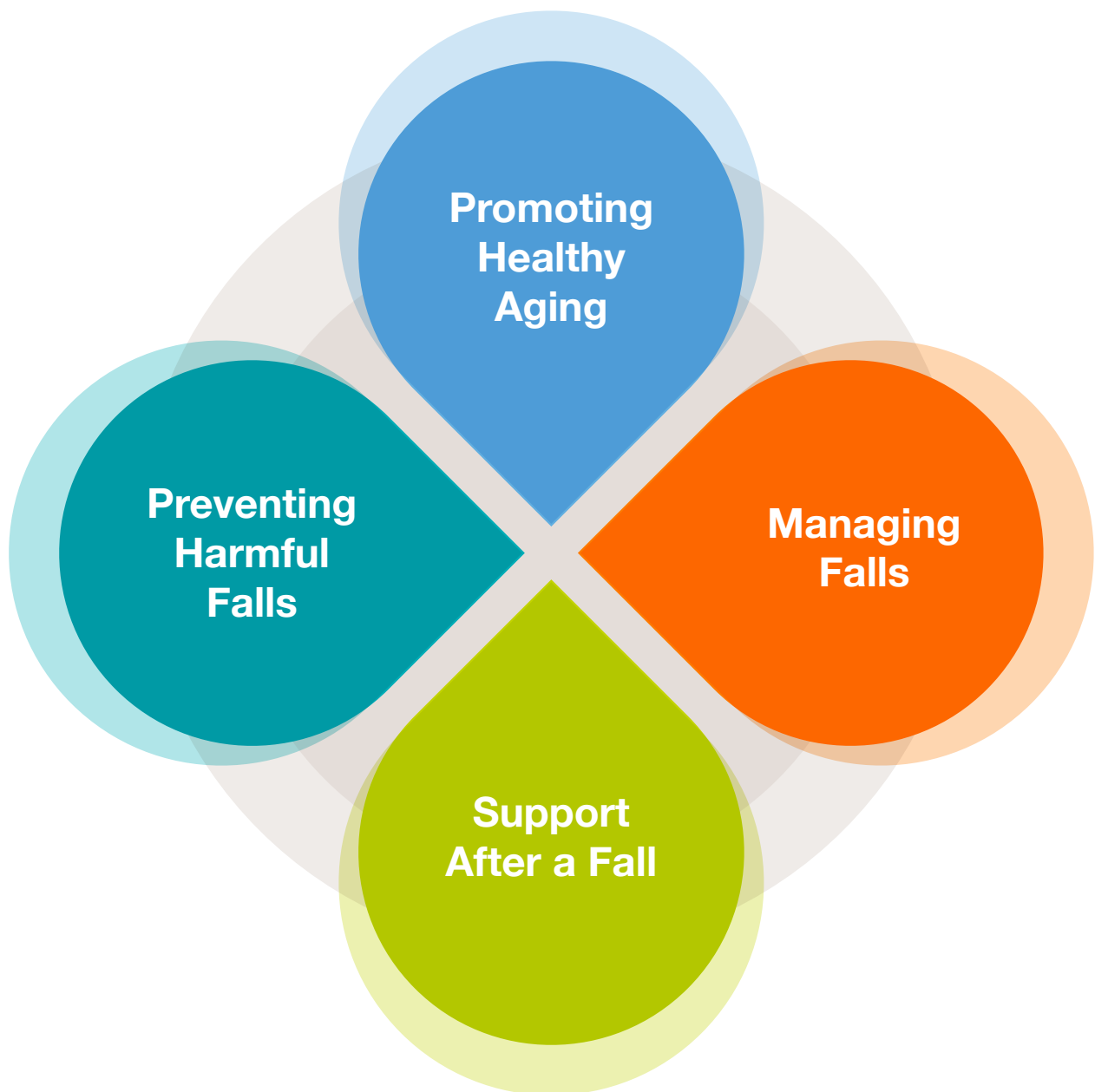


Falls Prevention Framework



Reader Information

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Table of Contents

Findings and Recommendations for Clinicians	3
Introduction and Background	7
Methodology	10
Key Findings	12
Key Recommendations	14
Promoting Healthy Aging and Preventing Harmful Falls	16
Managing Falls and Supporting Individuals Post-Fall	18
Special Considerations	19
References	21
Glossary	24
Appendices	25
1. Exercise for Bone Health	25
2. Proposed Environmental and Structural Pathway	29
3. Home Hazard Checklist Infographics	30
4. Exercise for Falls Prevention (including exercise algorithm)	32
5. Falls Risk Increasing Drugs (FRIDs) Guidelines	34
6. 3IQ Incontinence Questionnaire	49
7. Proposed Multifactorial Falls Risk Assessment Tool (MFRAT)	50
8. Proposed Post-Fall Protocol and Fall-Review Log	53
9. Membership: Steering Group and Working Groups	57



Findings and Recommendations for Clinicians

Falls is the leading cause of trauma in Ireland

Findings



- Finding: Low falls, also known as falls from less than two meters from the ground, account for 82% of major trauma in older adults (25).
- Finding: The number of older adults is expected to almost double in the next 25 years, with the greatest increase in those aged 85 years and over (6).
- Finding: One third of older adults deemed at low risk of a fall experience a fall within 12 months (24). Furthermore, research indicates that many older adults do not report a fall to their clinician (46).

Recommendation

- It is recommended that all clinicians use the World Falls Guidelines Algorithm, which employs Falls Risk Stratification to assess an individual's estimated risk for falls (see page 17).
- Adults in contact with healthcare for any reason should be asked, at least once yearly, 3 key questions:
 - **Have you fallen in the past year?**
 - **Do you feel unsteady when standing or walking?**
 - **Do you have worries about falling? (24)**

This is consistent with the national 'Making Every Contact Count' framework which aims to capitalise on the opportunities that occur every day for every health professional to support patients to make a lifestyle behaviour change (7).



Exercise is effective for Falls Prevention

Findings



- Finding: Regular physical activity can help older persons improve physical function and balance, thereby preventing harmful falls and fall-related injuries (45). Specifically, multi-component exercise (that includes balance, functional and resistance exercise) has been proven to reduce the rate of falls by 35%.



Recommendations

- Adults aged 18-64 years, aged 65+ including those living with a disability should undertake:
 - At least 2 hours and 30 minutes to 5 hours of moderate-intensity aerobic physical activity; or at least 1 hour and 15 minutes to 2 hours and 30 minutes of vigorous-intensity aerobic physical activity throughout the week
 - Additional muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups are recommended on 2 or more days a week
 - As part of their weekly physical activity, older adults (aged 65+) and older adults living with a disability should do varied multicomponent physical activity that emphasises functional balance and strength training on 3 or more days a week, to enhance strength and capacity and to prevent falls.
- Those at low risk of falls will benefit from community exercise and home exercise programme (24).
- Those with an increased risk of falls (more than 1 fall in a year) should receive supervised individualised programme with a physiotherapist +/- a trained exercise instructor (24) (1).
- Those with a medium and high risk of falls should have a Multifactorial Falls Assessment (24) (1).

Environmental Risk Factors and Falls Prevention

Findings



- **Finding:** Home was the main location for major trauma injury for older adults, with almost double the proportion (70%) of accidents happening in the home compared to those aged under-65 years (36%) (25).
- Home fall hazard interventions reduce the overall rate of falls by 26%. However, research indicates that these interventions are more effective in persons who are deemed at 'higher risk' of falling, with a reduction of 38% fewer falls when delivered by an Occupational Therapist (5).

Recommendation

- Those deemed at high risk at falls (i.e. history of falling in past year, hospitalisation for a fall, severe visual impairment or functional decline) should have a home hazard assessment and intervention completed by a qualified occupational therapist who has experience in tailoring assessment and intervention to the needs of individuals at risk of falls (5), (24).
- Consider home environment assessments for persons at a low risk of falls earlier in the course of ageing, proactively planning for ageing in the home, addressing potential hazards and enabling individuals to live longer in their own homes (35).
- Please see Appendix 3 for more information/helpful checklists.



Falls in the Residential Care Setting

Findings



- **Finding:** Care home residents are three times more likely to fall than older adults living in their own homes and therefore all residents should be considered at high risk of falls (24).



Recommendation

- A multifactorial falls risk assessment should be carried out for each resident at admission, and thereafter as their medical conditions changes, so that appropriate interventions are implemented to avoid falls and falls-related injuries (24).
- Please see Appendix 7 for MFRAT



The Role of Nutrition in Falls Prevention

Findings



- Calcium, protein and vitamin D are essential to maintain healthy bones and muscle mass and therefore reduces the risk of osteoporosis and falling.
- Eating a healthy balanced diet – following the principals of the food pyramid – ensures that all nutrients necessary for bone health are provided from food.



Recommendation

- Older adults should have 3-4 servings from the milk, yogurt and cheese shelf of the food pyramid per day.
- Older adults should eat protein rich foods throughout the day and have a protein source at each meal and snack (75-90g/day).
- Daily or weekly vitamin D supplements should be taken by all older persons unless contraindicated.
- Department of Health Guidelines (2024).



Medication and Falls: Falls Risk Increasing Drugs (FRIDs)

Findings



- Finding: Certain prescribed medications can increase the risk of a fall.



Recommendation

- A full medication review should form part of the assessment for individuals at risk of falling or who have a history of falls.
- Please see Appendix 5, Falls Risk Increasing Drugs (FRIDs) Guidelines.



Everyone is at Risk of Falls: Opportunistic Screening is Needed

Findings



- Finding: Unless a person has experienced and reported a fall they are not widely exposed to information or awareness regarding risk factors for falls prevention (38).



Recommendation

- CDLMS recommends raising awareness about personal risks for falls (like weaker muscles with age or poor vision), factors that increase risk (such as alcohol, medications, or environmental hazards), and greater awareness of evidence-based fall prevention interventions (like exercise for older adults).
- All people in contact with services should be given a copy of the public information leaflet available by scanning the QR code below or by clicking on the following link: <https://www.hse.ie/eng/services/publications/falls-prevention-public-information-leaflet.pdf>.



Many Falls are Preventable

Findings



- Finding: Many falls can be prevented. Fall and injury prevention needs multidisciplinary team effort that requires leadership support (24).



Recommendations

- A successful falls prevention and bone health programme involves developing a comprehensive, collaborative approach to raise awareness, knowledge, and skills, helping individuals, organisations, and communities make safer choices to prevent falls (24).
- Identifying key individuals from each service/department to champion/lead the falls prevention programme implementation and maintenance efforts. Patients and their families can be falls prevention champions as well (24).

Note: It is important to note that some solutions need to be implemented outside of the health and social care system, such as through community awareness, promotion of lifelong exercise, and provision of safe accessible environments.

Please note: The recommendations are evidence informed but do not replace clinical judgement, which should always be applied to ensure that any action is appropriate and acceptable to the individual service user, patient or resident. March 2025.



Introduction and Background

Population ageing, and the increased tendency to fall with age, present a major challenge to health care providers and health systems. Falls are the second largest cause of unintentional injury-related deaths worldwide. Falls are more common among older adults, with 33% of those over-65 falling each year (45).

82% of major trauma injuries in the over 65 population in Ireland are attributable to low falls (falls from less than two metres), and 70% of these accidents happen in the home (24).

A history of falls significantly increases the risk of future falls; for older adults, a fall, whether or not it results in serious injury, may represent a life-changing event that carries implications for their perceived health and behaviour (38). Fear of falling leads to reduced physical activity, both indoors and outdoors, which contributes to declining physical function, increased frailty, and a higher likelihood of fractures and institutional care (17).

Community Services Cavan, Donegal, Leitrim, Monaghan, Sligo (CDLMS) developed this framework in response to these issues and the following local and national drivers.

Our population is aging

The Central Statistics Office (CSO) Ageing Population Report (2022)(6) outlines an expected 8% increase in the overall population, with the greatest increase in those aged 70 years and over. Figure 1 indicates that the number of older adults is expected to almost double by 2051 and Figure 2 shows that the greatest growth is likely to be in those aged 85 years and older.

Figure 1: Project Number of People Aged 65+, Thousands, 2019-2051

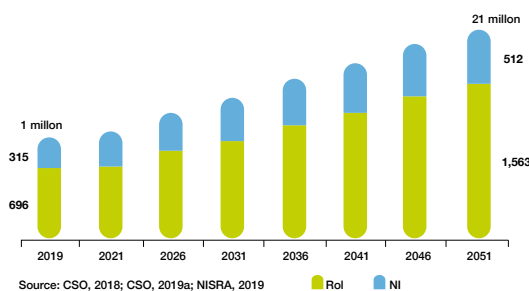
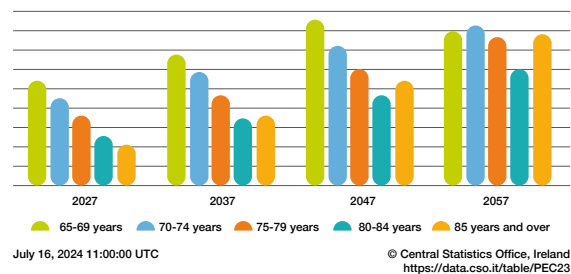


Figure 2: Project population aged 65 and over by age group and year (M2 projection scenario)



Falls become increasingly common as we get older. They occur in 33% of adults aged over-65 years annually and the number of falls and related injuries will likely further increase partly as there are more older adults, but also because of increasing prevalence of multimorbidity, polypharmacy and frailty (24).

Falls account for 82% of all major trauma in the over-65 age group

Older adults are the fastest-growing cohort of major trauma patients. In addition to having major trauma injuries, many older adults have additional comorbidities that make managing a major trauma more challenging (24).

The impact of the aging population trends on CDLMS

Figure 3 below details the over-65 population by county. Given the CSO predictions, the over-65 population of CDLMS will grow to over 143,000 by the year 2051.

Figure 3: Total and Over-65 Population by County, 2022 Census

	Total Pop	Over-65s	% pop over-65
Donegal	159,227	28,130	17.7
Sligo	81,114	14,898	18.4
Leitrim	33,424	6,329	18.9
Cavan	77,632	12,025	15.5
Monaghan	64,741	10,290	15.9
	416,138	71,672	17.2

Figure 4 below details falls-related admissions to the three acute hospitals in CDLMS between 2020 and 2023.

Figure 4: Falls-Related Admissions to CDLMS Acute Hospitals 2020 to 2023

Hospital	2020	No. Bed Days	Avg LOS	2021	No. Bed Days	Avg LOS	2022	No. Bed Days	Avg LOS	2023	No. Bed Days	Avg LOS
CGH	530	5,545	10.48	568	5,665	10.03	563	5,957	10.60	652	6,448	9.89
LUH	1,190	11,443	9.66	1,476	14,148	9.60	1,539	17,385	11.35	1,618	19,336	12.00
SUH	1,245	12,070	9.84	1,253	13,843	11.22	1,349	16,074	12.09	1,406	16,872	12.18
Total	2,965	29,058	9.99	3,97	33,656	10.28	3,451	39,416	11.35	3,676	42,656	11.36

Note: CGH admissions data may not reflect all of the falls activity in Cavan Monaghan and may include activity from outside of the CH CDLMS area.

Figure 4 can be summarised as follows. Between 2020 and 2023:

- Average 3,347 falls-related admissions to acute hospitals per year (average age 64.6 years)
- Average 36,196 bed days per year
- Average length of stay is greater than 10 days

If CDLMS does not address falls as the major cause of harm to older persons, admissions for falls alone could account for as many as 72,000 bed days per annum across the three main acute hospitals within 25 years. Using 2021 bed capacity figures, this would equate to falls related admissions using 23% of all acute beds available to Irish health care system (Open Beds Report, 2021, Department of Health).

Most falls leading to major trauma occur in the home

Home is the main location for major trauma injury for older adults, with almost double the proportion (70%) of accidents happening in the home compared to those aged under-65 years (36%). Notably, 8% of older adult injuries occurred in an institution (likely to be a nursing home or care facility), and 98% of these were attributable to a low fall (25).

A significant number of falls risk factors are modifiable

- Falls risk factors can be modified with the right assessment and falls prevention strategies such as education, training, creating safer environments, prioritising fall-related research and establishing effective policies to reduce risk (17).
- Multiple types of exercise (most commonly balance and functional exercises plus resistance exercises) reduce the rate of falls by 34% (38).

- Poor nutritional status is a risk factor for falls and impedes recovery from falls in older adults (11).
- Multidomain interventions (i.e. a combination of interventions tailored to the individual), when delivered, are effective for reducing the rate of falls in high-risk community-dwelling older adults (17).
- In care homes and hospital settings all older adults should be considered as high risk and a standard comprehensive assessment followed by multidomain interventions should be considered (24).

Sláintecare

The Sláintecare Report on the Future of Health Care in Ireland (39) outlined the vision for the future of health services in Ireland. While falls prevention and management is not specifically mentioned in the report, the vision, which is now driving HSE policy via an implementation plan, contains significant recommendations and actions central to falls prevention and management, namely:

- Ensuring access and resourcing health care at the lowest level of complexity possible.
- Expanding diagnostic services outside of hospitals.
- Develop a plan for the organisation and operation of community-based services based on population need and size.
- Expand the range of services available in the community.
- Accelerate implementation of integrated care programmes focused on chronic conditions and older persons to provide appropriate and effective care in the community.
- Develop an enabling environment for joined-up community working including ICT, data, clinical governance, patient safety and quality operating frameworks and systems.

World Falls Guidelines 2022 / Patient Safety Strategy 2019-2024

The World Guidelines for Falls (24) provided a framework and expert recommendations to healthcare and other professionals working with older adults on how to identify and assess the risk of falls. They recommend which interventions, alone or in combination, should be offered to older persons as part of a person-centred approach to preventing and managing falls (24).

The National Patient Safety Strategy 2019-2024 highlights the main common causes of harm to our population that need to be addressed. Harmful falls is one of these common causes of harm (27).

Economic burden

Based on “bed day costs” in LUH and SUH, which ranged from €950 to €1,100 in 2023, the cost of treating falls in the acute sector across the 5 counties in CH CDLMS was an estimated €40.5 to €46.9 million. This does not capture the economic burden associated with falls in the community setting that do not require hospital admission.

The cost of fall related injuries in older persons in Ireland is expected to reach over €2 billion by 2030 (25).

Other impacts

The above costings do not capture: unreported falls/injuries managed at GP or primary care level; attendances at ED that do not require admission; the impact of falls-related injury on individuals and, e.g. their workplace/family life/caring requirements.

In addition to personal distress, falls and fall-related injuries are a serious health care problem because of their association with subsequent morbidity, disability, hospitalisation, institutionalisation and mortality (24).

Although some falls may appear minor, the human impact of falling can be devastating for older persons from a psychological and physical perspective. Falls can result in loss of confidence, loss of independence, pain, injury, depression and even death (24).

NOTE: The research cited primarily focuses on older adults. However, expert opinion and studies suggest that the findings are equally applicable to individuals under 65. Please also see the Special Considerations section.

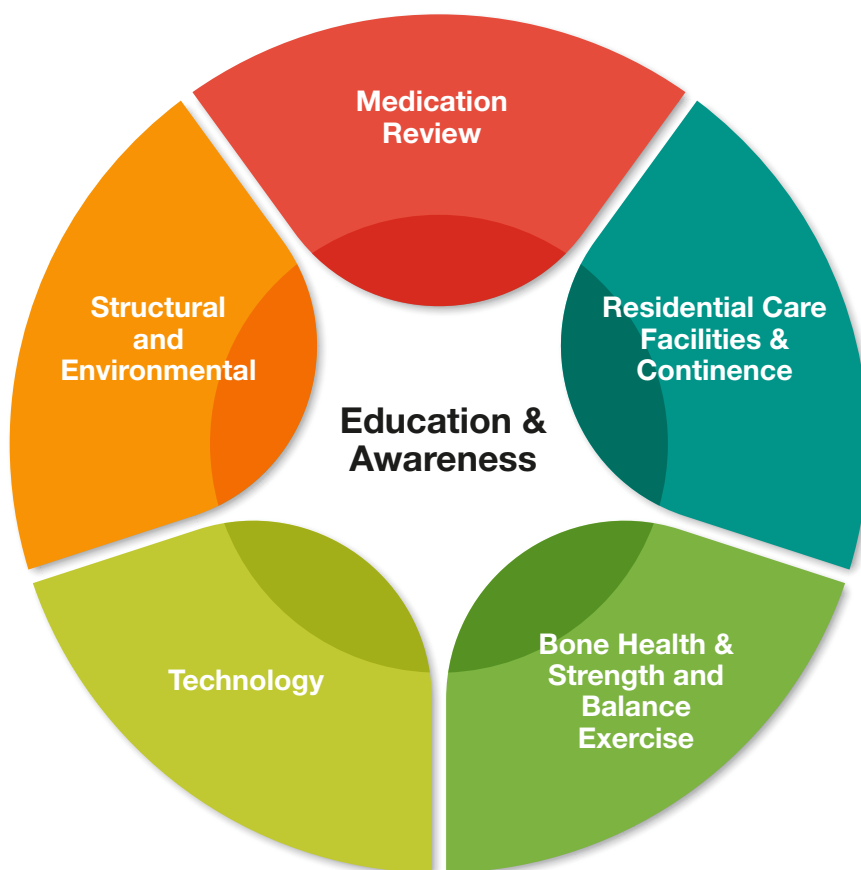
Methodology

Steering Group and Working Groups

A Falls Prevention Steering Group was mandated by the Head of Service, Quality, Safety and Service Improvement and received the approval of the CDLMS Executive Management Team in 2022. The Steering Group drew its members from the various care groups and services across CH CDLMS such as residential care facilities (older persons, mental health and disability services), primary care services, acute services, the Integrated Care Programme for Older Persons and Health and Wellbeing.

A number of exploratory meetings were held in second half of 2022 and based on evidence of good practice and the literature at the time, a number of main elements for further exploration were identified and agreed. This initial work provided the basis for the formation of working groups, established to research specific aspects of falls prevention and management:

Figure 5: Working Groups, CHO1 Falls Prevention Project

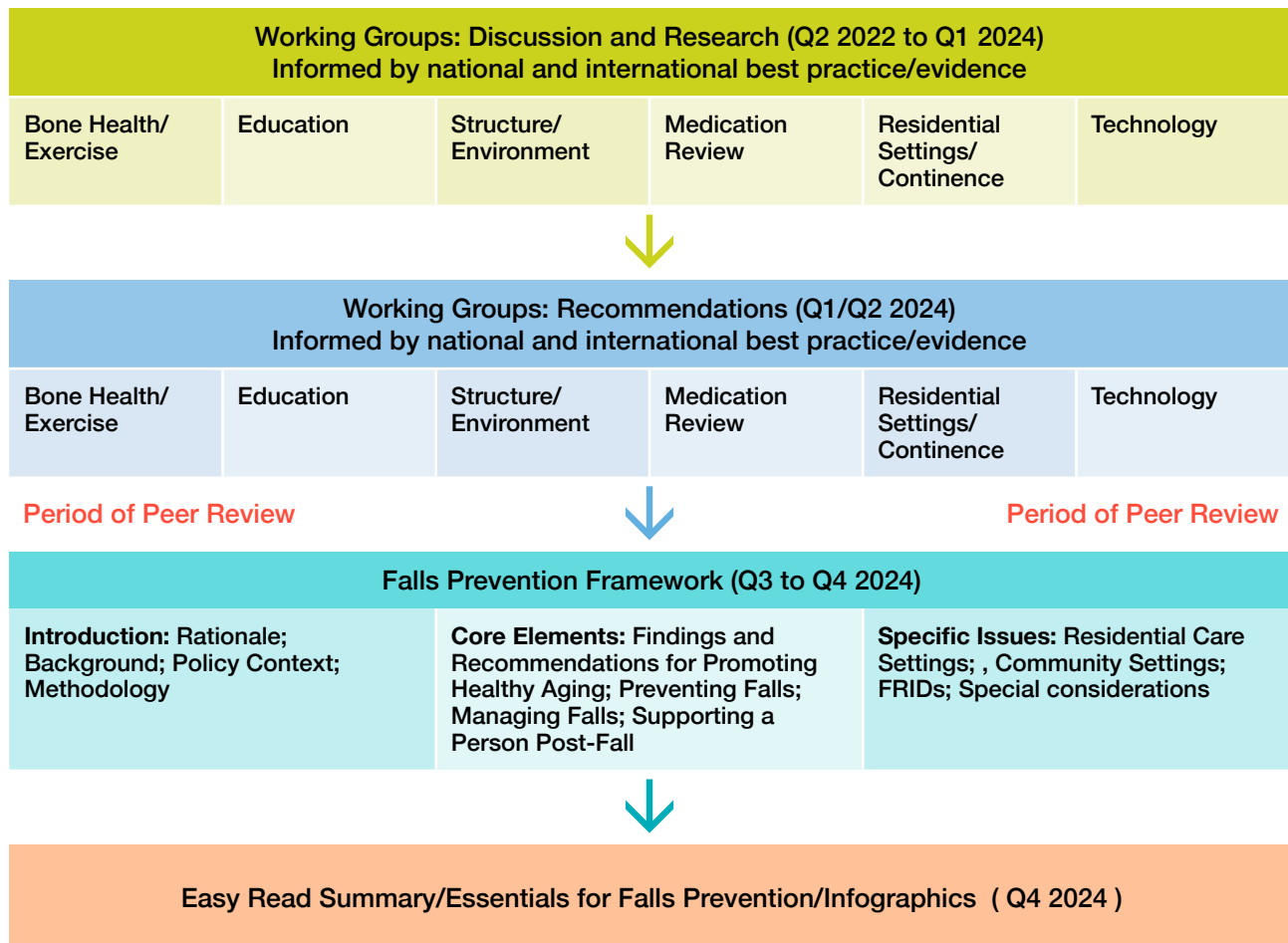


Membership of the Working Groups reflected the multifactorial and multidisciplinary input required to progress the harmful falls prevention agenda.

A project plan was agreed and signed off, summarised in Figure 6 below:

Figure 6: Key Stages, CHO1 Falls Prevention Project

Developing the CH CDLMS Falls Prevention Framework



Searching the Evidence Base

In 2008, the HSE published a National Strategy to Prevent Falls and Fractures in Ireland's Aging Population (13). Subsequently a population health improvement project AFFINITY (Activating Falls and Fracture Prevention in Ireland Together) was established in 2013 to coordinate a comprehensive, evidence-based approach to reducing harm from falls. It monitored and supported early falls prevention programmes, provided change management resources and raised awareness with key stakeholders. Unfortunately, the AFFINITY Project never formally published its "Framework for Action", leaving a gap in national work. In this context, the development of this framework builds on two key international developments, namely:

- The publication of the World Falls Guidelines (WFG) in late 2022 (24). These guidelines were developed by the World Falls Task Force which assembled 96 multidisciplinary experts from 39 countries across five continents, with representation from 36 scientific and academic societies.
- The Australia and New Zealand Falls Prevention Society and World Falls Congress 2023 Joint Conference in November 2023 and the subsequent circulation of the draft Australian National Fall Prevention Guidelines (1).

As per the WFG and Australian Guidelines:

- Recommendations are based on evidence from intervention trials with falls as an outcome.
- Recommendations for aged care settings were informed by a systematic review and meta-analysis undertaken in November 2022, which was based on the relevant Cochrane Collaboration systematic review (3).
- Recommendations for community settings were informed by relevant Cochrane reviews literature searches (3) and the 2022 World Falls Guidelines (24).

The CDLMS Framework has adopted the methodology used by the above initiatives and many of the key findings and recommendations are informed by the aforementioned work.

As per the original terms of reference for the Falls Prevention Steering Group, the key findings and recommendations from each of the six working groups were then reviewed and grouped in relation to the four key elements of the proposed framework:



Many of the findings were common to more than one or all of the four key elements listed above. For this reason, a simplified approach of listing the key findings by each of the working groups was proposed and agreed.

Many of the recommendations were also common to one or more theme so these have been grouped under two headings: (1) Promoting Healthy Aging and Preventing Harmful Falls and (2) Managing Falls and Supporting Individuals Post-Fall.

Key Findings

The Key Findings listed below, by Working Group Topic, represent a review of the most recent international evidence, coupled with the practical knowledge and experience of the steering group and working group members.

Environment and Structure Findings

1. Environmental risk factors, or aspects of the individual's lived environment that may contribute to a fall (e.g. uneven surfaces, inadequate lighting, loose rugs), account for **11-55%** of falls in older adults (23). This indicates that many homes may be poorly adapted for the needs of the ageing adults or persons at risk of falls (23).
2. Research indicates that effective home hazard interventions are an evaluation of the older adult's needs, including: their functional capacity, their home environment, and their daily activities using standardised assessments to identify potential hazards and reduces harmful falls (5).
3. Home fall hazard interventions reduce the overall rate of falls by 26%. However, research indicates that these interventions are more effective in persons who are deemed at 'higher risk' of falling, with a reduction of 38% fewer falls when delivered by an Occupational Therapist (5).

Residential Settings Findings

4. Care home residents are three times more likely to fall than older adults living in their own homes (23).
5. Adverse consequences of falls for residents include reduced quality of life, increased fear of falling and restriction of activities, decreased ability to function, serious injuries and increased risk of death (46).
6. Improving food quality in older adults with adequate intakes of calcium and protein reduces falls and cost effectively reduced fractures by potentially slowing the age related increase in risk (21).
7. Consider imaging to assess for the presence of a vertebral fracture in persons with acute onset back pain who have risk factors for osteoporosis (26).
8. Chair-based exercises are not a falls prevention strategy but can increase levels of physical ability (1). Appropriate for those at high risk of falls who are unable to exercise in a standing position, with or without support.
9. Encouraging frail residents to become more active can be inhibited by staff concerns regarding the consequences of falls (23).

Bone Health Findings

10. Eating a healthy balanced diet – following the principals of the food pyramid – ensures that all nutrients necessary for bone health are provided from food (14).
11. Being at risk of malnutrition or being malnourished may increase the risk of falls (24).
12. Calcium and vitamin D improves bone mass among persons with low bone density and it reduces the risk of osteoporosis and harm from falling (46).
13. Improving calcium intakes by using dairy foods is a readily accessible intervention that has been found to reduce the risk of falls and fractures commonly occurring in aged care residents (20).
14. Use of excessive alcohol has been shown to be a risk factor for falls and osteoporosis. (46)
15. Being underweight or having obesity may be associated with a higher risk of falls, whereas normal or overweight individuals have the lowest falls risk. BMI values between 24.5kg/m² and 30kg/m² were associated with the lowest risk of falls (26).
16. Exercise reduces falls-related fractures by 27% (26). Best practice exercise guidelines specifically for bone health can be found in Appendix 1
17. A fracture risk assessment, which calculates the 10-year probability of suffering a hip fracture and/or a major osteoporotic fracture, should be considered for postmenopausal women and men who are 50 years of age or above (26).
18. The results of the fracture risk assessment can help guide referral for DXA scan imaging and/or treatment decisions (26).
19. Clinical judgement is necessary when interpreting fracture risk assessment outputs, onward referral and treatment decisions (26).

Exercise for Falls Prevention

20. Multicomponent exercise (balance, functional and resistance exercise) reduces rate of falls by 35% and reduces number of persons experiencing falls by 22% (2). The exercise must be highly challenging, tailored and individualised:
 - a. Frequency: 3 x per week for ≥ 2 hours total per week
 - b. Duration ≥ 6 months = ≥ 50 hours (38)
 These types of exercise also reduce fear of falling (38).
21. Not all exercise reduces the risk of falls. There is no evidence to support physical activity (eg. walking, dance) alone reduces the risk of harmful falls but regular physical activity can help older persons improve physical function and balance, thereby preventing harmful falls and fall-related injuries (38).
22. Chair-based exercises are not a falls prevention strategy but can increase levels of physical ability (1). Appropriate for those at high risk of falls who are unable to exercise in a standing position, with or without support.
23. Tai Chi may reduce falls by 19% (38).

Medication Review Findings

(References can be found in Appendix 5)

24. Certain medications, known as falls risk increasing drugs, or FRIDs, can increase a person's risk of a fall.
25. The use of FRIDs is recognised as a major and modifiable risk factor for falls.
26. Medication review and appropriate deprescribing of FRIDs, with the collaboration of the patient, is an essential part of a comprehensive geriatric assessment. It should be structured, personalised and patient centred. See Appendix 5.

Technology Findings

27. Currently, there is limited evidence that the use of technology can prevent and reduce the rate of falls, but there is an expectation that a body of work supporting this will emerge. In the meantime, common sense practical advice from a qualified professional should be considered.

Continence Findings

28. There is an increased risk of falls with lower urinary tract symptoms including urgency, frequency, nocturia, incontinence, and urinary tract infections (28).
29. There is an increased risk of a fall and recurrent falls if someone has urinary incontinence compared to those without urinary incontinence (28).
30. There is a significant increased risk of falls with incontinence as a person ages (28).
31. There is an increased risk of falls with urge urinary incontinence and/or urgency (overactive bladder syndrome) compared to stress urinary incontinence (28).
32. Nocturia (night-time toileting) is associated with a 1.2-fold increased risk of falls and possibly a 1.3-fold increased risk of fractures (28).
33. Urinary and faecal incontinence are independently associated with falls risk (37).

Education Findings

34. Falls prevention and management is a complex, growing, under-recognised and preventable public health issue that requires an effective systems approach to achieve healthy and safe ageing of the population (44).
35. Many falls can be prevented but fall and injury prevention needs multidisciplinary management (24).
36. Engaging older adults is essential for prevention of falls and injuries: understanding their beliefs, attitudes and priorities about falls and their management is crucial to successful intervention (24).
37. Managing many of the risk factors for falls (e.g. gait and balance problems) has wider benefits beyond falls prevention such as improved intrinsic capacities (physical and mental health), functioning and quality of life (24).
38. One third of those deemed low risk will experience a fall within one year (24).
39. A person's estimated risk of future falls can be undertaken by trained clinicians with simple resources (24). Multidomain interventions (i.e. a combination of interventions tailored to the individual), when delivered, are effective for reducing the rate of falls in high-risk community-dwelling older adults (24).
40. Unless a person has experienced and reported a fall they are not widely exposed to information or awareness regarding risk factors for falls prevention.
41. A successful falls prevention programme is a multidisciplinary team effort that requires leadership support. Identifying key individuals from each service/department to champion the falls prevention programme implementation and maintenance efforts. Patients and their families can be falls prevention champions as well (34).
42. Studies indicate that many older adults do not report a fall to their clinician (42). This may result in older persons not benefiting from evidence-based multifaceted interventions that will reduce the risk of future falls.
43. Poor vision can often cause trips and falls (1). Rate of falls in older persons with vision impairment is 1.7-1.9 times higher than those with good sight (2). Adults with learning disabilities are 10 times more likely to be blind or partially sighted than the general population (32).
44. Older adults with hearing impairment had a higher risk of falls than those without hearing impairment (44).

Recommendations

The Recommendations below represent a review of the most recent international evidence, coupled with the practical knowledge and experience of the steering group and working group members.

CDLMS recommends the adoption of the World Guidelines for Falls Prevention and Management (WFG) algorithm for risk stratification, assessment and management interventions for community-living older persons (See Figure 7 below).

The algorithm categorises individuals into low, intermediate or high risk groups – for better resource allocation and timely and appropriate interventions – and has two entry points:

- First – opportunistic case-finding during a health visit (or using health records)
- Second – when older adults present to healthcare services as a result of a fall or related injury.

Furthermore, CDLMS is recommending that adults in contact with healthcare for any reason should be asked, at least once yearly, three key questions:

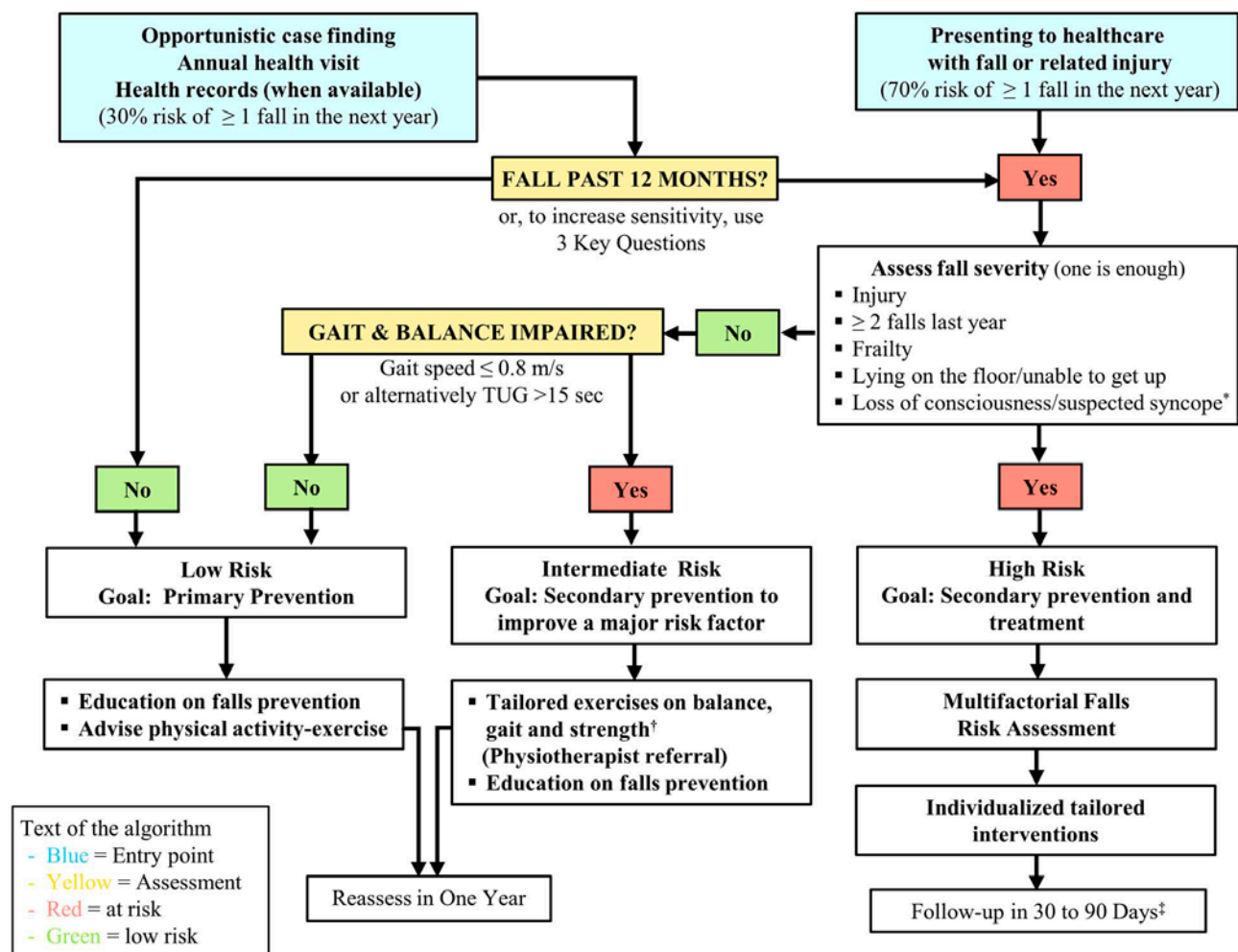
- i) **Have you fallen in the past year?**
- ii) **Do you feel unsteady when standing or walking?**
- iii) **Do you have worries about falling?**

This approach is consistent with the national 'Making Every Contact Count' framework which aims to capitalise on the opportunities that occur every day for every health professional to support patients to make a lifestyle behaviour change (25).

The three key questions also determine whether further assessment is required such as a mobility assessment, using either a gait speed test or the Timed Up and Go (TUG) test. These physical function assessments of gait and balance aid in selecting appropriate fall prevention exercises, determining the difficulty level and dosage, and tracking progress over time.

Please note: The recommendations contained in this document are evidence informed but do not replace clinical judgement, which should always be applied to ensure that any action is appropriate and acceptable to the individual service user, patient or resident.

Figure 7: World Guidelines for Falls Prevention and Management for Older Adults (23)



Key Recommendations

Promoting Healthy Aging and Preventing Harmful Falls

Environment

1. A clear, evidence-based referral pathway should direct referrers to identify the most suitable care pathway for their service users who have either fallen or are at risk of falls due to environmental and structural risk factors (Proposed CDLMS model in Appendix 2).
2. Consideration should be given to home environment assessments for persons at a low risk of falls earlier in the course of ageing, proactively planning for ageing in the home, addressing potential hazards and enabling people to live longer in their own homes (35) (see NOCA Home Hazard Checklist Infographics in Appendix 3).

Nutrition and Bone Health

3. Daily or weekly vitamin D supplements is recommended for all older persons unless contraindicated. Department of Health recommends that adults aged 65 years and over should take 15 µg (600 IU) vitamin D supplement every day, all year round (9) as part of a healthy balanced diet.
4. It is recommended that older adults have 3-4 servings from the milk, yogurt and cheese shelf of the food pyramid per day (20).
5. It is recommended that older adults eat protein rich foods throughout the day and to have a protein source at each meal and snack. Ingestion of approximately 25-30 g of protein per meal maximally stimulates muscle protein synthesis in older individuals (24).
6. The nutritional status of an individual should be assessed as part of a multifactorial falls risk assessment. Malnutrition assessment can be performed by using validated tools, such as the Mini Nutritional Assessment (MNA) (24).
7. A fracture risk (the 10-year probability of a hip fracture and/or a major osteoporotic fracture) should be considered in all postmenopausal women and men age 50 or above with a clinical risk factor for fragility fracture, to guide bone mass density measurement and prompt timely referral and/or drug treatment, where indicated (26). The fracture risk should be calculated using an externally validated fracture risk assessment tool (for example FRAX or QFracture) (26).
8. Consider prescribing a bone sparing agent (unless contra-indicated) and checking for secondary/underlying causes of osteoporosis in older persons with a diagnosis of osteoporosis or a history of low-trauma fractures (2) (7).
9. Clinical judgement is necessary when interpreting fracture risk assessment outputs, onward referral and treatment decisions.

Exercise

10. Older adults and those at risk of falls should undertake multicomponent (Balance, Functional and Resistance) exercises:
 - Minimum frequency: 3 x per week for ≥ 2 hours total per week
 - Duration ≥ 6 months = ≥ 50 hours (38)
 - The exercise must be highly challenging, progressive, tailored to the individual and delivered by an appropriately trained professional (24).
11. The internationally recognised FaME and OTAGO programmes are examples of evidence-based exercise programmes to prevent falls. Detailed guidance on the most appropriate exercise regime for individuals can be found in Appendix 4.
12. Further recommendations on types and amounts of habitual physical activity and the avoidance of being sedentary are provided by national and international guidelines, such as the World Health Organisation and Irish National Physical Activity and Sedentary Behaviour Guidelines for Ireland (7).

Medication

(References can be found in Appendix 5)

13. Prescribers and other clinicians should refer to the CDLMS FRIDs Guidelines for further information, see Appendix 5.
14. The main recommendations from the full FRIDs Guidelines are listed in Table 1 below for convenience:

Table 1: Medication Review Recommendations

Medication review and appropriate deprescribing of Falls Risk Increasing Drugs (FRIDs), with the collaboration of the patient, is an essential part of a comprehensive geriatric assessment. It should be structured, personalised and patient-centred.
Consider patient-specific factors such as frailty status, life expectancy, and patient goals of care and preferences related to deprescribing.
Emphasise patient monitoring, support, and documentation to ensure long-term success of deprescribing.
Before prescribing a Falls Risk Increasing Drug: <ul style="list-style-type: none"> Consider the relative benefits and risks to the patient of introducing a FRID. Include an assessment of the patient's falls risk with falls history.
Review (by a pharmacist and/or a general practitioner) all of an older person's prescribed and non-prescribed medications: <ul style="list-style-type: none"> after a fall after initiation of medication or after an increase in dosage of medication at least yearly.
Use a structured screening and assessment tool to identify FRIDs when performing a medication review (see appendix).
Assess and manage presyncope, syncope and postural hypotension, and review medications (including medications associated with presyncope and syncope) as part of a multifactorial assessment and management plan.
Avoid prescribing psychotropic drugs if possible and consider alternative strategies for promoting sleep and addressing anxiety, depression and pain. When prescribing these medications, ensure the starting dose is low, with follow-up planned and the intended stop date documented. Psychotropic medication should be prescribed for the shortest possible time.
If medicines are used specifically to restrain an older person, use the minimal dose and regularly review and monitor the patient to ensure their safety. Importantly, do not use chemical restraint as a substitute for alternative methods of management.
Discuss medication changes with the patient and formulate a plan. Communicate medication changes and suggestions about further changes to the patient's General Practitioner and community pharmacist as part of discharge planning.
A specialist pharmacist reviews all of an older person's prescribed and non-prescribed medications in acute care settings: on admission as part of a comprehensive assessment of the older person, and at all transitions of care.
A specialist pharmacist reviews all prescribed and non-prescribed medications for any patient presenting at a Falls Clinic as part of a comprehensive assessment.

Continence

15. Older persons should be offered a continence assessment to check for problems that can be modified or prevented using the 3IQ screening test. (Please see Appendix 6). Additional testing may be done by GP, PHN, specialist incontinence team and further referral may be required to urologist/gynaecologist (24).

Key Recommendations

Managing Falls and Supporting Individuals Post-Fall

Environment

16. Those deemed at high risk at falls (i.e. history of falling in past year, hospitalisation for a fall, severe visual impairment or functional decline) should have a home hazard assessment and intervention completed by a qualified occupational therapist who has experience in tailoring assessment and intervention to the needs of clients at risk of falls (5) (24) (34).
17. A clear, evidence-based referral pathway should direct referrers to identify the most suitable care pathway for their service users who have either fallen or are at risk of falls due to environmental and structural risk factors in the community and residential care facilities (proposed CDLMS model attached, see Appendix 2).
18. Environmental and structural risks should always be considered as part of the service users overall falls risk assessment (4)(24)(35).

Residential Settings

19. In residential aged care, all residents should be considered at a high risk of falls and a standard multifactorial falls risk assessment (MFRAT) should be carried out routinely on a regular basis on each resident. Targeted and individualised falls prevention plan of care based on the findings of the fall risk assessment should be developed and regularly reviewed (23)(1). See proposed MFRAT in Appendix 7.
20. Immediately following a fall, a post-fall protocol should be followed and a post-fall assessment completed. This will help identify the mechanism of the fall, any resulting injuries, and any precipitating factors, to reassess the individual's falls risk factors, and adjust the intervention strategy for the individual (23)(1). See proposed post-fall protocol and review log in Appendix 8.
21. Staff should be educated in falls prevention and developing individualised care plans based on the resident's individualised MFRAT result is an important factor in reducing falls in the residential setting (23).
22. Exercise programmes to prevent falls in residential care should be provided. The programmes should be of moderate intensity, contain both balance and strength exercises, and tailored to the individual who must be willing and able to participate. For maximum effectiveness these programmes should be well resourced, structured, supported and a regular part of daily living within the residential setting. Exercise for falls prevention should be ongoing as the effect of structured exercise programmes diminishes over time once the programme has ended (1)(38)(3). See Appendix 4 for more information on tailored exercise programmes.
23. Dieticians should be involved in meal planning to ensure adequate levels of protein, calcium and vitamin D within the resident's diet while reflecting their personal preferences. This may involve at least three servings of dairy foods to meet protein and calcium requirements each day (1).
24. There should be equal access to Multi-Disciplinary Team services across both public and private residential settings to ensure that professional input is available from occupational therapists, physiotherapists, dieticians, continence specialists, etc., to all residents in all care facilities.

Nutrition and Bone Health

25. As part of a healthy, balanced diet, it is recommended that older adults have 3-4 servings from the milk, yogurt and cheese shelf of the food pyramid per day (14).
26. Protein rich foods should be made available for all meals, in addition to protein rich snacks (29). Ingestion of approximately 25-30 g of protein per meal maximally stimulates muscle protein synthesis in older individuals (26).
27. Daily or weekly vitamin D supplements should be administered to all older persons unless contraindicated. Department of Health, recommendations on dietary vitamin D requirements for adults over-65 is: 15 micrograms/600 IU (9).
28. Bone treatments should be prescribed for older persons with diagnosed osteoporosis or a history of low-trauma fractures (unless contra-indicated).
29. If required, malnutrition assessments should be performed by using validated tools, such as the Mini Nutritional Assessment (MNA) or Malnutrition Universal Screening Tool (MUST) (24).

Exercise

30. Exercise programmes should be provided to those who are willing and able to participate. To reduce falls, exercise must consist of multicomponent types of exercise (balance, functional and resistance exercise) (1).

- Minimum frequency: 3 x per week for ≥ 2 hours total per week
- Duration ≥ 6 months = ≥ 50 hours
- The exercise must be challenging, progressive, tailored to the individual and delivered by an appropriately trained professional (24)(38).

The internationally recognised FaME and OTAGO programmes are examples of this type of exercise programme. Further details can be found in Appendix 4.

Continence

31. Older persons should be offered a continence assessment to check for problems that can be modified or prevented using the 3IQ screening test. (Please see Appendix 6). Additional testing may be done by GP, PHN, specialist incontinence team and further referral may be required to urologist/gynaecologist (24).

Special Considerations

As previously stated, this document outlines general principles of falls prevention across the spectrum of functional capacity in older adults. However, specific subgroups within the population may require a more tailored approach to effectively reduce the risk and harm associated with falls. These groups include, for example, individuals with intellectual disabilities.

The following findings and recommendations have been informed by the work of the Irish national population health improvement project AFFINITY (Activating Falls and Fracture Prevention in Ireland Together) (unpublished).

Findings: Individuals with Intellectual Disabilities

Among individuals with intellectual disabilities, falls and injuries occur at disproportionately high rates and present a significant concern throughout their lifespan due to the following factors:

- Individuals with an intellectual disability are twice as likely to experience an injury from a fall, compared to the general population (Axmon *et al.*, 2018) and between 6 and 8 times more likely to die as a result of their injury.
- Falls are the most common cause of injury contributing to fractures for people with an intellectual disability (Finlayson 2016)
- Fear of falling contributes to activity avoidance and aversion to engaging in daily activities of living. It has been noted that, 31% of individuals with intellectual disabilities aged 40+ limit their activities due to fear of falling (McCarron *et al.* 2014, Foran *et al.*, 2013)
- Reduced physical activity resulting from fear can increase the risk of falls (Freiberger, 2018, Ho *et al.* 2020) with over 75% of those aged 40 and older being reported as inactive (McCarron *et al.*, 2017)
- Epilepsy affects over 36% of individuals with intellectual disabilities, compared to less than 1% in the general population (Burke *et al.*, 2014). Increased seizure activity significantly raises the risk of falls (McGrother *et al.*, 2006; McCarron *et al.*, 2017).
- Individuals with intellectual disabilities are ten times more likely to experience serious vision problems compared to the general population (Public Health England, 2019).
- Individuals with Down syndrome are highly predisposed to early-onset dementia, averaging 52 years compared to 66 in the general population (McCarron *et al.*, 2017a). Dementia increases fall risk in individuals with intellectual disabilities due to behavioural changes, reduced activity, disrupted sleep, and impacts on eating and drinking (McCarron, 2018).
- While osteoporosis does not directly increase fall risk, it significantly raises the likelihood of fractures during falls. Over 74% of adults with intellectual disabilities have reduced skeletal integrity, with even higher rates in those with Down syndrome (Burke *et al.*, 2018; 2019).

Recommendations: Individuals with intellectual disabilities.

Public Health UK (2019) identify that policy and guidance on preventing harmful falls focuses on older persons. However, there is a growing body of evidence relating to individuals with intellectual disabilities suggesting that much of the policy and guidance may be equally applicable, while taking account of some specific considerations. These should include:

- Provide education and accessible information for individuals with intellectual disabilities and information for family members and support staff on falls prevention.
- Address known risks in assessments (e.g. epilepsy, vision impairment, polypharmacy, reduced activity).
- Making reasonable adjustments to enable full assessment of bone density as the incidence of osteoporosis is higher when compared to the general population.
- Tailoring interventions to the individual, their lifestyle and the support available to them providing adapted interventions (such as strength and balance exercise programmes and supports to increase participation in physical activity and exercise.
- Home hazard assessment and environment modification.
- Education on safe mobility and prescription of assistive mobility devices.

It must be noted that other subgroups within the population may also require a more tailored approach to effectively reduce the risk and harm associated with falls. For example, individuals with physical or sensory conditions that elevate their risk of falls-related harm, such as visual impairments or perceptual deficits stemming from neurological conditions like stroke, Parkinson's disease, or dementia.

The World Falls Guidelines, 2022, (24) contain expert opinion in relation to the following:

- Dizziness and Vestibular Disorders and Falls (p.124)
- Vision, Hearing and Falls (p.126)
- Depression and Falls (p.131)
- Sarcopenia and Falls (p.133)
- Delirium and Falls (p.134)
- Pain and Falls (p.135)



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Glossary

Abbreviation/Acronym	Full Title
CDLMS	Cavan, Donegal, Leitrim, Monaghan, Sligo
CGH	Cavan General Hospital
CSO	Central Statistics Office
ED	Emergency Department
FRID	Falls Risk Increasing Drug
GP	General Practitioner
LUH	Letterkenny University Hospital
MFRAT	Multi-Factorial Falls Risk Assessment Tool
NOCA	National Office for Clinical Audit
PHN	Public Health Nurse
SUH	Sligo University Hospital
WFG	World Falls Guidelines

Appendix 1 – Exercise Guidelines for Bone Health



Strong, Steady and Straight: Physical Activity and Exercise for Osteoporosis

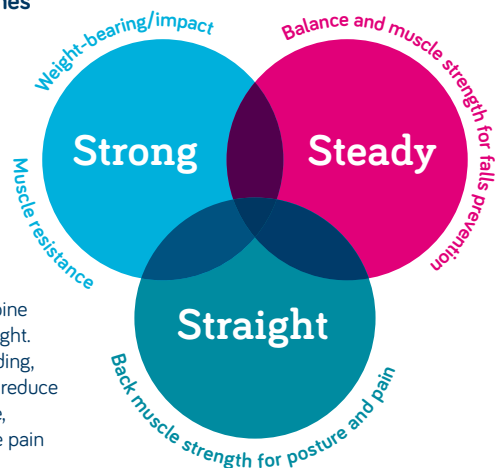
Quick guide: summary (for use in conjunction with full Expert Consensus Statement)

The statement is structured around important themes for osteoporosis:

STRONG – the types and amount of exercise and physical activity needed to promote bone strength.

STEADY – the importance of including exercise and physical activity to reduce falls and resulting fractures.

STRAIGHT – a focus on ‘spine care’, keeping the back straight. A positive approach to bending, moving and lifting safely to reduce the risk of vertebral fracture, improve posture and relieve pain after vertebral fracture.



Key Principles

Physical activity and exercise has an important role in the management of osteoporosis – promoting bone strength, reducing falls risk and managing symptoms.

People with osteoporosis should be encouraged to do *more* rather than less. Adopt a positive and encouraging approach – ‘how to’ rather than ‘don’t do’.

Physical activity and exercise is not associated with significant harm including vertebral fracture – though some caution is advised, the benefits of physical activity and exercise outweigh the risks.

Professionals should avoid restricting physical activity and exercise unnecessarily according to bone mineral density (BMD).

People with painful vertebral fractures need clear and prompt guidance on how to adapt movements involved in day-to-day living, and exercises for posture and pain.

Strong – for bone strength

Weight-bearing/impact exercise

- Most days of the week; build up to 50 moderate impacts (i.e. low level jumping, jogging, dancing, hopping).
- If frail, less mobile or has vertebral or multiple low trauma fractures – up to 20 minutes of lower impact activity (e.g. walking).
- Avoid sitting for long periods.

Muscle strengthening (with increasing resistance)

- On 2-3 days a week - activities or exercise to feel a push or pull on the muscles (explain mild discomfort afterwards is normal). For maximum benefit, depending on fitness levels, recommend increasing the intensity of exercise to work muscles harder using weights or resistance bands. Build up to 3 sets of exercises with 8-12 repetitions of the maximum weight that can be lifted safely.
- Exercises to strengthen back muscles will promote bone strength in the spine.

Steady – to reduce falls

- If unsteady, over 65 and not taking regular exercise – do some challenging balance exercises 2-3 days a week.
- If repeated faller consider referral to falls service/physiotherapist.
- Posture training and back exercises to improve kyphosis may reduce falls risk.

Straight – a ‘spine caring’ approach

- Correct techniques for moving and lifting including the ‘hip hinge’.
- On 2-3 days a week – exercises to strengthen back muscles to help with posture with a focus on endurance by exercising at low intensity - up to 10 repetitions, held for 3-5 seconds. Daily exercises to relieve back pain.
- Consider physiotherapy referral for painful fractures or mobility problems.

SAFETY – Adopt a positive encouraging approach – explain that fractures are rarely caused by exercise and the benefits outweigh the risks.

With osteoporosis

- Recommend correct techniques when using weights or resistance bands, gym equipment – get specialist advice if unsure.
- Recommend modification of exercises that involve end range sustained repeated forward bending unless you are using the ‘hip hinge’/are very experienced/have very good muscle tone and control.
- Always increase intensity gradually and tailor according to individual fitness and ability.

With vertebral or multiple low trauma fractures

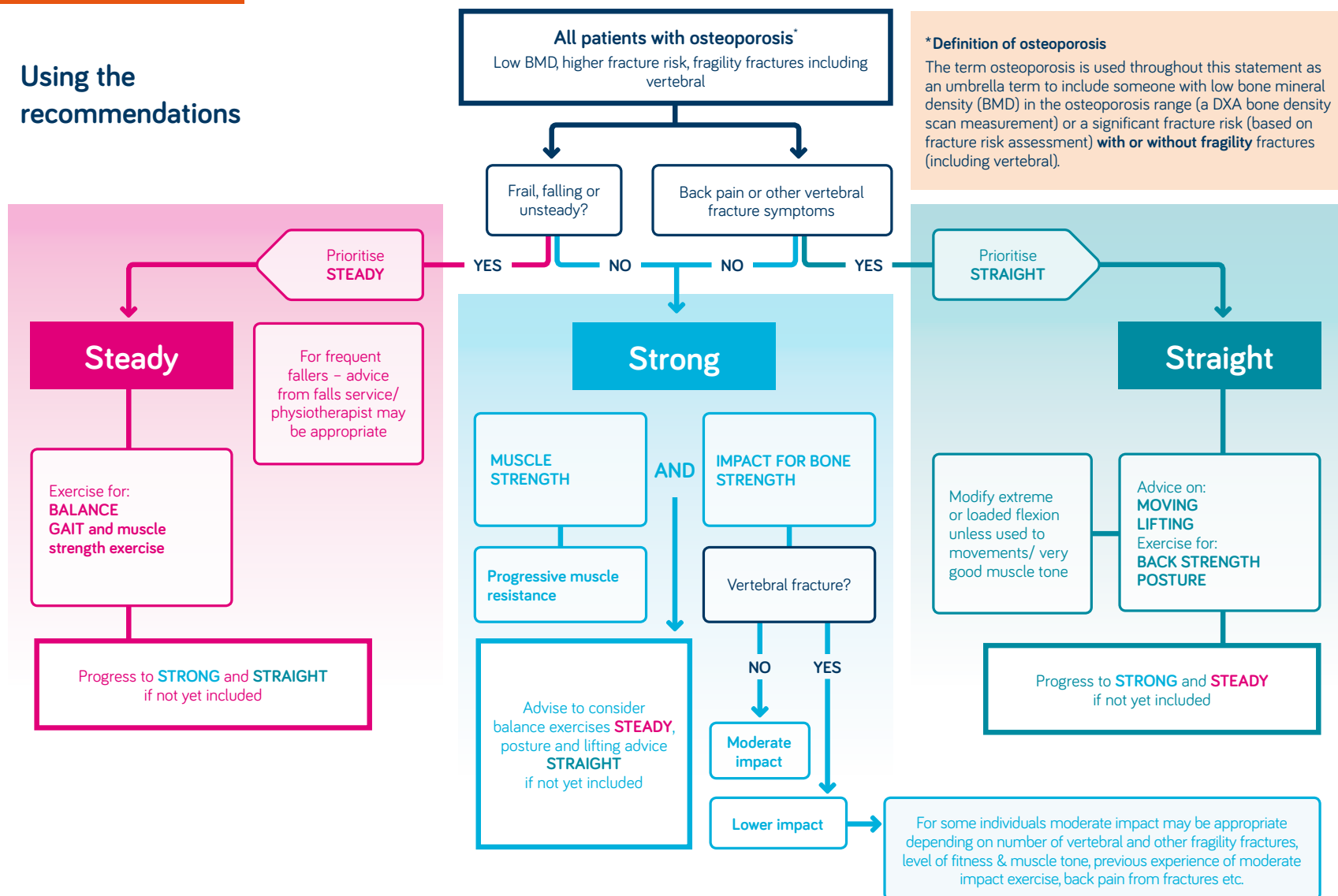
- Recommend lower impact rather than moderate impact exercise (jogging, low level jumping) as a general rule. May be appropriate to increase after individualised discussion.

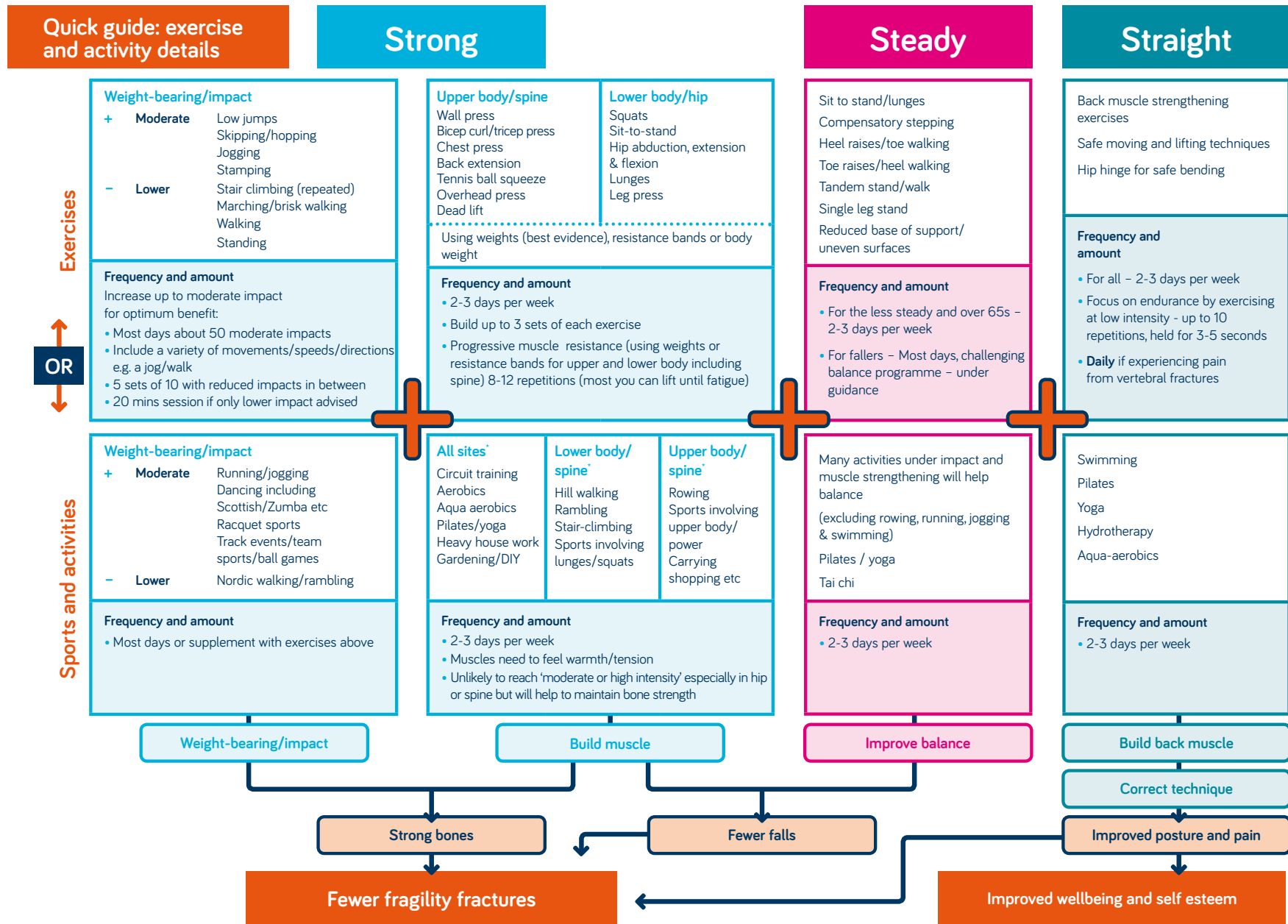
With poor balance

- Recommend improving balance and muscle strength before increasing physical activity levels.

Quick guide: flow chart

Using the recommendations





Quick guide: visual reference

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For full Expert Consensus Statement visit theros.org.uk/HCPexercise

Key recommendations: physical activity and exercise for osteoporosis

Strong

Build bone and muscle strength

Weight-bearing/impact exercise for bones

50 impacts per session

Frequency
Most days

With osteoporosis
Moderate impact



Lower impact



Low impact - weight bearing



Frequency
Most days

Build up gradually

Build muscle

Weights & resistance bands



Frequency
2-3 days / week



3 sets, 8-12 reps of max weight

Progressive resistance training



Sports and everyday activities



Vertebral or multiple fractures, or less able

Some extra caution

Exercise up to lower impact

Individualised advice

Ensure safe technique



Steady

Improve balance

Activities like tai chi or dance



Frequency
2-3 days / week

Or a challenging balance class



Positive approach

Reassurance - 'how to' not 'don't do'

Benefits of exercise for osteoporosis



Keep active
- something is better than nothing



- Build bone and muscle strength
- Improve balance
- Improve pain, posture and movements

Aiming for fewer fragility fractures and improved wellbeing

Straight

Improve pain, posture and movements

Manage pain from vertebral fractures

Daily back muscle strengthening exercises



Frequency
Daily

Improve posture and movements

Learn safe moving and lifting

Hip hinge for safe bending



Posture exercises



Frequency
2-3 days / week

Use alternatives

Extreme or loaded flexion



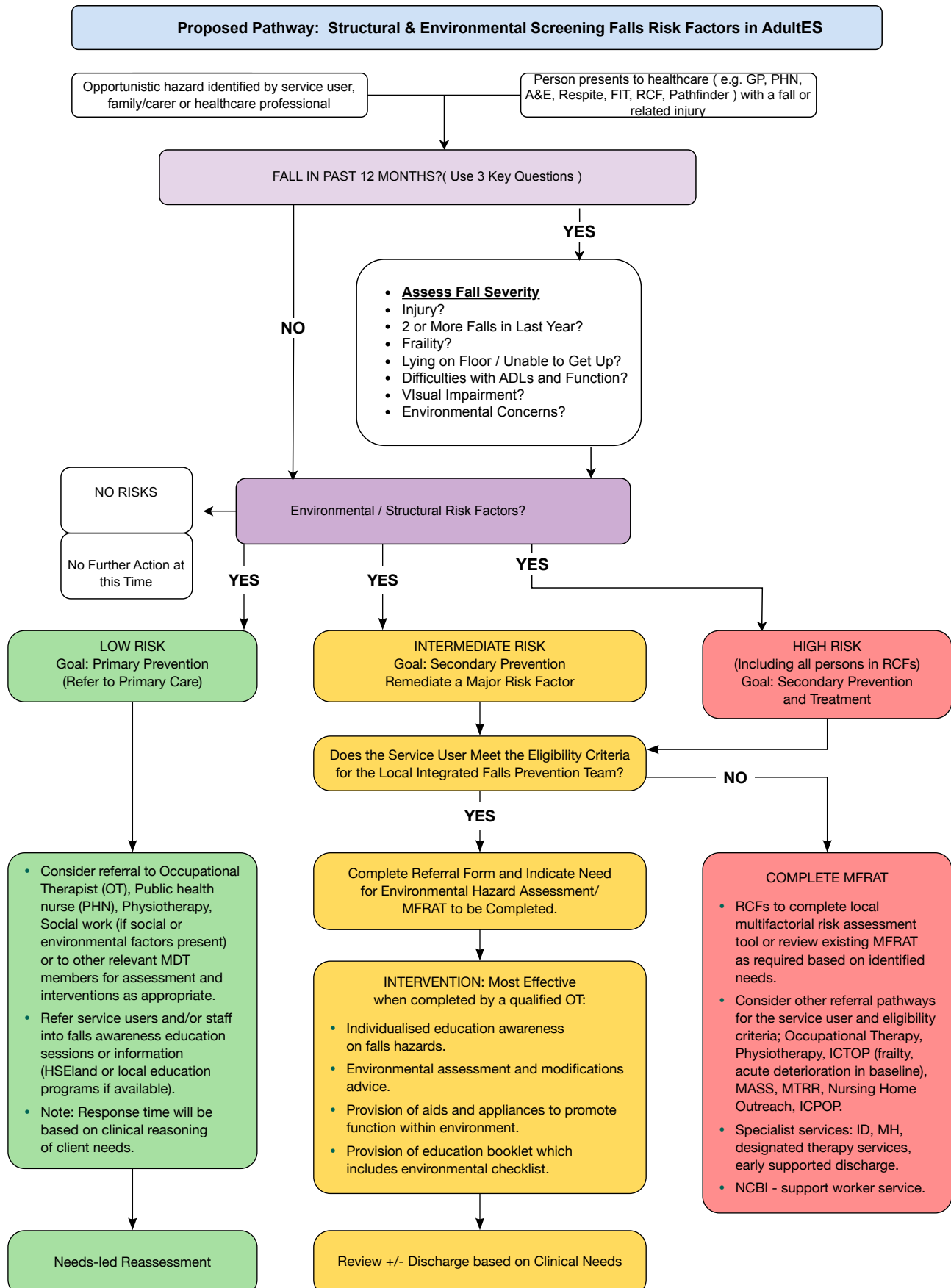
Avoid

Inactivity and prolonged sitting



Appendix 2

Proposed Environmental and Structural Pathway



Appendix 3

Home Hazard Infographic

HOME SAFETY CHECKLIST FOR FALLS PREVENTION

Falls in the home continue to be the leading cause of Major Trauma in Ireland.
Attention to the following details in the home could reduce these accidents and prevent injuries.



IS THE ENTRANCE TO THE HOME SAFE?

- ✓ **YES:** NO ACTION.
- ✗ **NO:** If the footpath is uneven or slippery, or has loose paving stones or trip hazards, it should be fixed or removed.



CAN YOU WALK AROUND THE HOME EASILY?

- ✓ **YES:** NO ACTION.
- ✗ **NO:** Ask someone to move furniture or clutter in order to make the rooms/walkways accessible and safe.



ARE THERE RUGS OR TRIP HAZARDS?

- ✗ **NO:** NO ACTION.
- ✓ **YES:** Remove rugs or use double-sided tape to make them safe; remove trip hazards.



IS THERE ADEQUATE LIGHTING IN THE WALKWAYS AND ROOMS?

- ✓ **YES:** NO ACTION.
- ✗ **NO:** Replace bulbs; suggest placing a lamp in darker areas in order to increase brightness.



ARE THE STAIRS OR STEPS SAFE?

- ✓ **YES:** NO ACTION.
- ✗ **NO:** Remove any items on stairs/steps; make sure handrails are safe; fix any loose steps or loose carpet; and make sure lighting is adequate on the stairs.



IS THE KITCHEN SAFE?

- ✓ **YES:** NO ACTION.
- ✗ **NO:** Make sure key items are within easy reach; if using a step, make sure that it is in good working order.



IS THE BATHROOM SAFE?

- ✓ **YES:** NO ACTION.
- ✗ **NO:** Make sure non-slip mats are available in the bath or shower. If there is difficulty getting into the bath/shower, ensure that grab rails are placed where appropriate.



IS THE BEDROOM SAFE?

- ✓ **YES:** NO ACTION.
- ✗ **NO:** Ensure that a lamp or light is within easy reach of the bed. Ensure that the route to the bathroom is clear and easily visible. Remove clutter. Ensure that a walking aid is within easy reach if required.



ARE THERE PETS IN THE HOUSE?

- ✗ **NO:** NO ACTION.
- ✓ **YES:** Make sure the pet has a bell on its collar, so as to ensure that its whereabouts are known at all times.



CHECK YOUR SURROUNDINGS AND TAKE STEPS TO MAKE THEM SAFER

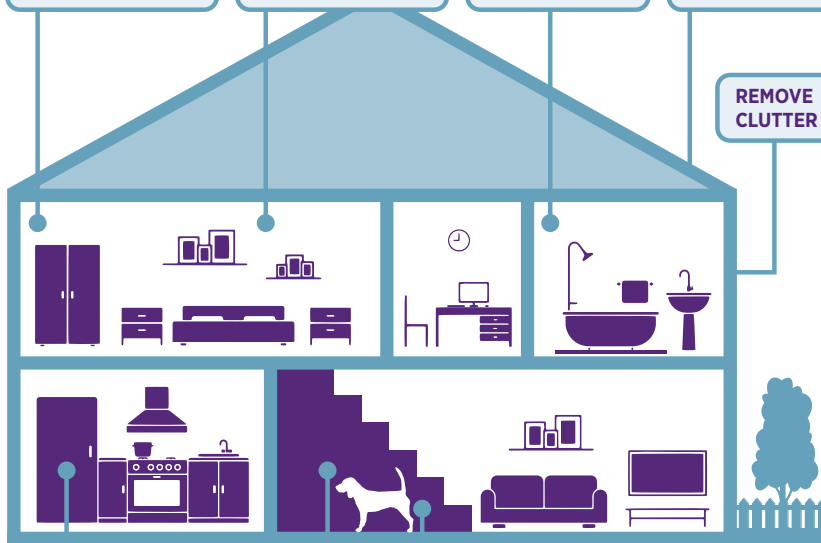
LIGHTING: Ensure adequate lighting in all rooms, steps and stairs. Use night lights inside and sensor lights outside.

BEDROOM: If you feel off balance or have difficulty dressing yourself, sit on the bed and get dressed there.

BATHROOM: Install grab rails. Use a non-slip mat. Be careful on wet floors.

CORDS AND CABLES: Remove cords and cables from walkways.

REMOVE CLUTTER



KITCHEN: Mop up spills straight away. Do not climb on chairs to reach high cupboards.

STAIRS AND STEPS: Mark edges of steps clearly. Use slip-resistant strips. Install handrails the full length of the stairs/steps.

PETS: Be aware of where your pets are.

FLOORS: Secure rugs (or remove them). Have non-slip floors.

GARDEN AREAS: Make sure that paths are even and free of moss. Keep paths free of garden tools.



Appendix 4

The Role of Exercise in Falls Prevention

Not All Exercises Reduce Falls: The Role of Exercise in Falls Prevention

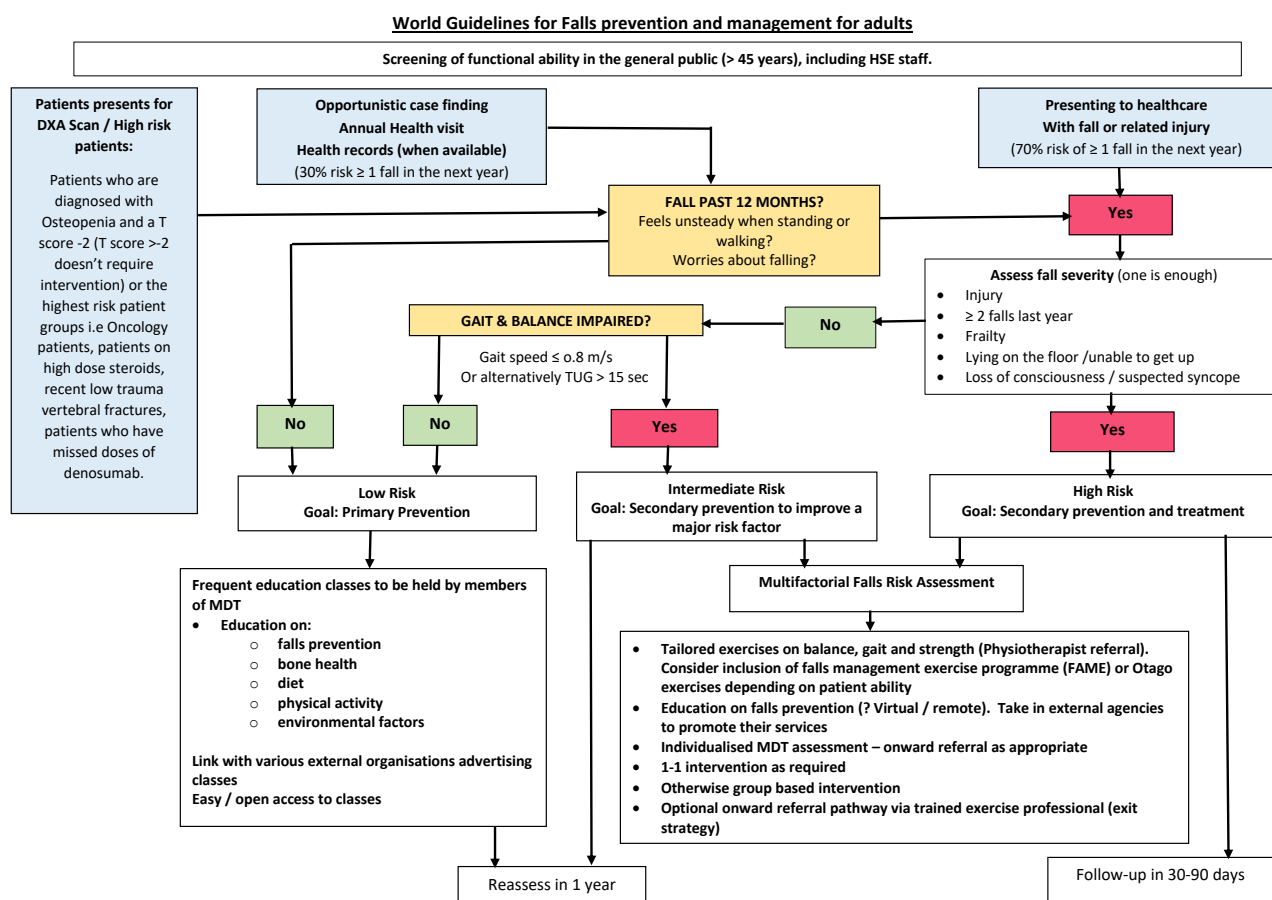
Exercise has been proven to reduce the rate of falls by 35% (1). To prevent falls in older people living in the community, the evidence indicates that exercise must be multicomponent including functional balance and strength exercises and be:

- Highly challenging balance training + progressive strength training
- Frequency 3 x per week for ≥ 2 hours total
- Duration ≥ 6 months
- Total Dose ≥ 50 hours

These types of exercise also reduce fear of falling (1).

Exercise participation needs to be ongoing, as the benefits are lost when short-term programs are ceased (24). Exercise forms part of the intervention recommendations for all levels of risk, as is evidenced in the World Falls Guidelines algorithm below.

Individuals at increased risk of falls (more than one fall per year) should receive a supervised, individualized program with a physiotherapist and/or a trained exercise instructor (24). This ensures appropriate screening and assessment to address safety concerns and prescribe exercises that safely challenge balance and maintain function. Considering the older person's needs and interests enhances long-term adherence.



The table below lists common evidence-based falls prevention programmes and exercises often mistaken for falls prevention.

Examples of evidence based exercise programmes for falls prevention: Otago and FaME (Falls Management Exercise) programmes.		
Name of Exercise programme	Otago Strength and Balance exercise Group classes	FaME Falls Management Exercise programme Group classes – Multicomponent exercises
Evidence of the programmes effectiveness	Reduces falls rate by between 18-45% (1) depending on population and duration (2)	Reduces falls rate by between 26-54% (1) (depending on population and duration) (2)
Programme benefits:	Secondary prevention of falls – not appropriate for all people – most effective > 80+ who have a history of falls, those who are at intermediate or high risk of falls people	Primary and Secondary Prevention of falls – FaME is benefit those who are low risk/ sedentary and high risk
Exercise components of the programme:	Pre-set programme 24 exercises (lower limb only) 5 mobility, 5 strength, 12 balance, 2 flexibility and walking programme	24-week structured exercise programme challenges balance, improves strength, regains stepping reactions and skills to get up from the floor and coping strategies Stretches for ROM and Adapted Tai Chi
Who delivers the programme?	Delivered by Otago leaders (OEP) and Postural Stability Instructors (PSI)	Delivered by Postural Stability Instructors (PSI)
Location and duration of programme.	Group Based programme >6 months (group and home exercise programme done 2-3 times/week)	Group-based with individualised tailoring for ability and progression with a home exercise programme done 2-3 times/week > 6 months

Myth Busting:

- **Chair-Based Exercise Programmes** – Chair-based exercises are not a falls prevention programme but can increase levels of physical ability (24). Appropriate for those at high risk of falls who are unable to exercise in a standing position, with or without support.
- **Walking/Dancing programme** – Does not reduce falls risk (brisk walking, can increase risk of falls).

FaME and Otago in Community Services CDLMS:

Currently in Community Services Cavan, Donegal, Leitrim, Monaghan, Sligo there are collaborative falls prevention exercise programmes being delivered based on the Falls Management Exercise (FaME) and the Otago exercise programmes.

The involved agencies are:

- HSE Primary Care Physiotherapy Services CS CDLMS and HSE Older Persons Falls Team Physiotherapy Services CS CDLMS
- Cavan, Donegal, Leitrim, Monaghan and Sligo Sports Partnerships, in collaboration with HSE Health and Wellbeing

This is a joint initiative involving multiple agencies, led by HSE physiotherapists. According to the World Falls Guidelines (2022), physiotherapists play a key role in helping older adults find appropriate ways to incorporate regular exercise into their routines, and they can refer them to other professionals for this support. As such, participants in the FaME programme are assessed by physiotherapist PSIs, who also lead the first six weeks of the programme. The following 18 weeks are then overseen by Exercise Professional PSIs, with sessions held in community venues. The aim is to safely fast track people away from clinical care to exercising beneficially in the community.

UCC is currently undergoing research on evaluating the early adoption of these integrated falls management exercise programmes in Ireland. The aim is to understand how we can support the sustainability and scaling up of the FaME programme here in Ireland and Leitrim is one of the sites for this research.

Appendix 5

Falls Risk Increasing Drugs (FRIDs) Guidelines (including references)

FALLS RISK INCREASING DRUGS (FRIDS) REVIEW IN OLDER PERSONS IN CH CDLMS

FALLS AND MEDICATION REVIEW

Falls and fall-related injuries are a common and a serious problem for older persons. The use of certain medications (“FRIDs”) is recognised as a major and modifiable risk factor for falls. Therefore, a **full medication review** should form part of the assessment for people at risk of falling or who have a history of falls. In addition to FRIDs review, **the medication review should also encompass a review of other medications which can increase falls risk by virtue of their indication, for example, antihypertensives, hypoglycaemics.**

STOPPFALL GUIDANCE/CH CDLMS FRIDS GUIDANCE

This guidance is based on **STOPPFall**. To support clinicians in the management of FRIDs when performing a medication review and to facilitate the deprescribing process, the STOPPFall (Screening Tool of Older Persons Prescriptions in older adults with high falls risk) tool and a deprescribing tool was developed by a European expert group. This FRIDs guidance expands further by:

- Identifying those medications within each STOPPFall medication class that are licensed in Ireland
- Providing links to current recommendations to facilitate deprescribing in a structured and safe manner
- Providing resources for both patients and clinicians (where available) to encourage healthy, informed living and to support the process of deprescribing

Please note that the list of medication classes of FRIDs in STOPPFall is the result of the consensus of the expert EuGMS Task and Finish Group. According to this group, the roles of numerous medication classes as FRIDs are to be further elucidated, since no consensus was reached for 17 classes.

Medications within the same STOPPFall medication class may not display all of the side-effects stated in the “when to consider withdrawal” section. In addition, there are a number of differences in fall-risk-increasing properties between pharmacological subclasses, especially for antipsychotics, antidepressants and antiepileptics. Please consult Summary of Product Characteristics (SPC) on www.hpra.ie for up to date information on individual medications.

Please note that some of the deprescribing guidance given in this document references medication that is not available in Ireland.

COMPREHENSIVE GERIATRIC ASSESSMENT (CGA)

A **comprehensive geriatric assessment (CGA)** is described as a multi-dimensional diagnostic process focused on determining a frail older person’s medical, psychological and functional capability in order to develop a coordinated and integrated plan for treatment and long term follow up. Assessment of orthostatic hypotension, dizziness, blood glucose, blurred vision etc. are important components of a CGA. Results of these assessments should inform the medication review.

IMPORTANT POINTS ON DEPRESCRIBING

- **A comprehensive medication history**, incorporating an accurate reflection of the medication actually taken by the patient, is essential prior to starting any deprescribing process.
- **For any medication, withdrawal should always be considered where there is no indication for prescribing, if medication is ineffective or if a safer alternative is available.**
- Withdrawal of medication should **ALWAYS** be done under the supervision of a suitable clinician.
- Particular attention should be given to any recent changes in medication (newly introduced medication, increase in dose etc.)
- **Consultation with the patient**, agreeing a plan, and appropriate follow-up review are essential to the success of the deprescribing process.
- **Deprescribe** medications one at a time.
- **Monitor post-deprescribing** for falls incidence and change in symptoms e.g. orthostatic hypotension, blurred vision, dizziness.

FRACTURE RISK REVIEW

- **Review** medications that increase fracture risk (e.g. steroids, proton pump inhibitors).
- **Check** relevant laboratory parameters (e.g. calcium/vitamin D) and supplement as indicated.
- **Consider** referral for DEXA scan, with bone protection treatment if appropriate.

RECOMMENDATIONS OF THE MEDICATION WORKING GROUP (PART OF THE FALLS PREVENTION PROJECT IN CDLMS)

Medication review and appropriate deprescribing of Falls Risk Increasing Drugs (FRIDs), with the collaboration of the patient, is an essential part of a comprehensive geriatric assessment. It should be structured, personalised and patient-centred.
Consider patient-specific factors such as frailty status, life expectancy, and patient goals of care and preferences related to deprescribing.
Emphasise patient monitoring, support, and documentation to ensure long-term success of deprescribing.
Before prescribing a Falls Risk Increasing Drug: <ul style="list-style-type: none"> Consider the relative benefits and risks to the patient of introducing a FRID. Include an assessment of the patient's falls risk with falls history.
Review (by a pharmacist and/or a general practitioner) all of an older person's prescribed and non-prescribed medications: <ul style="list-style-type: none"> after a fall after initiation of medication or after an increase in dosage of medication at least yearly.
Use a structured screening and assessment tool to identify FRIDs when performing a medication review (see appendix).
Assess and manage presyncope, syncope and postural hypotension, and review medications (including medications associated with presyncope and syncope) as part of a multifactorial assessment and management plan.
Avoid prescribing psychotropic drugs if possible and consider alternative strategies for promoting sleep and addressing anxiety, depression and pain. When prescribing these medications, ensure the starting dose is low, with follow-up planned and the intended stop date documented. Psychotropic medication should be prescribed for the shortest possible time.
If medicines are used specifically to restrain an older person, use the minimal dose and regularly review and monitor the patient to ensure their safety. Importantly, do not use chemical restraint as a substitute for alternative methods of management.
Discuss medication changes with the patient and formulate a plan. Communicate medication changes and suggestions about further changes to the patient's General Practitioner and community pharmacist as part of discharge planning.
A specialist pharmacist reviews all of an older person's prescribed and non-prescribed medications in acute care settings: on admission as part of a comprehensive assessment of the older person, and at all transitions of care.
A specialist pharmacist reviews all prescribed and non-prescribed medications for any patient presenting at a Falls Clinic as part of a comprehensive assessment.

FALLS RISK INCREASING DRUGS (FRIDS) WITHDRAWAL GUIDANCE TOOL

MEDICATION CLASS	MEDICATIONS WITHIN CLASS	WHEN TO CONSIDER WITHDRAWAL	WITHDRAWAL GUIDANCE	PATIENT INFORMATION
<u>BENZODIAZEPINES</u>	Alprazolam Bromazepam Chlordiazepoxide Clobazam* Clonazepam* Diazepam Flurazepam Lorazepam Lormetazepam Nitrazepam Prazepam Temazepam Triazolam	<p>If prescribed for anxiety or insomnia</p> <p>Or if patient is experiencing any of the associated side-effects:</p> <p>Cognitive impairment</p> <p>Daytime sedation</p> <p>Dizziness</p> <p>Ataxia</p> <p>Imbalance</p> <p>Muscular weakness</p> <p>*If prescribed for epilepsy, see “ANTIEPILEPTICS”.</p> <p>Clonazepam is sometimes prescribed for restless legs syndrome (unlicensed). Consider alternative as appropriate e.g. dopamine agonist.</p>	<p>Should not be stopped abruptly.</p> <p>Tapering regimens should be tailored to the individual patient, taking into account initial indication, duration of use and reason(s) for ongoing use.</p> <p>For full details on suggested tapering regimens in anxiety/insomnia and other information click on:</p> <p>Section 11: Deprescribing of BZRAs in Table of Contents of HSE document (link below)</p> <p>https://www.hse.ie/eng/about/who/cspd/medicines-management/bzra-for-anxiety-insomnia/stopping-your-medicine-guide.pdf</p> <p>https://www.hse.ie/eng/about/who/cspd/medicines-management/bzra-for-anxiety-insomnia/guidance-on-appropriate-prescribing-of-bzra-feb-2021.pdf</p>	https://www.hse.ie/eng/about/who/cspd/medicines-management/bzra-for-anxiety-insomnia/stopping-your-medicine-guide.pdf
<u>“Z” DRUGS</u>	Zolpidem Zopiclone	<p>Ataxia</p> <p>Daytime sedation</p> <p>Dizziness</p> <p>Muscular weakness</p>	<p>For withdrawal symptoms and monitoring after deprescribing, click on:</p> <p>Section 12.3 in Table of Contents</p>	

MEDICATION CLASS	MEDICATIONS WITHIN CLASS	WHEN TO CONSIDER WITHDRAWAL	WITHDRAWAL GUIDANCE	PATIENT INFORMATION
<u>ANTI-PSYCHOTICS</u> – FIRST GENERATION	Chlorpromazine Haloperidol Sulpiride Trifluoperazine	It is essential to: <ul style="list-style-type: none"> review initial indication reason for ongoing use prior to considering withdrawal, to avoid relapse.	Seek specialist advice before deprescribing if: Patient is under care of Psychiatry of Old Age, Mental Health Services, has Lewy Body dementia/Parkinson's disease dementia or has long-standing mental health issues Or symptoms requiring antipsychotic are not controlled. For full details on suggested tapering regimens and other information: https://deprescribing.org/wp-content/uploads/2018/08/AP-deprescribing-algorithm-2018-English.pdf For further reading: See section 6.9: https://awttc.nhs.wales/files/guidelines-and-pils/polypharmacy-in-older-people-a-guide-for-healthcare-professionalspdf And: https://www.hse.ie/eng/dementia-pathways/files/national-clinical-guideline-no-21-appropriate-prescribing-of-psychotropic-medication-for-non-cognitive-symptoms-in-people-with-dementia.pdf	For tips on sleep & non-cognitive symptoms of dementia (formerly known as “BPSD”) management see “notes” section: https://deprescribing.org/wp-content/uploads/2018/08/AP-deprescribing-algorithm-2018-English.pdf
<u>ANTI-PSYCHOTICS</u> – SECOND GENERATION	Amisulpride Aripiprazole Olanzapine Quetiapine Risperidone	Consider withdrawal if patient is experiencing any of the associated side-effects: Extrapyramidal side-effects Cardiac side-effects Orthostatic hypotension Hypotension Dizziness Sedation Blurred vision Or if patient has dementia, has been on antipsychotics for more than three months and has stable symptoms Or where harm outweighs benefit e.g. if patient has a co-morbidity that places them at high risk of stroke.		

MEDICATION CLASS	MEDICATIONS WITHIN CLASS	WHEN TO CONSIDER WITHDRAWAL	WITHDRAWAL GUIDANCE	PATIENT INFORMATION
<u>OPIOIDS</u>	Buprenorphine Codeine Dihydrocodeine Fentanyl Hydromorphone Morphine Oxycodone Tapentadol Tramadol	Consider withdrawal if patient is experiencing any of the associated side-effects: Confusion Slow reactions Sedation Dizziness Impaired balance Muscle disorders Visual impairment	For full details on suggested tapering regimens and other information: https://www.opioiddeprescribingguideline.com/_files/ugd/c86050_059aa5ec3a5b43b393667f58bf195f1f.pdf Tapering and stopping Faculty of Pain Medicine (fpm.ac.uk) For information on opioid dose equivalency: https://www.fpm.ac.uk/opioids-aware-structured-approach-opioid-prescribing/dose-equivalents-and-changing-opioids	https://chronicpain.ie/information-hub/ For information for clinicians on opioid transdermal patches: https://olh.ie/wp-content/uploads/2022/06/Opioid-Transdermal-Patches-2021.pdf For information for clinicians on changing administration routes: See “opioids-changing route of administration”: https://olh.ie/palliative-meds-info/

MEDICATION CLASS	MEDICATIONS WITHIN CLASS	WHEN TO CONSIDER WITHDRAWAL	WITHDRAWAL GUIDANCE	PATIENT INFORMATION
<u>ANTIDEPRESSANTS</u> –SELECTIVE SEROTONIN RE- UPTAKE INHIBITORS (SSRIs)	Citalopram Escitalopram Fluoxetine Fluvoxamine Paroxetine Sertraline	It is essential to: <ul style="list-style-type: none"> review initial indication reason for ongoing use <p>prior to considering withdrawal, to avoid relapse.</p> <p>Consider withdrawal if patient is experiencing any of the associated side-effects:</p> <p>Dizziness Hyponatraemia Sedation Visual impairment</p>	Should be tapered gradually as withdrawal symptoms can occur. <p>Tapering schedule can vary depending on half-life of drug, dose of drug and duration of treatment. Shorter-acting drugs, e.g. paroxetine may need more gradual withdrawal.</p> <p>See Pg 18-20 of following document for advice on tapering antidepressants:</p> <p>https://awttc.nhs.wales/files/guidelines-and-pils/polypharmacy-in-older-people-a-guide-for-healthcare-professionalspdf</p>	The following link contains detailed information for both patients and healthcare professionals: <p>https://www.rcpsych.ac.uk/mental-health/treatments-and-wellbeing/stopping-antidepressants</p>
<u>ANTIDEPRESSANTS</u> –SEROTONIN & NORADRENALINE RE-UPTAKE INHIBITORS (SNRIs)	Duloxetine Venlafaxine			

MEDICATION CLASS	MEDICATIONS WITHIN CLASS	WHEN TO CONSIDER WITHDRAWAL	WITHDRAWAL GUIDANCE	PATIENT INFORMATION
<u>ANTIDEPRESSANTS</u> SEROTONIN MODULATOR	Vortioxetine	It is essential to: <ul style="list-style-type: none"> review initial indication reason for ongoing use prior to considering withdrawal, to avoid relapse. Consider withdrawal if patient is experiencing dizziness	Should be tapered gradually as withdrawal symptoms can occur. Tapering schedule can vary depending on half-life of drug, dose of drug and duration of treatment. Shorter-acting drugs, e.g. paroxetine may need more gradual withdrawal.	The following link contains detailed information for both patients and healthcare professionals: https://www.rcpsych.ac.uk/mental-health/treatments-and-wellbeing/stopping-antidepressants
<u>ANTIDEPRESSANTS</u> TRICYCLICS/ MONOAMINE OXIDASE INHIBITORS (MAOIs)/OTHERS	<u>TRICYCLICS</u> Amitriptyline Clomipramine Dosulepin Lofepramine Trimipramine <u>MAOI</u> Tranylcypromine <u>OTHERS</u> Mirtazapine* Trazodone Agomelatine**	It is essential to: <ul style="list-style-type: none"> review initial indication reason for ongoing use prior to considering withdrawal, to avoid relapse. Consider withdrawal if patient is experiencing any of the associated side-effects: Cardiac conduction & rhythm disorders Dizziness Hyponatremia Orthostatic hypotension Sedation Visual impairment	See Pg 18-20 of following document for advice on tapering antidepressants: https://awttc.nhs.wales/files/guidelines-and-pils/polypharmacy-in-older-people-a-guide-for-healthcare-professionalspdf *Mirtazapine is more sedating at lower doses **Agomelatine: no dosage tapering is needed on treatment discontinuation.	

MEDICATION CLASS	MEDICATIONS WITHIN CLASS	WHEN TO CONSIDER WITHDRAWAL	WITHDRAWAL GUIDANCE	PATIENT INFORMATION
<u>ANTI-SEIZURE MEDICATIONS (ASMs)</u>	Brivaracetam Carbamazepine Cenobamate Clobazam Clonazepam* Eslicarbazepine Ethosuximide Fenfluramine Gabapentin Lacosamide Lamotrigine Levetiracetam Oxcarbazepine Perampanel Phenobarbital Phenytoin Pregabalin Primidone* Rufinamide Sodium valproate Stiripentol Tiagabine Topiramate Vigabatrin Zonisamide	Consider withdrawal if patient is experiencing any of the associated side-effects: Confusion Dizziness Fatigue Sedation Impaired concentration Hyponatraemia Movement disorders Vertigo Vision disorders Not all medications listed have the same side-effect profile. Consult the individual SPC for full details. *sometimes prescribed for restless legs syndrome (unlicensed). Consider alternative as appropriate e.g. dopamine agonist.	If prescribed for seizure management, refer to Neurology for advice. Consider checking a drug level where appropriate prior to referral. If prescribed for mental health, seek specialist advice before deprescribing. If prescribed for migraine prophylaxis or trigeminal neuralgia, consider specialist advice before deprescribing. If gabapentin or pregabalin prescribed for pain control, see page 27: https://awttc.nhs.wales/files/guidelines-and-pils/polypharmacy-in-older-people-a-guide-for-healthcare-professionalspdf	https://www.epilepsy.ie/content/epilepsy-information Contains information leaflets for patients on epilepsy treatments.

MEDICATION CLASS	MEDICATIONS WITHIN CLASS	WHEN TO CONSIDER WITHDRAWAL	WITHDRAWAL GUIDANCE	PATIENT INFORMATION
<u>DIURETICS</u>	<u>LOOP</u> Bumetanide Furosemide Furosemide/ Amiloride	Consider withdrawal if prescribed for hypertension Or if patient is experiencing any of the associated side-effects: Orthostatic hypotension Hypotension Electrolyte disturbance	Consider stopping diuretic in a stepwise manner e.g. half-dose reductions at weekly intervals until the lowest licensed dose is reached following which the drug is stopped. Liaise with Heart Support Clinic if applicable. After withdrawal or dose reduction, monitor for:	For information on hypertension: https://www2.hse.ie/conditions/high-blood-pressure-hypertension/treatment/
	<u>ALDOSTERONE ANTAGONISTS</u> Eplerenone Spironolactone	Consider if urinary incontinence is increasing falls risk	1) Changes in symptoms, e.g. orthostatic hypotension 2) Signs of CCF, fluid retention and hypertension	For information on heart failure: Irish Heart Supports for Heart Failure Patients – Irish Heart
	<u>THIAZIDES</u> Bendroflumethiazide Chlortalidone Hydrochlorothiazide Indapamide		Figure 2 Diuretics, SGLT2 inhibitors and falls in older heart failure patients: to prescribe or to deprescribe? A clinical review European Geriatric Medicine (springer.com)	
<u>ALPHA BLOCKERS</u>	Alfuzosin Doxazosin Indoramin Prazosin Silodosin Tamsulosin Terazosin	Consider withdrawal if patient is experiencing any of the associated side-effects: Orthostatic hypotension Hypotension Dizziness	If prescribed for benign prostatic hyperplasia: <ul style="list-style-type: none"> In general, gradual withdrawal not needed If history of urinary retention or if co-prescribed with dutasteride or finasteride, consider contacting Specialist for advice. Monitor for return of symptoms.	For information on enlarged prostate: https://patient.info/mens-health/prostate-and-urethra-problems/prostate-gland-enlargement

MEDICATION CLASS	MEDICATIONS WITHIN CLASS	WHEN TO CONSIDER WITHDRAWAL	WITHDRAWAL GUIDANCE	PATIENT INFORMATION
<u>ALPHA BLOCKERS</u>	Alfuzosin Doxazosin Indoramin Prazosin Silodosin Tamsulosin Terazosin	Consider withdrawal if patient is experiencing any of the associated side-effects: Orthostatic hypotension Hypotension Dizziness	<p><u>If prescribed for hypertension:</u></p> <p>BP effects last around 24 hours.</p> <p>Withdraw over 1–2 weeks with gradual dose reduction.</p> <p>For further information:</p> <p>Fig.1: Alpha-blocker and centrally acting antihypertensive de-prescribing algorithm: Figure – PMC (nih.gov)</p> <p>Monitor blood pressure and consider monitoring for palpitations and headache post-deprescribing.</p>	<p>For information on alpha blockers:</p> <p>https://patient.info/heart-health/alpha-blockers</p> <p>For information on hypertension:</p> <p>https://www2.hse.ie/conditions/high-blood-pressure-hypertension/treatment/</p>
<u>CENTRALLY-ACTING ANTI-HYPERTENSIVES</u>	Clonidine Methyldopa	Consider withdrawal if patient is experiencing any of the associated side-effects: Dizziness Hypotension Sedation	<p>Consider seeking specialist advice before deprescribing.</p> <p>Clonidine is associated with a high risk of withdrawal syndrome. Extra caution is also required if co-prescribed with beta-blockers.</p> <p>Fig.1: Alpha-blocker and centrally acting antihypertensive de-prescribing algorithm: Figure – PMC (nih.gov)</p> <p>Full article available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10447259/</p> <p>Monitor for hypertension post-deprescribing.</p>	<p>For information on hypertension:</p> <p>https://www2.hse.ie/conditions/high-blood-pressure-hypertension/treatment/</p>

MEDICATION CLASS	MEDICATIONS WITHIN CLASS	WHEN TO CONSIDER WITHDRAWAL	WITHDRAWAL GUIDANCE	PATIENT INFORMATION
<u>SEDATIVE ANTIHISTAMINES</u>	Chlorphenamine Cinnarizine Diphenhydramine Hydroxyzine Ketotifen Promethazine	Consider withdrawal if patient is experiencing any of the associated side-effects: Blurred vision Confusion Dizziness Sedation	No taper necessary. Consider change to a non-sedating antihistamine if indicated. Monitor for return of symptoms. Consider monitoring for insomnia and/or anxiety.	For information on itchy skin management: https://www2.hse.ie/conditions/itchy-skin/
<u>NITRATES</u>	Glyceryl trinitrate Isosorbide mononitrate	Consider withdrawal if patient is experiencing any of the associated side-effects: Dizziness Hypotension Orthostatic hypotension	Withdraw slowly to avoid adverse effects from sudden discontinuation (e.g. chest pain, pounding heart, increased heart rate, increased blood pressure, anxiety, tremor). For further information: A-guide-to-deprescribing-long-acting-nitrates.pdf (primaryhealthtas.com.au)	https://irishheart.ie/how-to-keep-your-heart-healthy/
<u>OTHER VASODILATORS</u>	Minoxidil Nicorandil	Consider withdrawal if patient is experiencing any of the associated side-effects: Dizziness Hypotension	<u>For minoxidil</u> : Seek specialist advice before deprescribing. <u>For nicorandil</u> : No taper necessary. Monitor for return of symptoms. Consider specialist advice if necessary.	https://irishheart.ie/how-to-keep-your-heart-healthy/

MEDICATION CLASS	MEDICATIONS WITHIN CLASS	WHEN TO CONSIDER WITHDRAWAL	WITHDRAWAL GUIDANCE	PATIENT INFORMATION
<u>ANTI-CHOLINERGICS FOR OVER-ACTIVE BLADDER</u>	Fesoterodine Flavoxate Oxybutynin Propiverine Solifenacin Tolterodine Trospium	Consider withdrawal if patient is experiencing any of the associated side-effects: Confusion Dizziness Sedation Visual impairment	NICE guideline TA290 recommends mirabegron as an alternative option for patients with overactive bladder who cannot tolerate anticholinergic drugs or in whom they are contraindicated or ineffective. Drugs with a high anticholinergic burden are associated with an increased risk of falls. Anticholinergic Effect on Cognition (AEC) Tool: https://medicheck.com/assessment For further information on anticholinergic drugs: https://nmiccomms.newsweaver.com/icfiles/12/87651/322440/1029488/83076fbd2520b55f6617dc0b/final%20use%20of%20medicines%20with%20anticholinergic%20activity_2column_14052024.pdf	https://www2.hse.ie/conditions/urinary-incontinence/ Further information for clinicians: https://www.hse.ie/eng/about/who/acute-hospitals-division/woman-infants/clinical-guidelines/quick-summary-document-stress-urinary-incontinence-2023-.pdf

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Appendix 6

3IQ Incontinence Questionnaire

1. During the last three months, have you leaked urine (even a small amount)?
☐ Yes ☐ No → Questionnaire completed.
2. During the last three months, did you leak urine (check all that apply):
 - a. ☐ When you were performing some physical activity, such as coughing, sneezing, lifting, or exercise?
 - b. ☐ When you had the urge or feeling that you needed to empty your bladder, but you could not get to the toilet fast enough?
 - c. ☐ Without physical activity and without a sense of urgency?
3. During the last three months, did you leak urine most often (check only one):
 - a. ☐ When you are performing some physical activities, such as coughing, sneezing, lifting, or exercise?
 - b. ☐ When you had the urge or feeling that you needed to empty your bladder, but you could not get to the toilet fast enough?
 - c. ☐ Without physical activity or a sense of urgency?
 - d. ☐ About equally as often with physical activities as with a sense of urgency?

Definitions of the type of urinary incontinence are based on responses to Question 3

Response to question 3	Type of incontinence
a. Most often with physical activity	Stress only or stress predominant
b. Most often with the urge to empty the bladder	Urge only or urge predominant
c. Without physical activity or sense of urgency	Other cause only or other cause predominant
d. About equally with physical activity and sense of urgency	Mixed

Reproduced with permission from Brown JS, Bradley CS, Subak LL, et al. The sensitivity and specificity of a simple test to distinguish between urge and stress incontinence. *Ann Intern Med* 2006;144(10):715–23.

Extracted from Appendix 13A



Guidelines for preventive activities in general practice

9th edition

2018

Appendix 7

Multi-factorial Falls Risk Assessment (MFRAT)






Developed from work initially undertaken by the National Quality Improvement Team and CHO East.








Multi-factorial Falls Risk Assessment		
Date:	Time:	Initials:
Summary of Agreed Actions:		

Interventions Required should be incorporated in the main nursing care plan (Tick ✓ if applicable / Check ✗ if not applicable)

	Risk Factor			Medication Review	Date & Time
MEDICATION	Medications that can increase falls risk 	<input type="checkbox"/> Benzodiazepines/ Z-drugs <input type="checkbox"/> Antipsychotics <input type="checkbox"/> Opioids <input type="checkbox"/> Antidepressants <input type="checkbox"/> Antiepileptics <input type="checkbox"/> Diuretics	<input type="checkbox"/> Alpha blockers <input type="checkbox"/> Centrally acting antihypertensives <input type="checkbox"/> Sedative antihistamines <input type="checkbox"/> Vasodilators <input type="checkbox"/> Anticholinergics	<input type="checkbox"/> Doctor <input type="checkbox"/> Pharmacist <input type="checkbox"/> Referral(s) sent <input type="checkbox"/> See Falls Risk Increasing Drugs guidance (Appendix 5)	
	Risk Factor	Active Problem	Intervention Required		Date & Time
CARDIOVASCULAR		<input type="checkbox"/> Patient reports feeling dizzy/lightheaded/fainting episodes or loss of consciousness/syncope	<input type="checkbox"/> Lying and standing blood pressure reading indicates probable orthostatic hypotension <input type="checkbox"/> Refer to standardised method of measuring lying and standing blood pressure <input type="checkbox"/> Consult GP/Medical Team <input type="checkbox"/> Medication review by GP/Medical Team <input type="checkbox"/> Advise on non-pharmacological intervention for postural hypotension		

	Risk Factor	Active Problem	Intervention Required	Date & Time
NUTRITION	Nutrition and Bone Health Considerations 	<input type="checkbox"/> Previous fracture <input type="checkbox"/> Osteoporosis <input type="checkbox"/> Supplementation vitamin D and Calcium <input type="checkbox"/> Malnutrition Screening e.g. MUST Score >2 <input type="checkbox"/> BMI >30	<input type="checkbox"/> Consult GP re: bone health screen (include calcium and vitamin D supplements, and bone protection medication as indicated) <input type="checkbox"/> Give leaflet regarding Osteoporosis <input type="checkbox"/> Refer to Dietician	
FALLS HISTORY	Falls History and Mobility Assessment 	<input type="checkbox"/> History of falls? <input type="checkbox"/> Resident/staff reports or note unsteady gait <input type="checkbox"/> Resident worried about falling <input type="checkbox"/> Does the resident require assistance to stand or require assistance/supervision to mobilise?	<input type="checkbox"/> Refer to Physiotherapy <input type="checkbox"/> Ensure patient's mobility aid is available and accessible <input type="checkbox"/> Refer to Occupational Therapy <input type="checkbox"/> Advise resident re use of call bell and ensure it is within reach <input type="checkbox"/> Provide Patient with Falls prevention leaflet	
EXERCISE	Exercise 	<input type="checkbox"/> Do they partake in any exercise/mobility or prescribed exercise programme?	<input type="checkbox"/> Encourage safe mobility <input type="checkbox"/> Encourage/offer participation in any structured/prescribed exercise programme when feasible and safe	
SAFETY - PERSONAL	Cognition/ Mood/ Memory Impairment 	<input type="checkbox"/> Cognitive Impairment/Dementia <input type="checkbox"/> Evidence of Delirium <input type="checkbox"/> Depression/Mood/other mental health factors <input type="checkbox"/> Poor safety awareness <input type="checkbox"/> Behavioural Psychological symptoms of Dementia (BPSD)	<input type="checkbox"/> Review with GP or medical team if delirium suspected <input type="checkbox"/> Consult GP/medical team/OT for cognitive review (and change the word 'rev' to 'review') <input type="checkbox"/> Consider Assessment of depression/mood <input type="checkbox"/> Anticipate safety needs and plan care accordingly <input type="checkbox"/> Assess for need for enhanced level of supervision.	
	Sensory Impairment 	<input type="checkbox"/> Impaired vision <input type="checkbox"/> Recent eye exam <input type="checkbox"/> Impaired hearing	<input type="checkbox"/> Ensure glasses are available/reachable and clean <input type="checkbox"/> Refer GP/Optomestrist <input type="checkbox"/> Ensure hearing device available and functioning <input type="checkbox"/> Refer GP/Audiology	

	Risk Factor	Active Problem	Intervention Required	Date & Time
SAFETY - PERSONAL	Pain 	<input type="checkbox"/> Pain Affecting Mobility	<input type="checkbox"/> Assess Pain <input type="checkbox"/> Consider using pain scale <input type="checkbox"/> Administer analgesia – (re-assess) <input type="checkbox"/> GP/Medical review	
	Continence 	<input type="checkbox"/> Continence concerns	<input type="checkbox"/> Continence assessment <input type="checkbox"/> Continence care plan in place, including increased visual checks if nocturia is identified <input type="checkbox"/> Medical review if UTI suspected	
	Footwear 	<input type="checkbox"/> Inappropriate footwear <input type="checkbox"/> Poor Foot Health	<input type="checkbox"/> Request suitable footwear <input type="checkbox"/> Refer to Podiatry/Orthotist	
SAFETY - ENVIRONMENT	Night-time Risk 	<input type="checkbox"/> Gets up during the night	<input type="checkbox"/> Consider night time needs for observations/ frequency of checks/supervision <input type="checkbox"/> Bed alarm/Low Low Bed <input type="checkbox"/> Consider need for Protective Devices <input type="checkbox"/> Ensure restrictive practice guidelines are followed	
	Environment screen 	<input type="checkbox"/> Trip hazards <input type="checkbox"/> Unable to use call bell <input type="checkbox"/> Forgets to use call bell <input type="checkbox"/> Call bell/mobility aid out of reach <input type="checkbox"/> Inadequate lighting	<input type="checkbox"/> Ensure environment is clutter free <input type="checkbox"/> Ensure resident has easy access to mobility aid <input type="checkbox"/> Ensure adequate lightening including sensor lighting <input type="checkbox"/> Increase regular visual checks <input type="checkbox"/> Consider use of protective devices (including low/ low beds/sensor alarm/crash mat/hip protectors)	

[An alarm device does not replace regular visual checking of the patient who is at risk of falling]

Date:

Time:

Name and Initials:

Refer to local Falls Prevention/ Management Policy

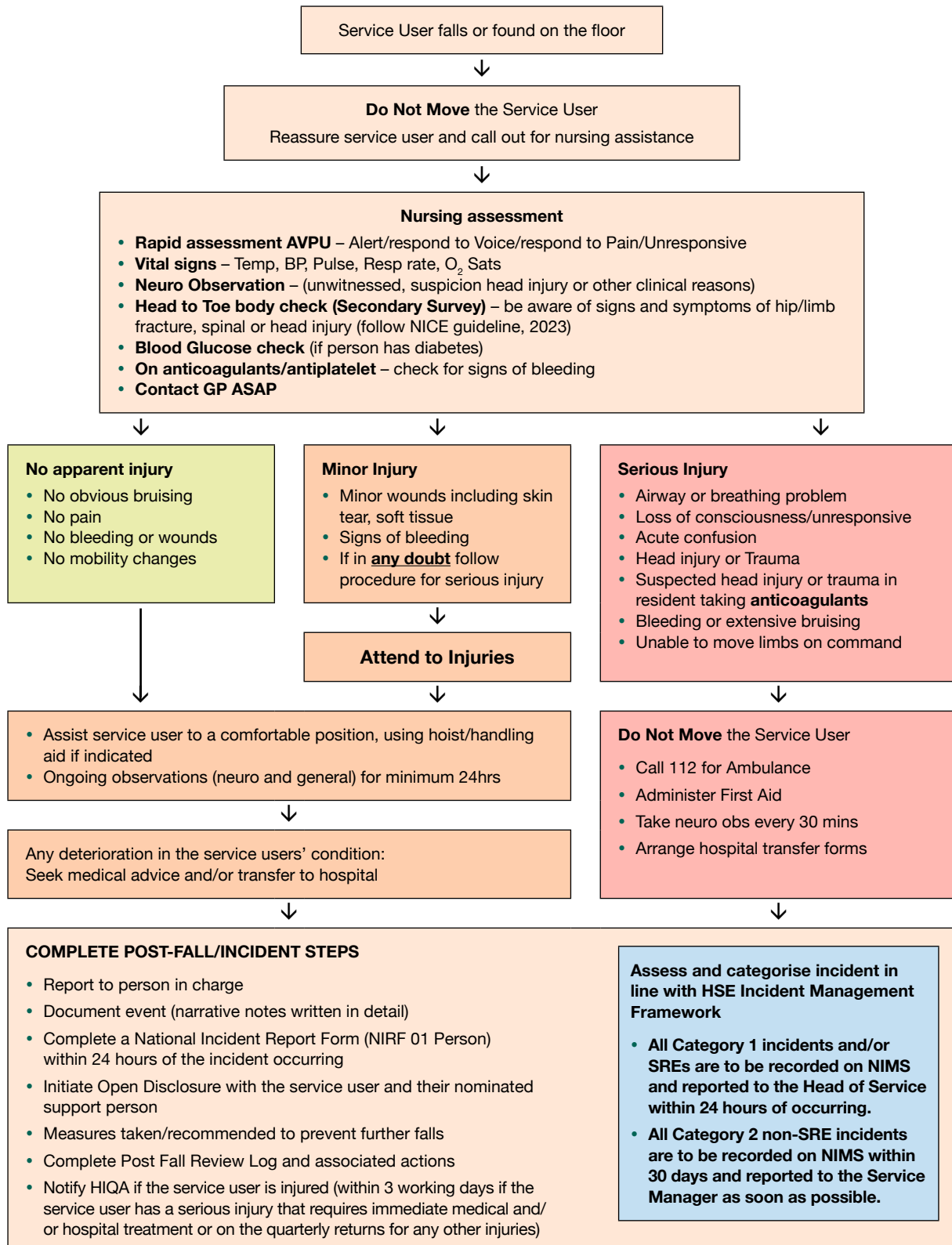
Appendix 8

Proposed Post-Fall Protocol and Post-Fall Review Log

For use in all care settings



POST-FALL PROTOCOL





Post-Fall Review Log

IDENTITY				
Identity	Residential	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Name:
Situation				D.O.B:
Background	Respite	Yes <input type="checkbox"/>	No <input type="checkbox"/>	MRN:
Assessment				Ward/Unit:
Recommendations				(or addressograph)

SITUATION			
Date of fall:		Time of fall:	
Location of fall? <input type="checkbox"/> Bathroom <input type="checkbox"/> Bedroom <input type="checkbox"/> Dining room <input type="checkbox"/> Corridor <input type="checkbox"/> Other: _____			
Did they sustain any injury? Yes <input type="checkbox"/> No <input type="checkbox"/>			
If Yes, please describe			
Initial Category Assessment as per Post-Fall Protocol <input type="checkbox"/> No Injury <input type="checkbox"/> Minor Injury <input type="checkbox"/> Serious Injury			
Did anyone witness the fall? <input type="checkbox"/> Witnessed <input type="checkbox"/> Unwitnessed <input type="checkbox"/> Assisted			
Witnessed or Assisted Fall		Unwitnessed Fall	
Activity at the time of the fall? (check all that apply)		When were they last observed?	
<input type="checkbox"/> Getting into/out of bed			
<input type="checkbox"/> Getting on/off chair			
<input type="checkbox"/> Toileting		What were they doing when last observed?	
<input type="checkbox"/> Transferring			
<input type="checkbox"/> Walking independently			
If yes, were they using their mobility aid: Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>			
<input type="checkbox"/> Other			
Describe the circumstance of the fall:		Describe the circumstances of the fall:	
Why do you or they think they fell? (check all that apply)			
<input type="checkbox"/> Slipped and/or tripped on		<input type="checkbox"/> Felt Dizzy, lightheaded	
<input type="checkbox"/> Loss of consciousness/blackout		<input type="checkbox"/> Legs felt weak	
<input type="checkbox"/> Lost balance		<input type="checkbox"/> Tried to sit but misjudged the chair/bed	
<input type="checkbox"/> "Got tangled up in, e.g. tubing, clothing		<input type="checkbox"/> Bed or chair not locked with brakes	
<input type="checkbox"/> Unexplained/don't know		<input type="checkbox"/> Other, please describe: _____	

SITUATION <i>continued</i>			
Was anything out of reach?		Did the environment have	
<input type="checkbox"/> Nothing		Trip hazards:	Yes <input type="checkbox"/> No <input type="checkbox"/>
<input type="checkbox"/> Call bell		Poor lighting:	Yes <input type="checkbox"/> No <input type="checkbox"/>
<input type="checkbox"/> Mobility aid		Wet/Slippery floor:	Yes <input type="checkbox"/> No <input type="checkbox"/>
<input type="checkbox"/> TV remote		Equipment malfunction:	Yes <input type="checkbox"/> No <input type="checkbox"/>
<input type="checkbox"/> Footwear		Obstructed path:	Yes <input type="checkbox"/> No <input type="checkbox"/>
<input type="checkbox"/> Meal tray		Other concerns: _____	
<input type="checkbox"/> Waste bin			
<input type="checkbox"/> Other: _____			
Did they have footwear on them? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, what type: _____			
Do they have a Low-Low bed? Yes <input type="checkbox"/> No <input type="checkbox"/>		If yes, did it contribute to the fall? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Do they have a roll out mat? Yes <input type="checkbox"/> No <input type="checkbox"/>		If yes, did it contribute to the falls? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Bed rails: <input type="checkbox"/> None <input type="checkbox"/> Partial (one side) <input type="checkbox"/> Complete (both sides)			

BACKGROUND		
Prior history of falls Yes <input type="checkbox"/> No <input type="checkbox"/>		Falls prevention measures already in place?
If Yes, how many? _____		
Include dates of most recent Falls		

ASSESSMENT		
Date:		Time:
Check that the service user is		
<input type="checkbox"/> Alert <input type="checkbox"/> Responding to Voice <input type="checkbox"/> Responding to Pain <input type="checkbox"/> Unresponsive		
Service user reassured and made safe Yes <input type="checkbox"/> No <input type="checkbox"/>		
Vital Signs checked: <input type="checkbox"/> Temp <input type="checkbox"/> BP <input type="checkbox"/> Pulse <input type="checkbox"/> Resp rate <input type="checkbox"/> O ₂ Sat		
Neuro Observations commenced (Glasgow Coma Scale) Yes <input type="checkbox"/> No <input type="checkbox"/>		
(for all unwitnessed falls or if they hit their head or other clinical reasons). Follow NICE Guidelines on Head Injury 2023 (as updated)		
Head to toe body check: Consent Yes <input type="checkbox"/> No <input type="checkbox"/> Completed Yes <input type="checkbox"/> No <input type="checkbox"/>		
Findings:		
Time/date:		
Blood Glucose recorded (if person has diabetes) <input type="checkbox"/> Result: _____		
On anti-coagulants/antiplatelet therapy Yes <input type="checkbox"/> No <input type="checkbox"/> Any signs of bleeding? Yes <input type="checkbox"/> No <input type="checkbox"/>		

ACTIONS TAKEN			
Doctor notified (GP/Consultant)	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Transfer to hospital	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Designated contact person informed of incident	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Open disclosure performed with the service user and their nominated support person	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Incident reported to person in charge (or acting in their absence)	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Incident form NIRF 01 completed	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Narrative notes written in detail	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Risk Factors reviewed using Multifactorial Risk Assessment Tool	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
MFRAT Revised	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Date:			
Review of care plan – to include preventative strategies based on findings	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Care Plan Revised	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Date:			
Post-fall discussion, shared learning with relevant staff and retention of copy at ward level	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Falls History – if 3 falls or more within the last 6 weeks	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
If yes, MDT meeting should be considered			

NAME OF:	PRINT NAME (and discipline)	SIGNATURE
Person who Completed Review:		
Nurse in Charge:		
Doctor:		
Doctor's Post-Fall Recommendations:		Date:

Amended from [CHEast Falls Prevention and Management Policy for Residential and Respite Care](#)

Appendix 9

Steering Group and Working Group Membership

Steering Group Membership

The original members of the Steering Group, as agreed at the workshop on 20th September 2022, along with those who joined along the journey, are listed below:

Name	Title/Role
Ann Murray (RiP)	Service User Representative
AnnMarie Connor	Director of Nursing Integrated Services for Older People, Cavan and Monaghan Hospital Group
Bernie McGarrity	Home Support Operational Manager, Cavan Monaghan
Brid Kennedy	Programme Manager CHO 1, Health and Wellbeing
Clare Cullen	Occupational Therapist, Sligo Reablement Service
Dara McDaid	Health Promotion and Improvement Officer, Health and Wellbeing Division CDLMS
Deirdre Schoen	Chief II Pharmacist, CDLMS
Diane McMahon	Assistant Director of Public Health Nursing, Cavan Monaghan
Donna McGroarty	Primary Care Network Manager, Monaghan
Edel Brennan (CHAIR)	Clinical Coordinator Falls and Bone Health, CDLMS
Fiona O'Sullivan, Dr	Consultant Geriatrician Sligo University Hospital
Jennifer Rankin	Nursing Homes Ireland Representative
Kara Dolan	Senior Occupational Therapist, Memory Technology Resource Room, St Johns Hospital, Sligo.
Karen Gallagher	Senior Occupational Therapist, Integrated Falls Prevention Team, Integrated Care Programme for Older Persons Donegal
Ken Hogan	Psychiatric Nurse Tutor, Centre for Nursing and Midwifery Education, Donegal, Sligo, Leitrim and West Cavan
Louise Brent	NOCA Audit Management Lead, Irish Hip Fracture Database and Major Trauma Audit Manager
Mairead McGrory	Clinical Nurse Manager 3, Compliance, Quality and Patient Safety Practice Development, Donegal Mental Health Service
Maria Lordan Dunphy	Assistant National Director, Quality and Patient Safety
Maria Lynch	Osteoporosis Clinical Nurse Specialist, Our Lady's Hospital, Manorhamilton, County Leitrim
Mary O'Donnell	Clinical Nurse Specialist, Nursing Home Outreach, Sligo Leitrim
Melissa Currid	Operational Lead, Integrated Care Programme for Older Persons Donegal and Sligo Leitrim
Nicole Lam	Guidance Development and Research Lead – National Disability Services, Quality Improvement Office
Padraig McLoone	Acting Head of Service, Quality Safety and Service Improvement CDLMS
Simon Connolly	Clinical Nurse Manager 3, Blackwater House, Cavan Monaghan Mental Health Service
Tara Kelly	Clinical Nurse Manager 3 Disability Services CDLMS
Tracey Hannigan	Occupational Therapist Manager, HSE, Primary and Social Care Divisions, Donegal

In attendance

Colin McCann	QSSI Projects Manager, CDLMS
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Working Groups Membership

The original members of the working groups along with those who joined along the journey, are listed below:

Residential Settings Working Group

Name	Title
AnnMarie Campbell (Lead)	Director of Nursing Integrated Services for Older People, Cavan and Monaghan Hospital Group
Mary O Donnell	Clinical Nurse Specialist, Nursing Home Outreach, Sligo Leitrim
Christina Fallon	Public Health Nurse, Sligo Leitrim
Simon Connolly	Clinical Nurse Manager 3, Blackwater House, Cavan Monaghan Mental Health Service
Mairead McGrory	Clinical Nurse Manager 3, Compliance, Quality and Patient Safety Practice Development, Donegal MHS
Jennifer Rankin	Nursing Homes Ireland Representative
Rosha McBride	Clinical Nurse Specialist, Nursing Home Outreach, Donegal

Environmental and Structural Working Group

Name	Title
Karen Gallagher (Lead)	Senior Occupational Therapist, Integrated Falls Prevention Team, Integrated Care Programme for Older Persons Donegal
Tracey Hannigan	Occupational Therapist Manager, HSE, Primary and Social Care Divisions, Donegal
Tara Kelly	Clinical Nurse Manager 3 Disability Services CDLMS

Medication Review Working Group

Name	Title
Deirdre Schoen (Lead)	Chief II Pharmacist, CDLMS
Sophie Alookaran	Registered Advanced Nurse Practitioner Memory Assessment Support Services, Sligo
Caitriona Ruane	Senior Pharmacist – Medication Safety, Sligo University Hospital
Grainne Cannon	Senior Pharmacist, Sligo University Hospital
Mary Casey	Registered Advanced Nurse Practitioner, Older Persons Care, Sligo University Hospital
Aoife Kelly	Registered Advanced Nurse Practitioner, Integrated Care Team for Older People Sligo/Leitrim

Education Working Group

Name	Title
Diane McMahon	Assistant Director of Public Health Nursing, Cavan Monaghan
Dara McDaid	Health Promotion and Improvement Officer, Health and Wellbeing Division CDLMS
Ken Hogan	Psychiatric Nurse Tutor, Centre for Nursing and Midwifery Education, Donegal, Sligo, Leitrim and West Cavan
Bernie McGarrity	Home Support Operational Manager, Cavan Monaghan
Clare Cullen	Occupational Therapist, Sligo Reablement Service
Eileen Carolan	Practice Development Co-ordinator, Older Person Services Sligo/Leitrim

Bone Health and Strength, Balance and Exercise Working Group

Name	Title
Donna McGroarty (Lead)	Physiotherapy Manager, Cavan Monaghan
Brid Kennedy	Programme Manager CHO 1, Health and Wellbeing
Mary Sweeney	Senior Physiotherapist Falls Team, Integrated Care Team for Older People, Cavan
Aideen McEneaney	Senior Dietitian, Integrated Care Team for Older People for Cavan and Monaghan.
Irene McPartlin	Clinical Nurse Specialist, Falls Prevention, Integrated Care Team for Older People, Sligo

Technology Related Support and Advice

Name	Title
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