (2016) Cross-cultural Educational Intervention and Fall Risk Awareness. Physical & Occupational Therapy in Geriatrics 34(1): 1-20	- Study does not contain an intervention relevant to this review protocol
Howard, Brenda S., Brown Jones, Fiona, Sellers Steenblock, Aundrea et al. (2021) Single-Session Evidence-Based Intervention and Fall Risk Awareness in Community-Dwelling Older Adults. Topics in Geriatric Rehabilitation 37(3): 198-206	- Study design not relevant to this review protocol
Howard, Brenda, Baca, Ryan, Bilger, Melissa et al. (2018) Investigating Older Adults' Expressed Needs Regarding Falls Prevention. Physical & Occupational Therapy in Geriatrics 36(23): 201-220	- Study design not relevant to this review protocol
Howes, Sarah C., Wilson, Iseult M., Pedlow, Katy et al. (2021) Older adults' experience of active computer gaming for falls prevention exercise: A mixed methods study. Physiotherapy Practice & Research 42(2): 173-183	- Study does not contain an intervention relevant to this review protocol

Study	Code [Reason]
Hsieh, Katherine L.; Ruopeng, Sun; Sosnoff, Jacob J. (2020) Usability of self-guided mixed reality fall risk assessment for older adults. Gerontechnology 19(4): 1-7	- Study design not relevant to this review protocol
Huang, Yingli, Canning, Colleen G, Song, Jooeun et al. (2022) How does perceived fall risk influence decisions about whether to undertake activities in people with Parkinson's disease and their care partners? A qualitative study. Disability and rehabilitation 44(20): 6000-6008	- Study does not contain an intervention relevant to this review protocol
Husk, Jan; Jensen, Jan; O'Riordan, Shelagh (2007) The local falls and osteoporosis service: does it meet the needs of patients?. Nursing older people 19(10): 34-39	- Study design not relevant to this review protocol
Hutton, L, Frame, R, Maggo, H et al. (2009) The perceptions of physical activity in an elderly population at risk of falling: a focus group study. New Zealand Journal of Physiotherapy 37(2): 85-92	- Study aim is not relevant to this review protocol
Ireland, Sandra, Kirkpatrick, Helen, Boblin, Sheryl et al. (2013) The real-world journey of implementing fall prevention best practices in three acute care hospitals: a case study. Worldviews on evidence-based nursing 10(2): 95-103	- Population not relevant to this review protocol
Jang, Haeyoung, Lovarini, Meryl, Clemson, Lindy et al. (2021) Fall prevention programs for culturally and linguistically diverse groups: program provider perspectives. Ethnicity & Health 26(2): 299-317	- Population not relevant to this review protocol
Johansson, Erika; Borell, Lena; Jonsson, Hans (2014) Letting go of an old habit: group leaders' experiences of a client-centred multidisciplinary falls-prevention programme. Scandinavian journal of occupational therapy 21(2): 98-106	- Population not relevant to this review protocol
Johansson, I, Bachrach-Lindström, M, Struksnes, S et al. (2009) Balancing integrity vs. risk of falling -- nurses' experiences of caring for elderly people with dementia in nursing homes. Journal of Research in Nursing 14(1): 61-73	- Population not relevant to this review protocol
Johnston, Kylie; Grimmer-Somers, Karen; Sutherland, Michele (2010) Perspectives on use of personal alarms by older fallers. International journal of general medicine 3: 231-7	- Study does not contain an intervention relevant to this review protocol
Johnston, Madeline and Magnan, Morris A. (2019) Using a Fall Prevention Checklist to Reduce Hospital Falls: Results of a Quality Improvement Project. AJN American Journal of Nursing 119(3): 43-49	- Study does not contain an intervention relevant to this review protocol
Jones, Taylor S, Ghosh, Tista S, Horn, Kimberley et al. (2011) Primary care physicians perceptions and practices regarding fall prevention in adult's 65 years and over. Accident; analysis and prevention 43(5): 1605-9	- Population not relevant to this review protocol
Jorgensen, Vivien and Roaldsen, Kirsti Skavberg (2017) Negotiating identity and self-image: Perceptions of falls in ambulatory individuals with spinal cord injury-A qualitative study. Clinical Rehabilitation 31(4): 544-554	- Study does not contain an intervention relevant to this review protocol
Juckett, Lisa A, Bunger, Alicia C, Jarrott, Shannon E et al. (2021) Determinants of Fall Prevention Guideline Implementation in the Home- and Community-Based Service Setting. The Gerontologist 61(6): 942-953	- Population not relevant to this review protocol
Juckett, Lisa Ann (2020) Implementing fall prevention guidelines in home- and community-based service organizations: A mixed-methods study. Dissertation Abstracts International Section A: Humanities and Social Sciences 81(8a): no-specified	- Study does not contain an intervention relevant to this review protocol

Study	Code [Reason]
Kesgin, Firat, Suddick, Kitty, Heesen, Christoph et al. (2021) Developing a fall prevention program: what are the views and opinions of people with multiple sclerosis?. Disability & Rehabilitation 43(8): 1065-1073	- Study does not contain an intervention relevant to this review protocol
Khasnabish, S., Carter, E., Adelman, J. et al. (2019) Adoption of an evidence-based fall prevention program in large academic hospitals: A multi-site qualitative study of facilitators and barriers. Journal of General Internal Medicine 34(2supplement): 123-s124	- Conference abstract
Khong, Linda, Farringdon, Fiona, Hill, Keith D et al. (2015) "We are all one together": peer educators' views about falls prevention education for community-dwelling older adults--a qualitative study. BMC geriatrics 15: 28	- Population not relevant to this review protocol
Kilian, Christine, Salmoni, Alan, Ward-Griffin, Catherine et al. (2008) Perceiving falls within a family context: a focused ethnographic approach. Canadian journal on aging = La revue canadienne du vieillissement 27(4): 331-45	- Study does not contain an intervention relevant to this review protocol
Killingback, Clare, Thompson, Mark A, Chipperfield, Sarah et al. (2022) Transitions from healthcare to self-care: a qualitative study of falls service practitioners' views on self-management. Disability and rehabilitation 44(12): 2683-2690	- Population not relevant to this review protocol
Kim, Caroline (2018) Nurses' Reactions to Enclosure Beds. MEDSURG Nursing 27(2): 87-107	- Population not relevant to this review protocol
Kim, Janis, McDonald, Cody L, Hafner, Brian J et al. (2022) Fall-related events in people who are lower limb prosthesis users: the lived experience. Disability and rehabilitation 44(15): 3897-3908	- Study does not contain an intervention relevant to this review protocol
King, Barbara, Pecanac, Kristen, Krupp, Anna et al. (2018) Impact of Fall Prevention on Nurses and Care of Fall Risk Patients. The Gerontologist 58(2): 331-340	- Population not relevant to this review protocol
Kirkpatrick, Helen, Boblin, Sheryl, Ireland, Sandra et al. (2014) The nurse as bricoleur in falls prevention: learning from a case study of the implementation of fall prevention best practices. Worldviews on evidence-based nursing 11(2): 118-25	- Population not relevant to this review protocol
Kiyoshi-Teo, Hiroko, Northrup-Snyder, Kathlynn, Robert Davis, Mary et al. (2020) Qualitative descriptions of patient perceptions about fall risks, prevention strategies and self-identity: Analysis of fall prevention Motivational Interviewing conversations. Journal of clinical nursing 29(2122): 4281-4288	- Study does not contain an intervention relevant to this review protocol
Kiyoshi-Teo, Hiroko, McMahon, Siobhan K., Northup-Snyder, Kathlynn et al. (2024) Older People's Descriptions of Their Engagement in Fall Prevention. Western Journal of Nursing Research 46(1): 10-18	- Study does not contain an intervention relevant to this review protocol
Klima, Dennis, Austin, Nathan, Avila, Katherine et al. (2023) Student coaching in a rural community fall prevention program: An exploratory study. Gerontology & Geriatrics Education 44(1): 88-101	- Population not relevant to this review protocol
Klymko, Kay (2016) Video Monitoring: A Room with a View, or a Window to Challenges in Falls Prevention Research?. MEDSURG Nursing 25(5): 329-333	- Population not relevant to this review protocol
Koh, J.S.G., Hill, A.-M., Hill, K.D. et al. (2020) Evaluating a novel multifactorial falls prevention activity programme for community-dwelling older people after stroke: A mixed-method feasibility study. Clinical Interventions in Aging 15: 1099-1112	- Study does not contain an intervention relevant to this review protocol

Study	Code [Reason]
Koh, Ling, Mackenzie, Lynette, Meehan, Mandy et al. (2023) The understanding and experience of falls among community-dwelling adults aged 50 and over living with mental illness: A qualitative study. Aging & mental health 27(4): 789-796	- Study does not contain an intervention relevant to this review protocol
Koh, Serena S L, Manias, Elizabeth, Hutchinson, Alison M et al. (2008) Nurses' perceived barriers to the implementation of a Fall Prevention Clinical Practice Guideline in Singapore hospitals. BMC health services research 8: 105	- Population not relevant to this review protocol
Kohn, Marlana J; Chadwick, Kelly A; Steinman, Lesley E (2023) Adapting Evidence-Based Falls Prevention Programs for Remote Delivery - Implementation Insights through the RE-AIM Evaluation Framework to Promote Health Equity. Prevention science: the official journal of the Society for Prevention Research	- Study does not contain an intervention relevant to this review protocol
Koivunen, Marita and Saranto, Kaija (2018) Nursing professionals' experiences of the facilitators and barriers to the use of telehealth applications: a systematic review of qualitative studies. Scandinavian Journal of Caring Sciences 32(1): 24-44	- Population not relevant to this review protocol
Kulkarni, D and Cornely, H (2002) Do physical therapists teach their older patients how to get up after a fall?. Journal of Geriatric Physical Therapy 25(3): 43-43	- Study does not contain an intervention relevant to this review protocol
Kumai, Keiichi, Kawabata, Nobuko, Meguro, Kenichi et al. (2021) Mental and Physical Self-Awareness of Alzheimer Patients: Decreased Awareness of Amnesia and Increased Fear of Falling Compared to Views of Families: The Tajiri and Wakuya Projects. Dementia & Geriatric Cognitive Disorders 50(1): 96-102	- Study design not relevant to this review protocol
Lang, DSP, Teo, AHY, Abdul, F et al. (2007) Nurses implementing fall prevention strategies: an ethnographic study. Asian Journal of Nursing 10(3): 179-183	- Study does not contain an intervention relevant to this review protocol
Leavy, Breiffni, Berntsson, Johan, Franzen, Erika et al. (2019) Perceptions of balance and falls following a supervised training intervention - A qualitative study of people with Parkinson's disease. Disability and Rehabilitation: An International, Multidisciplinary Journal 41(8): 934-940	- Study does not contain an intervention relevant to this review protocol
Lee, Den-Ching A, McDermott, Fiona, Hoffmann, Tammy et al. (2013) 'They will tell me if there is a problem': limited discussion between health professionals, older adults, and their caregivers on falls prevention during and after hospitalization. Health education research 28(6): 1051-66	- Population not relevant to this review protocol *includes a mix of health care professionals, carers, and patient views. Results mixed*
Lee, Fiona; Mackenzie, Lynette; James, Carole (2008) Perceptions of older people living in the community about their fear of falling. Disability and rehabilitation 30(23): 1803-11	- Study does not contain an intervention relevant to this review protocol
Lee, Den-Ching A, Pritchard, Elizabeth, McDermott, Fiona et al. (2014) Falls prevention education for older adults during and after hospitalization: A systematic review and meta-analysis. Health Education Journal 73(5): 530-544	- Systematic review used as source of primary studies
Lees, Carolyn; O'Brien, Thomas; Maganaris, Constantinos (2021) A mirror image: experiences of informal carers caring for frail, older persons at risk from falling. British journal of community nursing 26(2): 64-68	- Population not relevant to this review protocol
Lees, Carolyn; O'Brien, Thomas; Maganaris, Constantinos (2022) The use of control - the actions of informal carers on those at risk	- Population not relevant to this review protocol

Study	Code [Reason]
from falling at home. A qualitative study. Health & social care in the community 30(3): 1045-1050	
Levett, T.J., Vera, J.H., Jones, C.I. et al. (2023) A cross-sectional assessment of frailty, falls and perceptions of ageing in people living with HIV using an mHealth platform. HIV Medicine 24(4): 431-441	- Study design not relevant to this review protocol
Li, Fuzhong, Harmer, Peter, Mack, Karin A et al. (2008) Tai Chi: moving for better balance -- development of a community-based falls prevention program. Journal of physical activity & health 5(3): 445-55	- Study does not contain an intervention relevant to this review protocol
Liamputtong, Pranee; Lam, Julie; Hill, Keith (2018) Exercise for Falls Prevention: Decision-making among Australian-born and Italian-born Older People. Activities, Adaptation & Aging 42(4): 261-277	- Study does not contain an intervention relevant to this review protocol
Liddle, J L M, Lovarini, Meryl, Clemson, Lindy M et al. (2019) Masculinity and preventing falls: insights from the fall experiences of men aged 70 years and over. Disability and rehabilitation 41(9): 1055-1062	- Study does not contain an intervention relevant to this review protocol
Liddle, Jeannine, Clemson, Lindy, Mackenzie, Lynette et al. (2020) Influences on general practitioner referral to allied health professionals for fall prevention in primary care. Australasian journal on ageing 39(1): e32-e39	- Population not relevant to this review protocol
Lim, Mei Ling, Ang, Seng Giap Marcus, Teo, Kai Yunn et al. (2018) Patients' Experience After a Fall and Their Perceptions of Fall Prevention: A Qualitative Study. Journal of nursing care quality 33(1): 46-52	- Study does not contain an intervention relevant to this review protocol
Lin, M.-L., Cheng, S.-P., Tzeng, H.-M. et al. (2022) Development of the Chinese Version of Nurses' Perception of Risk Factors for Injurious Falls and a Pilot Study. International Journal of Gerontology 16(1): 28-32	- Study design not relevant to this review protocol
Lindgren, Spencer W, Kwaschyn, Katie, Roberts, Ellen et al. (2016) A Feasibility Study for an Integrated Approach to Fall Prevention in Community Care: Stay Up and Active in Orange County. Frontiers in public health 4: 174	- Study does not contain an intervention relevant to this review protocol
Lins, Sabine; Icks, Andrea; Meyer, Gabriele (2011) Understanding, comprehensibility, and acceptance of an evidence-based consumer information brochure on fall prevention in old age: a focus group study. BMC geriatrics 11: 26	- Study does not contain an intervention relevant to this review protocol
Loganathan, Annaletchumy, Ng, Chirk Jenn, Tan, Maw Pin et al. (2015) Barriers faced by healthcare professionals when managing falls in older people in Kuala Lumpur, Malaysia: a qualitative study. BMJ open 5(11): e008460	- Population not relevant to this review protocol
Lopez, Karen Dunn, Gerling, Gregory J, Cary, Michael P et al. (2010) Cognitive work analysis to evaluate the problem of patient falls in an inpatient setting. Journal of the American Medical Informatics Association: JAMIA 17(3): 313-21	- Population not relevant to this review protocol
Lopez-Jeng, Cassie and Eberth, Steven D. (2020) Improving Hospital Safety Culture for Falls Prevention Through Interdisciplinary Health Education. Health Promotion Practice 21(6): 918-925	- Population not relevant to this review protocol
Lucas Molitor, Whitney, Feldhacker, Diana R, Lohman, Helene et al. (2022) Occupational Therapy and the IMPACT Act: Part 1. A Systematic Review of Evidence for Fall Prevention and Reduction, Community Discharge and Reintegration, and Readmission Prevention Interventions. The American journal of occupational therapy: official publication of the American Occupational Therapy Association 76(1)	- Study does not contain an intervention relevant to this review protocol

Study	Code [Reason]
Luo, Yuan, Ran, Haiye, Deng, Yuqian et al. (2023) Paid caregivers' experiences of falls prevention and care in China's senior care facilities: A phenomenological study. Frontiers in public health 11: 973827	- Population not relevant to this review protocol
Luzardo, Adriana Remiao, Paula Junior, Newton Ferreira de, Medeiros, Marcelo et al. (2018) Repercussions of hospitalization due to fall of the elderly: health care and prevention. Revista brasileira de enfermagem 71suppl2: 763-769	- Study does not contain an intervention relevant to this review protocol
López-Soto, Pablo Jesús, Rodríguez-Cortés, Francisco José, Miñarro-Del Moral, Rosa María et al. (2023) CHRONOFALLS: A multicentre nurse-led intervention in the chronoprevention of in-hospital falls in adults. BMC Nursing 22(1): 1-10	- Study design not relevant to this review protocol
Mackenzie, Lynette (2009) Perceptions of health professionals about effective practice in falls prevention. Disability and rehabilitation 31(24): 2005-12	- Population not relevant to this review protocol
Mackenzie, Lynette; Clemson, Lindy; Irving, Diana (2020) Fall prevention in primary care using chronic disease management plans: A process evaluation of provider and consumer perspectives. Australian occupational therapy journal 67(1): 22-30	- Population not relevant to this review protocol
Mackenzie, Lynette and Clifford, Amanda (2020) Perceptions of older people in Ireland and Australia about the use of technology to address falls prevention. Ageing & Society 40(2): 369-388	- Study does not contain an intervention relevant to this review protocol
Mackenzie, Lynette, Liddle, Jeannine, Clemson, Lindy M. et al. (2021) Perspectives of Australian GPs on tailoring fall risk management: a qualitative study. Australian Journal of Primary Health 27(5): 409-415	- Study does not contain an intervention relevant to this review protocol
Makaretz, A., Hayes, K., Gettel, C. et al. (2019) Student presentation, encore presentation qualitative program evaluation of an emergency department-initiated fall prevention intervention. Journal of the American Geriatrics Society 67(supplement1): 323	- Conference abstract
Malik, Humna, Virag, Briana, Fick, Fiona et al. (2020) Fall Prevention Program Characteristics and Experiences of Older Adults and Program Providers in Canada: A Thematic Content Analysis. Journal of applied gerontology: the official journal of the Southern Gerontological Society 39(10): 1124-1133	- Study aim is not relevant to this review protocol
Maneeprom, N.; Taneepanichskul, S.; Panza, A. (2018) Falls among physically active elderly in senior housings, Bangkok, Thailand: Situations and perceptions. Clinical Interventions in Aging 13: 2149-2159	- Study design not relevant to this review protocol
Marshall, Kathryn, Patterson, Freyr, Fleming, Jennifer et al. (2023) "Be ready to learn": a qualitative study of the patient perspective of falls and fall prevention following discharge from a spinal injuries unit. Disability and rehabilitation: 1-8	- Population not relevant to this review protocol
Matsuda, Patricia Noritake and Hoffman, Jeanne M (2022) Patient perspectives on falls in persons with multiple sclerosis. PM & R: the journal of injury, function, and rehabilitation 14(12): 1474-1482	- Population not relevant to this review protocol *Focused on MS not falls in general population*
McConville, Alexandra and Hooven, Katie (2021) Factors influencing the implementation of falls prevention practice in primary care. Journal of the American Association of Nurse Practitioners 33(2): 108-118	- Population not relevant to this review protocol

Study	Code [Reason]
McDonald, Kathie; Vonnes, Cassandra; Hartranft, Susan (2020) Direct care nurses and support staff thoughts and feelings about the reasons patients fall at a cancer center. Journal of healthcare risk management: the journal of the American Society for Healthcare Risk Management 40(1): 17-23	- Population not relevant to this review protocol
McEwan, Helen, Baker, Richard, Armstrong, Natalie et al. (2018) A qualitative study of the determinants of adherence to NICE falls guideline in managing older fallers attending an emergency department. International Journal of Emergency Medicine 11(1): 1-1	- Study does not contain an intervention relevant to this review protocol
McInnes, Elizabeth and Askie, Lisa (2004) Evidence review on older people's views and experiences of falls prevention strategies. Worldviews on evidence-based nursing 1(1): 20-37	- Study does not contain an intervention relevant to this review protocol
McInnes, Elizabeth; Seers, Kate; Tutton, Liz (2011) Older people's views in relation to risk of falling and need for intervention: a meta-ethnography. Journal of Advanced Nursing (John Wiley & Sons, Inc.) 67(12): 2525-2536	- Study does not contain an intervention relevant to this review protocol
McIntyre, Anne and Reynolds, Frances (2012) There's no apprenticeship for Alzheimer's: the caring relationship when an older person experiencing dementia falls. Ageing & Society 32(5): 873-896	- Study does not contain an intervention relevant to this review protocol
McMillan, Laura, Booth, Joanne, Currie, Kay et al. (2014) 'Balancing risk' after fall-induced hip fracture: the older person's need for information. International journal of older people nursing 9(4): 249-57	- Study aim is not relevant to this review protocol
Mcvey, Lynn, Alvarado, Natasha, Zaman, Hadar et al. (2024) Interactions that support older inpatients with cognitive impairments to engage with falls prevention in hospitals: An ethnographic study. Journal of clinical nursing 33(5): 1884-1895	- Population not relevant to this review protocol
Mecugni, Daniela, Friggeri, Federica, Mastrangelo, Stefano et al. (2010) Accidental falls prevention in the elderly: a post intervention survey in Italian hospitals...Fourth European Nursing Congress. Journal of Clinical Nursing (John Wiley & Sons, Inc.) 19: 31-31	- Study design not relevant to this review protocol
Meekes, Wytske M A, Leemrijse, Chantal J, Korevaar, Joke C et al. (2022) Implementing Falls Prevention in Primary Care: Barriers and Facilitators. Clinical interventions in aging 17: 885-902	- Population not relevant to this review protocol
Meekes, Wytske M. A.; Ford, Claire; Stanmore, Emma K. (2021) Recruitment and retention of older adults in Assisted Living Facilities to a clinical trial using technology for falls prevention: A qualitative case study of barriers and facilitators. Health & Social Care in the Community 29(5): 1296-1307	- Population not relevant to this review protocol
Mesbah, Normala, Perry, Meredith, Hale, Leigh et al. (2023) Perspectives of People with Mild to Moderate Cognitive Impairment and Their Caregivers about Physical Activity and Exercise for Fall Prevention: A Qualitative Study. Disabilities 3(2): 255-268	- Population not relevant to this review protocol (*mixed population and majority caregivers not patients)*
Meyer, Claudia, Dow, Briony, Hill, Keith D et al. (2016) "The Right Way at the Right Time": Insights on the Uptake of Falls Prevention Strategies from People with Dementia and Their Caregivers. Frontiers in public health 4: 244	- Study design not relevant to this review protocol *(mixed method design and includes patients and nurses)*
Meyer, Claudia, Hill, Sophie, Hill, Keith D et al. (2017) Sharing knowledge of falls prevention for people with dementia: insights for community care practice. Australian journal of primary health 23(5): 464-470	- Population not relevant to this review protocol

Study	Code [Reason]
Meyer, Claudia, Renehan, Emma, Batchelor, Frances et al. (2018) 'Falls not a priority': insights on discharging older people, admitted to hospital for a fall, back to the community. Australian Journal of Primary Health 24(1): 66-73	- Study design not relevant to this review protocol
Miake-Lye, Isomi M, Amulis, Angel, Saliba, Debra et al. (2011) Formative evaluation of the telecare fall prevention project for older veterans. BMC health services research 11: 119	- Study does not contain an intervention relevant to this review protocol
MILLER, PATRICIA A., SINDING, CHRISTINA, GRIFFITH, LAUREN E. et al. (2016) Seniors' narratives of asking (and not asking) for help after a fall: implications for identity. Ageing & Society 36(2): 240-258	- Study does not contain an intervention relevant to this review protocol
Moody, J; Hale, L; Waters, D (2010) 'Perceptions of an aqua-aerobic programme to improve physical function and falls risk in older adults with lower extremity osteoarthritis'. New Zealand Journal of Physiotherapy 38(2): 71-72	- Study does not contain an intervention relevant to this review protocol
Moore, Kevin, O'Shea, Emma, Kenny, Lorna et al. (2021) Older Adults' Experiences with Using Wearable Devices: Qualitative Systematic Review and Meta-synthesis. JMIR mHealth and uHealth 9(6): e23832	- Study does not contain an intervention relevant to this review protocol
Moreira Ximenes, Maria Aline, Sousa Albuquerque Brandão, Maria Girlane, Sales Macêdo, Thamires et al. (2022) Effectiveness of educational technology for preventing falls in a hospital environment. Acta Paulista de Enfermagem 35(1): 1-10	- Study design not relevant to this review protocol
Munford, Danielle and Gunn, Hilary (2020) What are the perceptions and experiences of falls amongst people with stroke who live in the community?. Disability & Rehabilitation 42(5): 722-729	- Study does not contain an intervention relevant to this review protocol
Muusse, J S C, Zuidema, R, van Scherpenseel, M C et al. (2023) Influencing factors of interprofessional collaboration in multifactorial fall prevention interventions: a qualitative systematic review. BMC primary care 24(1): 116	- Population not relevant to this review protocol
Myrsep, Anja and Thomson, Di (2018) Housebound patients' experiences of a falls service provided by a team of community physiotherapists. International Journal of Therapy & Rehabilitation 25(12): 636-647	- Study does not contain an intervention relevant to this review protocol
Naseri, Chiara, McPhail, Steven M, Haines, Terry P et al. (2020) Perspectives of older adults regarding barriers and enablers to engaging in fall prevention activities after hospital discharge. Health & social care in the community 28(5): 1710-1722	- Study design not relevant to this review protocol
Nilsagard, Ylva, Denison, Eva, Gunnarsson, Lars-Gunnar et al. (2009) Factors perceived as being related to accidental falls by persons with multiple sclerosis. Disability and rehabilitation 31(16): 1301-10	- Study does not contain an intervention relevant to this review protocol
Nina Mamani, Abigail Roxana, Oliveira Reiners, Annelita Almeida, de Souza Azevedo, Rosemeiry Capriata et al. (2019) Elderly caregiver: knowledge, attitudes, and practices about falls and its prevention. Revista Brasileira de Enfermagem 72: 119-126	- Population not relevant to this review protocol
Nordon-Craft, Amy, Schwarz, Brandy, Kowalewski, Victoria et al. (2017) Service-Learning Enhances Physical Therapy Students' Ability to Examine Fall Risk in Older Adults. Journal of Allied Health 46(3): e51-e58	- Population not relevant to this review protocol
Nyman, Samuel R and Yardley, Lucy (2009) Usability and acceptability of a website that provides tailored advice on falls	- Study design not relevant to this review protocol

Study	Code [Reason]
prevention activities for older people. Health informatics journal 15(1): 27-39	
O'Malley, Nicola; Coote, Susan; Clifford, Amanda M (2023) Outcomes of importance to people with multiple sclerosis, Parkinson's disease and stroke following a falls prevention intervention: a qualitative study to inform a core outcome set. Disability and rehabilitation: 1-13	- Study does not contain an intervention relevant to this review protocol
O'Neil, J., Dionne, N., Marchand, S. et al. (2023) Reach, adoption, and implementation strategies of a telehealth falls prevention program: perspectives from francophone communities across Canada. medRxiv	- Population not relevant to this review protocol
Okoye, E.C., Akosile, C.O., Maruf, F.A. et al. (2021) Falls and fear of falling among older adults in an assisted-living facility: A qualitative and foundational study for intervention development in a developing country. Archives of Gerontology and Geriatrics 94: 104375	- Study does not contain an intervention relevant to this review protocol
Okoye, Emmanuel Chiebuka, Akosile, Christopher Olusanjo, Maruf, Fatai Adesina et al. (2022) Educational Intervention Guidelines for Falls And Fear Of Falling For Older Adults: a Low-Income Country's Perspective. Ageing International 47(2): 321-336	- Study does not contain an intervention relevant to this review protocol
Olsen, KA (2000) In the fall of our years: the lived experience of the elderly spouse after a falling incident. In the Fall of Our Years: The Lived Experience of the Elderly Spouse After a Falling Incident: 122p-122p	- Study does not contain an intervention relevant to this review protocol
Ott, Lynda Dee (2018) The impact of implementing a fall prevention educational session for community-dwelling physical therapy patients. Nursing open 5(4): 567-574	- Study design not relevant to this review protocol
Owen, Charlotte L, Gaulton, Christine, Roberts, Helen C et al. (2022) Perceptions of people with Parkinson's and their caregivers of falling and falls-related healthcare services- a qualitative study. PloS one 17(10): e0276588	- Population not relevant to this review protocol
Patton, Susan (2017) Using an online learning module in a nursing program to improve knowledge and skills to prevent falls in the community dwelling older adult population. Dissertation Abstracts International: Section B: The Sciences and Engineering 77(9be): no-specified	- Population not relevant to this review protocol
Patton, Susan Kane and Henry, Leah Jean (2019) Nursing students' experience with fall risk assessment in older adults. Nursing & Health Sciences 21(1): 21-27	- Population not relevant to this review protocol
Patton, Susan; Vincenzo, Jennifer; Lefler, Leanne (2022) Gender Differences in Older Adults' Perceptions of Falls and Fall Prevention. Health promotion practice 23(5): 785-792	- Study design not relevant to this review protocol
Peach, Tamsin, Pollock, Kristian, van der Wardt, Veronika et al. (2017) Attitudes of older people with mild dementia and mild cognitive impairment and their relatives about falls risk and prevention: A qualitative study. PloS one 12(5): e0177530	- Population not relevant to this review protocol
Pereira-Llano, Patricia Mirapalheta, dos Santos, Fernanda, Tortelli Rodrigues, Mônica Canilha et al. (2016) The family in the care process of an elderly after a fall accident. Revista de Pesquisa: Cuidado e Fundamental 8(3): 4717-4724	- Study does not contain an intervention relevant to this review protocol
Pereles, Laurie, Jackson, Roberta, Rosenal, Tom et al. (2017) Listening with a narrative ear: Insights from a study of fall stories in older adults. Canadian family physician Medecin de famille canadien 63(1): e44-e50	- Study does not contain an intervention relevant to this review protocol

Study	Code [Reason]
Peterson, E, Howland, J, Kielhofner, G et al. (1999) Falls self-efficacy and occupational adaptation among elders. Physical & Occupational Therapy in Geriatrics 16(12): 1-16	- Study does not contain an intervention relevant to this review protocol
Phillips, Victoria L; Yarmo Roberts, Deborah; Hunsaker, Amanda Egner (2008) Certified nursing aides' and care assistants' views on falls: insight for creation and implementation of fall prevention programs. Journal of the American Medical Directors Association 9(3): 168-72	- Population not relevant to this review protocol
Pighills, Alison, Tynan, Anna, Furness, Linda et al. (2019) Occupational therapist led environmental assessment and modification to prevent falls: Review of current practice in an Australian rural health service. Australian Occupational Therapy Journal 66(3): 347-361	- Population not relevant to this review protocol
Ploegmakers, Kim J, Linn, A J, Medlock, S et al. (2024) A European survey of older peoples' preferences, and perceived barriers and facilitators to inform development of a medication-related fall-prevention patient portal. European geriatric medicine	- Study design not relevant to this review protocol
Pock, Eva Maria Lissa, Lohrmann, Christa, Hoffmann, Magdalena et al. (2024) Evaluation of the usefulness and understandability of information leaflets on fall prevention from the perspective of hospital patients and their relatives. Health information and libraries journal	- Study design not relevant to this review protocol
Porter, Rebecca B., Cullen, Laura, Farrington, Michele et al. (2018) Exploring Clinicians' Perceptions About Sustaining an Evidence-Based Fall Prevention Program: A Findings from this qualitative study may help improve sustainability. AJN American Journal of Nursing 118(5): 24-46	- Population not relevant to this review protocol
Porter, Rebecca B, Cullen, Laura, Farrington, Michele et al. (2018) CE: Original Research: Exploring Clinicians' Perceptions About Sustaining an Evidence-Based Fall Prevention Program. The American journal of nursing 118(5): 24-33	- Population not relevant to this review protocol
Powell-Cope, Gail, Quigley, Patricia, Besterman-Dahan, Karen et al. (2014) A qualitative understanding of patient falls in inpatient mental health units. Journal of the American Psychiatric Nurses Association 20(5): 328-39	- Population not relevant to this review protocol
Racine, Emmy, Soye, Anna, Barry, Patrick et al. (2020) 'I've always done what I was told by the medical people': a qualitative study of the reasons why older adults attend multifactorial falls risk assessments mapped to the Theoretical Domains Framework. BMJ open 10(2): e033069	- Study does not contain an intervention relevant to this review protocol
Radecki, Bethany; Reynolds, Staci; Kara, Areeba (2018) Inpatient fall prevention from the patient's perspective: A qualitative study. Applied nursing research: ANR 43: 114-119	- Study does not contain an intervention relevant to this review protocol
Ramsey, Ruth, Hin, Anita, Prado, Chelsea et al. (2015) Understanding and Preventing Falls: Perspectives of First Responders and Older Adults. Physical & Occupational Therapy in Geriatrics 33(1): 17-33	- Study does not contain an intervention relevant to this review protocol
Reckrey, Jennifer M., Gazarian, Priscilla, Reuben, David B. et al. (2021) Barriers to implementation of STRIDE, a national study to prevent fall-related injuries. Journal of the American Geriatrics Society 69(5): 1334-1342	- Population not relevant to this review protocol
Reelick, M.F., Faes, M., Esselink, R.A.J. et al. (2010) Good impact but low feasibility of the new fall intervention program in frail	- Study does not contain an intervention relevant to this review protocol

Study	Code [Reason]
(cognitively impaired) older fallers. Parkinsonism and Related Disorders 16(suppl1): 60	
Rice, Hannah, Garabedian, Pamela M, Shear, Kristen et al. (2022) Clinical Decision Support for Fall Prevention: Defining End-User Needs. Applied clinical informatics 13(3): 647-655	- Population not relevant to this review protocol *mixed population and results presented together*
Rice, Laura A, Peters, Joseph, Sung, JongHun et al. (2019) Perceptions of Fall Circumstances, Recovery Methods, and Community Participation in Manual Wheelchair Users. American journal of physical medicine & rehabilitation 98(8): 649-656	- Study design not relevant to this review protocol
Robinson, Lisa, Newton, Julia L, Jones, Diana et al. (2014) Self-management and adherence with exercise-based falls prevention programmes: a qualitative study to explore the views and experiences of older people and physiotherapists. Disability and rehabilitation 36(5): 379-86	- Study does not contain an intervention relevant to this review protocol
Robinson, Katie, Logan, Phillipa, Tucker, Carol et al. (2024) What are the views of adults with an intellectual disability (AWID), carers and healthcare professionals on a community falls management programme for AWID: a qualitative interview study in the UK. BMJ open 14(2): e069588	- Population not relevant to this review protocol
Robson, Kristy; Coyle, Julia; Pope, Rodney (2018) Exploration of older people's perceptions of behavioural factors associated with falls. Age and ageing 47(5): 734-740	- Study does not contain an intervention relevant to this review protocol
Rowsell, Alison, Ashburn, Ann, Fitton, Carolyn et al. (2022) Participant expectations and experiences of a tailored physiotherapy intervention for people with Parkinson's and a history of falls. Disability and rehabilitation 44(5): 727-735	- Study does not contain an intervention relevant to this review protocol
Rush, Kathy L, Robey-Williams, Cathy, Patton, Laura Michelle et al. (2009) Patient falls: acute care nurses' experiences. Journal of clinical nursing 18(3): 357-65	- Population not relevant to this review protocol
Ruth, C.-A., Visvanathan, Renuka, Ranasinghe, Damith et al. (2018) Evaluation and refinement of a handheld health information technology tool to support the timely update of bedside visual cues to prevent falls in hospitals. International Journal of Evidence-Based Healthcare 16(2): 90-100	- Population not relevant to this review protocol
Sam, Priscilla R. and Lee, Premila (2022) Perception: A Critical Analysis of the Hospitalized Patients on Falls. International Journal of Nursing Education 14(3): 127-130	- Study does not contain an intervention relevant to this review protocol
Sandlund, Marlene, Pohl, Petra, Ahlgren, Christina et al. (2018) Gender Perspective on Older People's Exercise Preferences and Motivators in the Context of Falls Prevention: A Qualitative Study. BioMed research international 2018: 6865156	- Study does not contain an intervention relevant to this review protocol
Scheffers-Barnhoorn, Maaike N, van Eijk, Monica, Schols, Jos M G A et al. (2021) Feasibility of a multicomponent cognitive behavioral intervention for fear of falling after hip fracture: process evaluation of the FIT-HIP intervention. BMC geriatrics 21(1): 224	- Study does not contain an intervention relevant to this review protocol
Shang, Siyi, Zhang, Qinghua, Qi, Lingxia et al. (2023) Caregivers' fear of older care recipients falling: A systematic review of qualitative studies. Geriatric nursing (New York, N.Y.) 51: 303-316	- Population not relevant to this review protocol
Shankar, Kalpana N, Taylor, Devon, Rizzo, Caroline T et al. (2017) Exploring Older Adult ED Fall Patients' Understanding of Their Fall: A	- Study does not contain an intervention relevant to this review protocol

Study	Code [Reason]
Qualitative Study. Geriatric orthopaedic surgery & rehabilitation 8(4): 231-237	
Shaw, L.; Kiegaldie, D.; Morris, M.E. (2021) Educating health professionals to implement evidence-based falls screening in hospitals. Nurse Education Today 101: npag-npag	- Study does not contain an intervention relevant to this review protocol
Shuman, Clayton, Liu, Jia, Montie, Mary et al. (2016) Patient perceptions and experiences with falls during hospitalization and after discharge. Applied nursing research: ANR 31: 79-85	- Study does not contain an intervention relevant to this review protocol
Sibley, K. M., Gardner, P., Bentley, D. C. et al. (2022) Exploring factors influencing physiotherapists' perceptions of measuring reactive balance following a theory-based multi-component intervention: a qualitative descriptive study. Disability & Rehabilitation 44(17): 4709-4716	- Population not relevant to this review protocol
Simpson, J.M. and Salkin, S. (1994) Are elderly people at risk of falling taught how to get up again?. Journal of Age-Related Disorders 6(4): 23	- Population not relevant to this review protocol
Simpson, Janet M; Darwin, Cressida; Marsh, Nicola (2003) What are older people prepared to do to avoid falling? A qualitative study in London. British journal of community nursing 8(4): 152-9	- Study does not contain an intervention relevant to this review protocol - *[Themes related to barriers to and perceptions on interventions rather than information]*
Simpson, Paul, Thomas, Ric, Bendall, Jason et al. (2017) 'Popping nana back into bed' - a qualitative exploration of paramedic decision making when caring for older people who have fallen. BMC health services research 17(1): 299	- Population not relevant to this review protocol
Singh, Hardeep, Collins, Kyla, Flett, Heather M et al. (2022) Therapists' perspectives on fall prevention in spinal cord injury rehabilitation: a qualitative study. Disability and rehabilitation 44(16): 4351-4360	- Population not relevant to this review protocol
Singh, Hardeep, Scovil, Carol Y, Yoshida, Karen et al. (2020) Factors that influence the risk of falling after spinal cord injury: a qualitative photo-elicitation study with individuals that use a wheelchair as their primary means of mobility. BMJ open 10(2): e034279	- Study does not contain an intervention relevant to this review protocol
Singh, Hardeep, Scovil, Carol Y, Yoshida, Karen et al. (2021) Capturing the psychosocial impacts of falls from the perspectives of wheelchair users with spinal cord injury through photo-elicitation. Disability and rehabilitation 43(19): 2680-2689	- Study does not contain an intervention relevant to this review protocol
So, Cynthia and Pierluissi, Edgar (2012) Attitudes and expectations regarding exercise in the hospital of hospitalized older adults: a qualitative study. Journal of the American Geriatrics Society 60(4): 713-8	- Study does not contain an intervention relevant to this review protocol
Stephen, Kelly and Campbell, Alison (2024) The experiences of older adults with cognitive impairment in using falls prevention alarms in hospital: A qualitative descriptive study. Australian occupational therapy journal 71(1): 132-148	- Study does not contain an intervention relevant to this review protocol
Stenberg, Marie and Wann-Hansson, Christine (2011) Health Care Professionals' Attitudes and Compliance to Clinical Practice Guidelines to Prevent Falls and Fall Injuries. Worldviews on Evidence-Based Nursing 8(2): 87-95	- Population not relevant to this review protocol

Study	Code [Reason]
Sunderland, E (2005) Personal perspectives on the impact of falling. Physiotherapy Ireland 26(2): 34-35	- Study does not contain an intervention relevant to this review protocol
Suttanon, Plaiwan, Hill, Keith D, Said, Catherine M et al. (2012) Factors influencing commencement and adherence to a home-based balance exercise program for reducing risk of falls: perceptions of people with Alzheimer's disease and their caregivers. International psychogeriatrics 24(7): 1172-82	- Study does not contain an intervention relevant to this review protocol
Tai, Daria, Li, Eric, Liu-Ambrose, Teresa et al. (2020) Patient-Reported Outcome Measures (PROMs) to Support Adherence to Falls Prevention Clinic Recommendations: A Qualitative Study. Patient preference and adherence 14: 2105-2121	- Study does not contain an intervention relevant to this review protocol
Teng, Bernadine, Rosbergen, Ingrid C M, Gomersall, Sjaan et al. (2022) Physiotherapists' experiences and views of older peoples' exercise adherence with respect to falls prevention in Singapore: a qualitative study. Disability and rehabilitation 44(19): 5530-5538	- Study does not contain an intervention relevant to this review protocol
Teng, Bernadine, Rosbergen, Ingrid C.M., Gomersall, Sjaan R. et al. (2023) Barriers to and Facilitators of Adherence to Prescribed Home Exercise in Older Adults at Risk of Falling in Singapore: A Qualitative Study. Journal of Aging & Physical Activity 31(1): 48-58	- Study does not contain an intervention relevant to this review protocol
Thiamwong, Ladda (2021) Older Adults' Experiences With the Visual Physio-Feedback Technology and Peer-Led Combined Group and Home-Based Exercises. Journal of Aging & Physical Activity 29(4): 604-611	- Study does not contain an intervention relevant to this review protocol
Thilo, F.J.S., Bilger, S., Halfens, R.J.G. et al. (2017) Involvement of the end user: Exploration of older people's needs and preferences for a wearable fall detection device - A qualitative descriptive study. Patient Preference and Adherence 11: 11-22	- Study does not contain an intervention relevant to this review protocol
Tischler, L. and Hobson, S. (2005) Fear of falling: A qualitative study among community-dwelling older adults. Physical and Occupational Therapy in Geriatrics 23(4): 37-53	- Study does not contain an intervention relevant to this review protocol
Tolley, L. and Atwal, A. (2003) Determining the effectiveness of a falls prevention programme to enhance quality of life: An occupational therapy perspective. British Journal of Occupational Therapy 66(6): 269-276	- Population not relevant to this review protocol
Torbitt, Molly C (2023) The essence of fear of falling: A phenomenology of fear of falling amongst care recipients and caregivers. Dissertation Abstracts International Section A: Humanities and Social Sciences 84(12a): no-specified	- Study does not contain an intervention relevant to this review protocol
Tsindos, Tess, Ayton, Darshini, Soh, Sze-Ee et al. (2022) Perceptions of falls risk and falls prevention among people with osteoarthritis. Disability and rehabilitation 44(10): 1839-1846	- Study does not contain an intervention relevant to this review protocol
Turjamaa, Riitta, Aijo, Marja, Tervo-Heikkinen, Tarja et al. (2020) A Qualitative Study of Nursing Students' Experiences in Fall Prevention for Older Home Care Clients. Journal of aging research 2020: 7652623	- Population not relevant to this review protocol
Turkoski, B, Pierce, L L, Schreck, S et al. (1997) Clinical nursing judgment related to reducing the incidence of falls by elderly patients. Rehabilitation nursing: the official journal of the Association of Rehabilitation Nurses 22(3): 124-30	- Population not relevant to this review protocol

Study	Code [Reason]
Turner, Nicholas, Jones, Diana, Dawson, Pamela et al. (2019) The Perceptions and Rehabilitation Experience of Older People After Falling in the Hospital. Rehabilitation nursing: the official journal of the Association of Rehabilitation Nurses 44(3): 141-150	- Study does not contain an intervention relevant to this review protocol
Tuvemo Johnson, Susanna, Martin, Cathrin, Anens, Elisabeth et al. (2018) Older Adults' Opinions on Fall Prevention in Relation to Physical Activity. Journal of Applied Gerontology 37(1): 58-78	- Study does not contain an intervention relevant to this review protocol
Tynan, Anna, Pighills, Alison, White, Wendy et al. (2023) Implementing best practice occupational therapist-led environmental assessment and modification to prevent falls: A qualitative study of two regional and rural public health services in Australia. Australian Occupational Therapy Journal 70(2): 202-217	- Population not relevant to this review protocol
Tzeng, Huey-Ming and Yin, Chang-Yi (2008) Nurses' solutions to prevent inpatient falls in hospital patient rooms. Nursing economic$ 26(3): 179-87	- Population not relevant to this review protocol
Tzeng, Huey-Ming, Yin, Chang-Yi, Anderson, Allison et al. (2012) Nursing staff's awareness of keeping beds in the lowest position to prevent falls and fall injuries in an adult acute surgical inpatient care setting. Medsurg nursing : official journal of the Academy of Medical-Surgical Nurses 21(5): 271-4	- Population not relevant to this review protocol
Tzeng, Huey-Ming and Yin, Chang-Yi (2014) Most and least helpful aspects of fall prevention education to prevent injurious falls: a qualitative study on nurses' perspectives. Journal of Clinical Nursing (John Wiley & Sons, Inc.) 23(1718): 2676-2680	- Population not relevant to this review protocol
Valatka, Robin; Krizo, Jessica; Mallat, Ali (2021) A Survey-Based Assessment of "Matter of Balance" Participant Fall-Related Experience. Journal of Trauma Nursing 28(5): 304-309	- Study design not relevant to this review protocol
van Harten-Krouwel, Diny, Schuurmans, Marieke, Emmelot-Vonk, Marielle et al. (2011) Development and feasibility of falls prevention advice. Journal of clinical nursing 20(1920): 2761-76	- Study design not relevant to this review protocol *reports quantitative data*
Vandenberg, Ann E., van Beijnum, Bert-Jan, Overdevest, Vera G.P. et al. (2017) US and Dutch nurse experiences with fall prevention technology within nursing home environment and workflow: A qualitative study. Geriatric Nursing 38(4): 276-282	- Population not relevant to this review protocol
Vaziri, Daryoush D, Aal, Konstantin, Ogonowski, Corinna et al. (2016) Exploring user experience and technology acceptance for a fall prevention system: results from a randomized clinical trial and a living lab. European review of aging and physical activity : official journal of the European Group for Research into Elderly and Physical Activity 13: 6	- Study does not contain an intervention relevant to this review protocol
Vella-Burrows, Trish, Pickard, Angela, Wilson, Lian et al. (2021) 'Dance to Health': an evaluation of health, social and dance interest outcomes of a dance programme for the prevention of falls. Arts & Health: International Journal for Research, Policy & Practice 13(2): 158-172	- Study does not contain an intervention relevant to this review protocol
Vieira, Edgar Ramos, Berean, Colleen, Paches, Debra et al. (2011) Risks and suggestions to prevent falls in geriatric rehabilitation: a participatory approach. BMJ quality & safety 20(5): 440-8	- Population not relevant to this review protocol
Vincenzo, J.L., Patton, S.K., Lefler, L.L. et al. (2022) A qualitative study of older adults' facilitators, barriers, and cues to action to engage in falls prevention using health belief model constructs. Archives of Gerontology and Geriatrics 99: 104610	- Study aim is not relevant to this review protocol

Study	Code [Reason]
Vincenzo, Jennifer L. and Patton, Susan Kane (2021) Older Adults' Experience with Fall Prevention Recommendations Derived From the STEADI. Health Promotion Practice 22(2): 236-247	- Study does not contain an intervention relevant to this review protocol
Viswanath, Mallaika, Clinch, Darja, Ceresoli, Marco et al. (2023) Perceptions and practices surrounding the perioperative management of frail emergency surgery patients: a WSES-endorsed cross-sectional qualitative survey. World Journal of Emergency Surgery 18(1): 1-11	- Population not relevant to this review protocol
Walsh, Mary E., Galvin, Rose, Williams, David J. P. et al. (2019) The experience of recurrent fallers in the first year after stroke. Disability & Rehabilitation 41(2): 142-149	- Study aim is not relevant to this review protocol
Wang, Lin M, Zhang, Li M, Roe, Elizabeth et al. (2022) The Perceived Knowledge of Fall Prevention in Nurses Working in Acute Care Hospitals in China and the United States. Journal of Patient Safety 18(2): e580-e584	- Population not relevant to this review protocol
Ward, Gillian; Walker-Clarke, Aimee; Holliday, Nikki (2017) Evaluation of a web-based app to assist home-hazard modification in falls prevention. British Journal of Occupational Therapy 80(12): 735-744	- Study does not contain an intervention relevant to this review protocol
Wheatley, Alison, Bamford, Claire, Shaw, Caroline et al. (2019) Service organisation for people with dementia after an injurious fall: challenges and opportunities. Age and ageing 48(3): 454-458	- Population not relevant to this review protocol *includes mix of patients, healthcare professionals and families with data not presented separately*
Whitehead, C.H.; Wundke, R.; Crotty, M. (2006) Attitudes to falls and injury prevention: What are the barriers to implementing falls prevention strategies?. Clinical Rehabilitation 20(6): 536-542	- Study design not relevant to this review protocol
Williams, Jaime, Kaasalainen, Sharon, Hadjistavropoulos, Thomas et al. (2011) A qualitative investigation of injurious falls in long-term care: perspectives of staff members. Disability and rehabilitation 33(5): 423-32	- Population not relevant to this review protocol
Williams, Veronika; Victor, Christina R; McCrindle, Rachel (2013) It is always on your mind: experiences and perceptions of falling of older people and their carers and the potential of a mobile falls detection device. Current gerontology and geriatrics research 2013: 295073	- Study does not contain an intervention relevant to this review protocol
Wilson, Deleise S., Montie, Mary, Conlon, Paul et al. (2016) Nurses' Perceptions of Implementing Fall Prevention Interventions to Mitigate Patient-Specific Fall Risk Factors. Western Journal of Nursing Research 38(8): 1012-1034	- Population not relevant to this review protocol
Wiseman, J.M., Stamper, D.S., Sheridan, E. et al. (2021) Barriers to the Initiation of Home Modifications for Older Adults for Fall Prevention. Geriatric Orthopaedic Surgery and Rehabilitation 12	- Study does not contain an intervention relevant to this review protocol
Worum, Hilde, Lillekroken, Daniela, Ahlsen, Birgitte et al. (2019) Bridging the gap between research-based knowledge and clinical practice: a qualitative examination of patients and physiotherapists' views on the Otago exercise Programme. BMC geriatrics 19(1): 278	- Study does not contain an intervention relevant to this review protocol
Worum, Hilde, Lillekroken, Daniela, Roaldsen, Kirsti Skavberg et al. (2020) Physiotherapists' perceptions of challenges facing evidence-based practice and the importance of environmental empowerment in fall prevention in the municipality - a qualitative study. BMC geriatrics 20(1): 432	- Population not relevant to this review protocol

Study	Code [Reason]
Xiao, J.Y., Haralambous, B., Angus, J. et al. (2008) Older Chinese Australians' understanding of falls and falls prevention: Exploring their needs for information. Australian Journal of Primary Health 14(1): 36-42	- Study does not contain an intervention relevant to this review protocol
Xu, Tianma, Clemson, Lindy, O'Loughlin, Kate et al. (2021) Stepping On after Stroke falls-prevention programme for community stroke survivors in Singapore: A feasibility study. British Journal of Occupational Therapy 84(6): 366-375	- Study design not relevant to this review protocol
Xu, Tianma, O'Loughlin, Kate, Clemson, Lindy et al. (2019) Developing a falls prevention program for community-dwelling stroke survivors in Singapore: client and caregiver perspectives. Disability and rehabilitation 41(9): 1044-1054	- Study does not contain an intervention relevant to this review protocol
Xu, Tianma, O'loughlin, Kate, Clemson, Lindy et al. (2019) Therapists' perspectives on adapting the Stepping On falls prevention programme for community-dwelling stroke survivors in Singapore. Disability and rehabilitation 41(21): 2528-2537	- Population not relevant to this review protocol
Yang, Kyeongra, Colorito, Kimberly M., Bowles, Kathryn H. et al. (2019) Home care providers' experience of translating evidence-based fall prevention programs into practice. Home Health Care Services Quarterly 38(3): 182-193	- Study does not contain an intervention relevant to this review protocol
Yardley, L., Bishop, F.L., Beyer, N. et al. (2006) Older people's views of falls-prevention interventions in six European countries. Gerontologist 46(5): 650-660	- Study does not contain an intervention relevant to this review protocol
Yardley, L., Kirby, S., Ben-Shlomo, Y. et al. (2008) How likely are older people to take up different falls prevention activities?. Preventive Medicine 47(5): 554-558	- Study does not contain an intervention relevant to this review protocol
Yardley, Lucy, Donovan-Hall, Margaret, Francis, Katharine et al. (2007) Attitudes and beliefs that predict older people's intention to undertake strength and balance training. The journals of gerontology. Series B, Psychological sciences and social sciences 62(2): p119-25	- Study design not relevant to this review protocol
Ye, Pengpeng, Jin, Ye, Er, Yuliang et al. (2022) Perceptions of Facilitators and Barriers to Implementation of Falls Prevention Programs in Primary Health Care Settings in China. JAMA Network Open 5(8): e2228960-e2228960	- Study does not contain an intervention relevant to this review protocol
Yoder, Claire L McKinley; Kyoshi-Teo, Hiroko; Ochoa-Cosler, Olivia (2023) Fall Prevention Care Management: Implementation and Outcomes of a Project to Reduce Fall Risks of Older Adults in Assisted Living Facilities. Journal of nursing care quality	- Study does not contain an intervention relevant to this review protocol
Zachary, Ciara, Casteel, Carri, Nocera, Maryalice et al. (2012) Barriers to senior centre implementation of falls prevention programmes. Injury prevention: journal of the International Society for Child and Adolescent Injury Prevention 18(4): 272-6	- Population not relevant to this review protocol
Zammit, L. (2014) The prevention of falls in a General Medical and Orthopedic Surgical ward within an acute care setting: A best practice implementation project. JBI Database of Systematic Reviews and Implementation Reports 12(10): 246-266	- Study design not relevant to this review protocol
Zecevic, A.A., Ho-Ting, A., Ngo, C. et al. (2017) Improving safety culture in hospitals: Facilitators and barriers to implementation of systemic falls investigative method (SFIM). International Journal for Quality in Health Care 29(3): 371-377	- Study design not relevant to this review protocol

Study	Code [Reason]
Zimmerman, Kristin M., Davis, Kimberly, Finucane, Sheryl et al. (2021) Evaluation of an interprofessional, evidence-based falls training. Gerontology & Geriatrics Education 42(2): 207-223	- Population not relevant to this review protocol

F.2 Economic studies

The committee agreed that health economic studies would not be relevant to this review question, and so were not sought.