

Up_{and}About

**Pathways for the prevention and management
of falls and fragility fractures**

2010

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Setting the scene

Introduction

Up and About, Pathways for the Prevention and Management of Falls and Fragility Fractures, focuses attention on the key stages of the journey of care of an older person living in the community. It presents, in one document, an overview of the various aspects of fall and fragility fracture prevention and management and attempts to demonstrate how they link to provide comprehensive, co-ordinated and person-centred care.

This document is underpinned by:

- The best available explicit evidence drawn from recognised guidelines and publications that present **recommendations** relevant to this topic. This referenced information is presented primarily as key aims and actions in the toolkit. Please note that in the original guidelines recommendations are graded to indicate the strength of the evidence on which they are based. Please refer to the guideline cited for the grades of the recommendations.
- Tacit and organisational knowledge. The *Issues and considerations* column also includes useful comments made by individuals during the consultation process, and
- The views and experiences of older people and their carers.

The journey of care is based on the model for rehabilitation featured in Co-ordinated, integrated and fit for purpose, A Delivery Framework for Adult Rehabilitation in Scotland¹.

The Practice Development Unit of NHS Quality Improvement Scotland (NHS QIS) produced this document as part of a two-year Prevention and Management of Falls Programme (December 2007–December 2009).

Who will find Up and About useful?

Up and About provides a reference resource for those involved in the planning, development, evaluation and delivery of services which aim to

prevent and manage falls and fragility fractures. For example, falls co-ordinators, rehabilitation co-ordinators, service managers and planners will find it useful.

The resource provides an overview and key points which can be applied to local services. It is not intended to give detailed clinical guidance (details of the relevant clinical practice guidelines can be found in the reference section).

Aims

This resource aims to:

- Place different aspects of fall and fragility fracture prevention and management in the context of a journey of care
- Identify and describe the various stages of the journey of care
- Identify the desirable aims and key actions for each stage
- Identify the disciplines, services, agencies and organisations potentially involved in fall and fragility fracture prevention and management
- Outline approaches taken by specific services and organisations in Scotland to achieve an aim within a particular stage of the pathway, and
- Provide some of the views and experiences of older people and carers on the prevention and management of falls.

With the practical application of:

- Identifying and promoting best practice
- Assisting in identifying gaps in service provision, and
- Acting as a resource to assist planning services.

About this resource

The **pathway diagram** provides an overview or map of the pathways and identifies the links between the different stages of the journey of care. Further information is presented in the **key to pathway diagram** and the **toolkit**. A **quick reference guide** provides a summary of the main points contained in Up and About.

For the purposes of this document, the prevention and management of falls and fragility fractures journey of care has been divided into four stages:

- 1 Supporting health improvement and self management to reduce the risk of falls and fragility fractures (maintenance phase)
- 2 Identifying individuals at high risk of falls and/or fragility fractures
- 3 Responding to an individual who has just fallen and requires immediate assistance, and
- 4 Co-ordinated management, including specialist assessment.

For each of the four stages the following are provided:

- A **descriptor** for the stage
- Key **service aims**
- Key **service actions**, and
- Examples from practice in Scotland.

In addition to these four stages, an opening section identifies guiding principles for the development of a comprehensive, co-ordinated and person-centred approach to the prevention and management of falls and fragility fractures.

Older people and their carers' experiences of falls and falls prevention services, and their views on the content of 'Up and About', were sought in a series of group discussions held in three NHS board areas of Scotland throughout October 2008. From the discussions, key messages have been identified to inform the planning, delivery and development of person-centred services. The key messages are presented in Appendix three.

Groups covered in Up and About

Older people living in the community

This document focuses on older people living in the community.

The focus is on older people because of the high incidence of falls in people aged over 65 years and the potential seriousness of the consequences of falls in this group, specifically high morbidity and mortality and decline in quality of life. However, it is acknowledged that younger people fall too and that osteoporosis also affects those under 65 years. Although the guidance provided here is intended for older people, some guidance may be applicable to others. It is also acknowledged that fall and fracture risk can be influenced by lifestyle and other factors in young and middle age.

A uniform definition of 'older people' is not included, recognising that interventions ought to be provided according to individual need rather than age. Where age has been specified, this reflects the recommendations of the specific document being referenced. Please note that both National Institute of Health and Clinical Excellence and American Geriatrics Society/British Geriatrics Society guidance identifies older people as aged 65 years and older; osteoporosis management guidance often specifies age or stage in life, for example, 'postmenopausal'.

Care home residents

The recommendations featured in this resource, which are sourced from relevant guidelines, are not directly applicable to residents of care homes (unless this is specifically stated). Interpreting the evidence from studies investigating fall and fracture prevention in care homes is problematic due to variations between studies, ie differences in the resident populations studied, the settings of studies, study design, intervention descriptions and outcome measures used. As a result there is either insufficient evidence to make recommendations for this group, or the pooled evidence is inconclusive. However, a number of *individual* studies have shown various interventions, such as fall prevention education for staff, environmental modification, progressive strength and balance training and use of hip protectors, can be beneficial.

Older people with cognitive impairment

The most recent guidance concludes that evidence for or against falls prevention interventions in older people with known dementia is insufficient and inconclusive. Although older people with cognitive impairment are at increased risk of falling, this group has been excluded from most of the randomised controlled trials which have demonstrated positive outcomes following interventions.

Interventions not included in Up and About

The following interventions are not covered in the resource:

- The prevention and management of falls in the hospital setting
- Prevention of falls in younger people
- Prevention and management of osteoporosis in younger people
- The management of hip and other fractures. For further information on hip fracture management visit <http://www.sign.ac.uk/> to view *SIGN 111: Management of hip fracture in older people*.

Methodology

Step one: production of an initial draft

Scoping around falls prevention and management was carried out in 2007–2008, as part of the NHS QIS Falls Programme. This identified the need for a comprehensive falls and fragility fracture prevention and management resource to assist service development in Scotland. This resource would aim to identify all aspects of falls and fragility fracture prevention and management, in one document, and include a summary of the current evidence base as well as capture tacit and organisational knowledge and the views of older people and carers.

A draft of the resource was prepared within the Practice Development Unit, NHS QIS, drawing from a number of relevant, up-to-date publications and documents that present **recommendations** pertinent to this topic. The NHS QIS Falls Programme Steering Group was instrumental in helping to shape the first draft document.

Step two: phased consultation

A phased consultation sought the views of key stakeholders in Scotland and invited suggestions for additional content based on tacit and organisational knowledge as well as explicit evidence. This phase included a series of consultation meetings with older people and carers. A meeting of the Community Health (and Care) Partnership (CH(C)P) Falls Leads, a subgroup of the online Prevention and Management of Falls Community of Practice, contributed to the content during a consultation day and ensured there was wide peer consultation.

Step three: seeking examples from practice

Relevant examples from practice were identified from the NHS QIS Falls Programme mapping exercise and by CH(C)P Falls Leads. The services identified were then invited to contribute an example to Up and About.

Step four: publication of the Pathways document

Up and About and a quick reference guide are available online.

You can look at these documents on the NHS Quality Improvement Scotland website.

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<http://www.fallscommunity.scot.nhs.uk>

The journey of care has been divided into four stages, which are colour coded. A descriptor of each stage is outlined below. The pathway diagram provides an overview or map of the pathways and identifies the links between the different stages of the journey of care across community, primary and secondary care settings.

Key to pathway diagram

Stage 1

Supporting health improvement and self management to reduce the risk of falls and fragility fractures (maintenance phase)

At this stage:

- An individual is living in the community with support as required
- The emphasis is on self care, supported self management, health education and promotion to enable active ageing and minimise the risk of falls and fragility fractures
- Support for carers may be essential to achieve the outcomes
- There are opportunities for early intervention if circumstances change, therefore this stage has strong links with anticipatory care
- Long term condition management, including self management, plays a vital role, and
- Cultural values and traditions as well as an individual's values, attitudes and beliefs may influence engagement at this stage.

Stage 2

Identifying individuals at high risk of falls and/or fragility fractures

At this stage:

- An individual at high risk of falls and fragility fractures is identified and this triggers referral for appropriate intervention
- Individuals are identified either when they present with a fall or an injury due to a fall or opportunistically by health and social care practitioners
- Opportunistic case identification links with both anticipatory care and the Single Shared Assessment process
- Falls risk and fracture risk are considered in combination
- An initial falls risk screen aims to identify individuals at high risk of falling; it is not intended to determine all contributory factors or specific interventions, and
- Scottish Patients At Risk of Re-admission and Admission (SPARRA) may identify some high risk fallers.

Stage 3

Responding to an individual who has just fallen and requires immediate assistance

At this stage:

- An individual has fallen and has requested assistance
- The individual may have sustained an injury and/or be unwell or is asymptomatic, appears uninjured but is unable to get up from the floor/ground independently, and
- Appropriate onward referral and intervention at this stage may prevent further falls and unwanted consequences of falls.

Stage 4

Co-ordinated management including specialist assessment

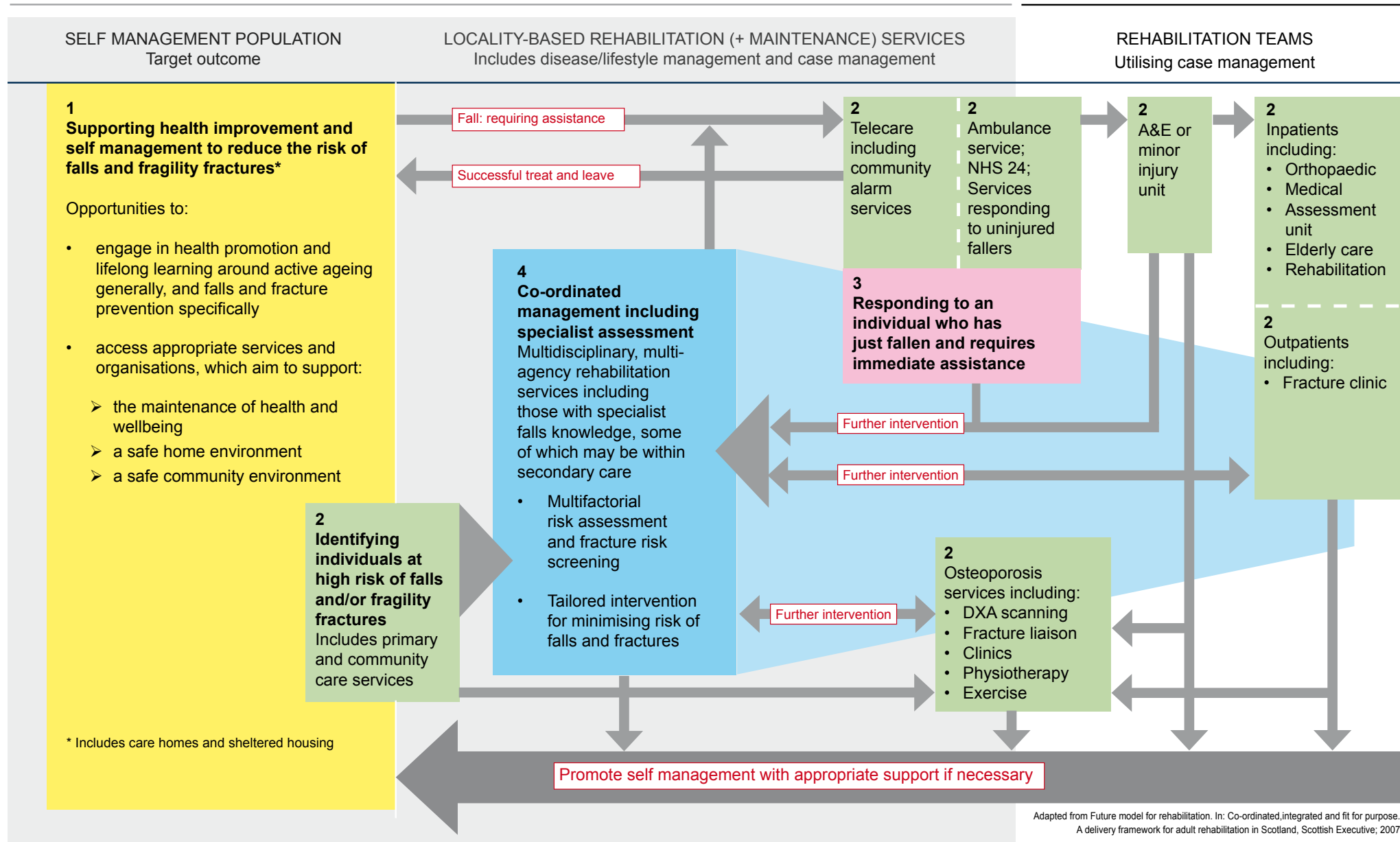
At this stage:

- An individual has been identified as being at high risk of falling and/or sustaining a fracture
- Falls risk and fracture risk management are considered in combination, with services for falls and osteoporosis operationally linked or dovetailed
- Intervention aims to identify then minimise an individual's risk factors for falling and sustaining a fracture
- A case/care management approach may be initiated, and
- Timely, appropriate and co-ordinated management may lead to reduced A&E attendances and hospital admissions including admission with a fragility fracture.

Pathway diagram

Community provision

Acute provision



Toolkit

Guiding principles for the development of a comprehensive, co-ordinated and person-centred approach

A whole system approach is applied to the planning, implementation and delivery of services for the prevention and management of falls and fragility fractures¹

- Develop an NHS board-wide combined falls prevention and bone health strategy in partnership with local authorities and the voluntary and independent sectors²
- Identify a falls prevention lead or co-ordinator in the Community Health (and Care) Partnership with management responsibility to liaise with primary and secondary care, social work, housing, the ambulance service, Telecare services and the voluntary and independent sectors, to develop a co-ordinated approach to falls and fragility fracture management and prevention^{2,3}
- Plan transitions throughout the journey of care so they are timely and seamless
 - Establish links between community/primary care and secondary care services to ensure fall and fracture prevention interventions which have been initiated are continued and completed as indicated
 - Utilise outreach and inreach services to support effective case management of transitions, with a view to minimising delayed discharges or early readmission¹

Services for older people who fall and osteoporosis services are operationally linked or dovetailed³

Older people identified with a high risk of falling and/or sustaining a fragility fracture have equitable and timely access to services with appropriate skills and expertise

- Provide a single point of access to falls and fracture prevention and management services in the community¹
- Provide the option of self-referral for the target population¹
- Utilise a case/care management approach¹
- Develop a skilled, capable and confident workforce

Healthcare providers target individuals for whom there is evidence that effective intervention will reduce the risk of future falls and fractures³

- Guidance provided by the British Geriatrics Society Falls and Bone Health Special Interest Group identifies nine key aspects of a comprehensive, evidence-based service for people at risk of falling (See Appendix 4)

Services are provided locally where possible¹

Interventions are explained, discussed and agreed with the individual and their carers and a decision to decline intervention is respected

- Older people and their carers should be involved in agreeing their individualised management plan, based on clarification through discussion of how specific risks can be reduced⁴
- Management plans should be based on the older person's priorities for outcomes and the drawbacks as well as the potential safety benefits of activity modification or limitation⁴

The importance of working with carers is recognised

Older people and carers are involved in local improvement work

At every stage accurate and relevant data are collected to support direct care and provide information for service and resource evaluation, planning and improvement

- Identify, define and agree a minimum data set to be collected by those services within the pathway
 - Utilise existing data where this meets requirements and can be obtained from existing sources
 - Address issues around gaining consent for data sharing
 - Address issues regarding incompatibilities between various IT systems/databases in primary, community and secondary care
 - Employ joint planning for data collection

Stage 1 Supporting health improvement and self management to reduce the risk of falls and fragility fractures (maintenance phase)

At this stage:

- An individual is living in the community with support as required
- The emphasis is on self care, supported self management, health education and promotion to enable active ageing and minimise the risk of falls and fragility fractures
- Support for carers may be essential to achieve the outcomes
- There are opportunities for early intervention if circumstances change, therefore this stage has strong links with anticipatory care
- Long term condition management, including self management, plays a vital role, and
- Cultural values and traditions as well as an individual's values, attitudes and beliefs may influence engagement at this stage.

Service aim		
1. Older people and their carers have opportunities to engage in health promotion and lifelong learning around health improvement and minimising falls and fracture risk		
Key actions and further information	Key stakeholders	Issues and considerations
<p>HOW?</p> <p>a) Enable older people and their carers and families to access the relevant health and wellbeing information to make informed choices and develop skills in self management</p> <p><i>May include information on:</i></p> <ul style="list-style-type: none"> • Bone health • Physical activity and exercise⁵ • Healthy eating⁵ • Wise use of medications⁵ • Home safety/housing^{5,6} • Continence⁵ • Footwear and foot care⁵ • Regular eye examinations⁵ • Hearing checks⁵ • Mental health¹ • Smoking cessation⁵ • Alcohol awareness⁵ • Economic welfare (pensions/benefits etc)⁶ <p>b) Raise the awareness of older people, their carers and families that falls are not an inevitable consequence of ageing, nor are they always unavoidable accidents⁶</p>	<p>WHO?</p> <ul style="list-style-type: none"> • Health promotion and improvement information can be provided by organisations and individuals with appropriate skills and knowledge, including: <ul style="list-style-type: none"> ➤ NHS Health Scotland Resources include Taking positive steps to avoid trips and falls⁷ ➤ Scottish Government ➤ Food Standards Agency ➤ Public Health services ➤ Health practitioners in primary and secondary care (including on discharge from hospital after an acute illness) ➤ Community pharmacy 	<ul style="list-style-type: none"> • Consider the most appropriate person to educate or give advice • Specific training for staff in supporting self management may be required • The World Health Organisation (WHO) presented the following recommendations for promoting behaviour change in older people in relation to falls prevention⁶: <ul style="list-style-type: none"> ➤ Raise awareness in the general population of a number of interventions that could improve balance and prevent falls ➤ When offering or publicising interventions, promote benefits that fit with a positive self-identity ➤ Utilise a variety of forms of social encouragement to engage older people ➤ Ensure that the intervention is designed to meet the needs, preferences and capabilities of the individual • Information must be available in different languages

Key actions and further information	Key stakeholders	Issues and considerations
<p>c) Provide advice for older people, their carers and families on when and how to seek further support from health or social services, voluntary or other organisations</p> <p><i>Methods may include:</i></p> <ul style="list-style-type: none"> • Helplines • Information sessions or events • Leaflets, booklets, DVDs • One to one sessions • Online sources • Support groups <p><i>See Appendix 5: Links to resources to support health promotion and health improvement</i></p> <p>WHERE?</p> <p>In hospital, at home, in care homes and wider community</p>	<ul style="list-style-type: none"> ➤ Social care practitioners including home care staff, care home staff and sheltered housing wardens ➤ Local authorities including culture and leisure services ➤ Libraries ➤ Voluntary organisations ➤ Peer support groups ➤ Expert patient programmes ➤ Trained volunteers/buddy services <p>Example of helplines:</p> <ul style="list-style-type: none"> • National Osteoporosis Society's Osteoporosis Helpline 0845 4500230 <p>Examples of online resources:</p> <ul style="list-style-type: none"> • www.enablinghealth.scot.nhs.uk • www.helptheaged.org.uk • www.nhs24.scot.nhs.uk • www.nos.org.uk • Local websites 	<p>and formats where appropriate</p> <ul style="list-style-type: none"> • A systematic review of <i>population-based interventions</i> for the prevention of fall-related injuries in older people⁸ reported significant decreases or downward trends in fall-related injuries in each of the included studies, with the relative reduction in fall-related injuries ranging from 6% to 33% (there were no randomised controlled trials). <p><i>Population-based interventions included:</i></p> <ul style="list-style-type: none"> ➤ Awareness raising through mass media advertising, using products such as milk cartons and fridge magnets to carry falls prevention messages ➤ Home safety measures ➤ Information dissemination through health professionals and trained fall prevention advisors, discussion groups, workshops ➤ Local government policy development such as a falls prevention policy for public places

Service aim		
<p>2. Older people and their carers have opportunities to access appropriate services and organisations, which aim to support:</p> <ul style="list-style-type: none"> • the maintenance of health and wellbeing⁶ • a safe home environment^{1,6} • a safer community environment⁶ 		
Key actions and further information	Key stakeholders	Issues and considerations
HOW?	WHO?	

Key actions and further information	Key stakeholders	Issues and considerations
<p>a) Provide local community exercise and leisure activities¹ designed (or modified) and delivered for older people, which are affordable and held at accessible venues <i>May include:</i></p> <ul style="list-style-type: none"> • Group exercise • Gyms/swimming pools • Tai Chi for older people • Walking groups 	<ul style="list-style-type: none"> • Local authorities, independent or voluntary organisations and where appropriate, in partnership with health services • Appropriately trained instructors • Supported by peer mentors 	<ul style="list-style-type: none"> • Information on the range of local services and activities and how to access them needs to be to available to personnel and the general public (<i>consultation comment</i>) • Be aware transport can be a limiting factor for older people wanting to keep active (<i>consultation comment</i>) • <i>A senior peer mentor is someone with appropriate training who¹⁰:</i> <ul style="list-style-type: none"> ➢ points people in the right direction ➢ helps by providing appropriate information ➢ can offer an older participant a listening ear ➢ will understand things from the person's point of view ➢ provides positive health promotion ➢ is a positive role model
<p>b) Provide health services, which deliver pro-active interventions as required <i>May include:</i></p> <ul style="list-style-type: none"> • Assessment of osteoporosis/fracture risk • Calcium and vitamin D provision for housebound people and those in care homes⁹ • Counselling/therapy • Medication review, modification and advice • Proactive, holistic management of long term conditions (including support for self management and anticipatory care) • Regular health reviews, eg diabetes clinics, podiatry appointments, blood pressure checks • Telehealth 	<ul style="list-style-type: none"> • Primary and secondary care practitioners including: <ul style="list-style-type: none"> ➢ GPs ➢ community pharmacy ➢ specialist pharmacy services 	
<p>c) Provide community-based services to enable active living, socialisation⁵ and support for living in the community <i>May include:</i></p> <ul style="list-style-type: none"> • Day centres • Day care • Drop-in centres • Green spaces • Lunch clubs • Transport 	<ul style="list-style-type: none"> • Befrienders • Faith networks • Independent sector • Local Authority • Voluntary sector <p><i>Example of transport:</i></p> <ul style="list-style-type: none"> • <i>Dial-a-bus</i> 	
<p>d) Provide community-based services to support safety at home and in the wider community</p>	<ul style="list-style-type: none"> • Local Authority <i>including:</i> 	

Key actions and further information	Key stakeholders	Issues and considerations
<p><i>May include:</i></p> <ul style="list-style-type: none"> • Accessible and safe transport • Adequate street and pavement repairs and lighting • Assessment for, and provision of, appropriate equipment and home adaptations to assist activities of daily living • Fire and rescue • Home care • Suitable housing • Telecare, including community alarm services <p>e) Signpost to, or provide access to, services and organisations to support carers</p> <p><i>Including:</i></p> <ul style="list-style-type: none"> • Day care and respite care • Information and advice • Support groups 	<ul style="list-style-type: none"> ➤ Housing ➤ Occupational Therapy ➤ Transport and roads ➤ Telecare <ul style="list-style-type: none"> • Care and repair services <p><i>Examples of organisations:</i></p> <ul style="list-style-type: none"> • Carers Scotland • Crossroads Scotland • The Princess Royal Trust for Carers 	<p><i>For more information on Telecare, go to Stage 4, Service Aim 4 below</i></p> <ul style="list-style-type: none"> • Consideration should be given to the mechanism for reporting hazards in the local community to local authorities (<i>consultation comment</i>)

Stage 2 Identifying individuals at high risk of falls and/or fragility fractures

At this stage:

- An individual at high risk of falls and fragility fractures is identified and this triggers referral for appropriate intervention
- Individuals are identified *either* when they present with a fall or an injury due to a fall *or* opportunistically by health and social care practitioners
- Opportunistic case identification links with both anticipatory care and the Single Shared Assessment process
- Falls risk and fracture risk are considered in combination
- An **initial falls risk screen** aims to identify individuals at high risk of falling; it is not intended to determine all contributory factors or specific interventions, and
- Scottish Patients At Risk of Re-admission and Admission (SPARRA)¹¹ may identify *some* high risk fallers.

Service aim		
1. Older people (65 years and over) who present for medical attention because of a fall, or with recurrent falls (two or more falls in the past year), are offered multifactorial assessment to identify contributory risk factors for falls and risk of osteoporosis and fractures ^{5,9,12,13}		
Key actions and further information	Key stakeholders	Issues and considerations
<p>HOW?</p> <p>a) First provide treatment for any injury due to a fall or treatment for any acute medical condition related to a fall <i>The individual may or may not have attended A&E or been admitted to hospital</i></p> <p>b) Provide, or refer the individual directly for, multifactorial assessment, delivered by professionals with appropriate skills, to identify contributory factors for falls and risk of osteoporosis and fractures</p> <p>Alternatively, further classify the individual to identify the most appropriate actions</p> <p>For example, the Do Once And Share (DOAS) pathway⁵ suggests the following further classification to guide actions:</p> <p><i>First:</i></p> <ul style="list-style-type: none"> • Enquire about falls in the last year. <ul style="list-style-type: none"> <i>If yes, establish:</i> <ul style="list-style-type: none"> ➢ frequency of falls; how many in past 12 months ➢ circumstances and characteristics of fall/s ➢ consequences of fall/s <p><i>Then, from the responses to the questions above, classify and act accordingly:</i></p> <p>i. Recurrent falls (2 or more in past year), single injurious fall (ie requiring</p>	<p>WHO?</p> <p>Identifying the need for further assessment and onward referral may be the role of:</p> <ul style="list-style-type: none"> • Health practitioners in primary or secondary care, including: <ul style="list-style-type: none"> ➢ A&E staff ➢ Ambulance service staff ➢ NHS 24 staff ➢ Primary care staff including GPs, nurses, allied health professionals and pharmacists ➢ Secondary care staff including Fracture Clinic, Fracture Liaison Service, osteoporosis service/clinic • Social care practitioners, including: <ul style="list-style-type: none"> ➢ Care home staff ➢ Day care staff ➢ Home care staff 	<ul style="list-style-type: none"> • Specific training may be required for practitioners who are in a position to identify individuals at high risk of falling and/or may be required to further classify individuals who have fallen • Local referral pathways to services that provide further assessment of falls and fracture risk will need to be established. Once established, all practitioners involved in screening will need to be notified. <p><i>Local referral pathways may include referral to:</i></p> <ul style="list-style-type: none"> ➢ Community Rehabilitation Services ➢ Day Hospitals ➢ Dual Energy X-ray Absorptiometry (DXA) scanning and osteoporosis services ➢ Falls clinics/older people's medical clinics ➢ GP ➢ Specialist Falls Services • Ensure any assessment methods introduced in A&E are simple and easy to employ by all members of the

Key actions and further information	Key stakeholders	Issues and considerations
<p>medical attention), single fall with abnormal gait and balance <u>Suggested action:</u> Provide multifactorial assessment (including fracture risk assessment)</p> <p>ii. Medical problem or unexplained fall (including reports of loss of consciousness, suspected blackouts, dizziness) <u>Suggested action:</u> Provide focused medical assessment plus multifactorial assessment as indicated</p> <p>WHERE?</p> <p>Identifying the need for further assessment and onward referral may take place in hospitals (including A&E), by ambulance services and NHS 24, in care homes, primary or secondary care and in the wider community</p>	<ul style="list-style-type: none"> ➤ Sheltered housing staff ➤ Single shared assessment assessors ➤ Social workers, care managers ➤ Telecare (including community alarm) providers 	<p>team. In addition, a single point of access for further intervention (rather than a complex postcode referral system) assists onwards referral by A&E staff (<i>consultation comment</i>)</p> <ul style="list-style-type: none"> • Individuals with recurrent falls may be identified from the reporting of Telecare alerts (<i>consultation comment</i>)

Service aim

2. Older people* who present with a fragility fracture receive an assessment to identify osteoporosis, which will determine their need for treatment to prevent future fractures¹³

Key actions and further information	Key stakeholders	Issues and considerations
<p>HOW?</p> <p>a) When the individual presents, provide or follow local protocols and referral pathways for further intervention, which may include bone mineral density (BMD) measurement by DXA, fracture risk assessment, investigation of osteoporosis, and treatment</p> <ul style="list-style-type: none"> • Osteoporosis is defined as a t-score of -2.5 or below on DXA scanning. The t-score relates to the measurement of BMD and is expressed as the number of standard deviations from peak BMD¹⁴. The t-score will establish the diagnosis of osteoporosis and can guide drug management • A Fracture Liaison Service (FLS)^{13,19} is a service model designed to identify and assess individuals presenting with a new fracture, whether as outpatients at the fracture clinic or as orthopaedic inpatients. Appropriate interventions, such as DXA and treatment, determined on the basis of future fracture risk, are then arranged. The service is usually delivered by a Nurse Specialist supported by a Lead Clinician in Osteoporosis 	<p>WHO?</p> <ul style="list-style-type: none"> • Identifying the <i>need</i> for assessment/onward referral may be the role of any health and social work practitioners with appropriate training, skills and knowledge • Delivering the fracture risk assessment, (including assessment using FRAX[®]), providing further investigation and intervention may be the role of health practitioners with appropriate training, skills and knowledge, including: <ul style="list-style-type: none"> ➤ GPs ➤ Practitioners specialising in osteoporosis 	<p>*The British Orthopaedic Association¹³ specifies 50 years as the starting point for assessment to identify osteoporosis following fracture</p> <ul style="list-style-type: none"> • In practice, the 'cut-off' age a service selects will be influenced by local resources. For example, 60 years is used in several localities in Scotland (<i>consultation comment</i>) • The FRAX[®] tool¹⁵ has been developed by the World Health Organisation to evaluate an individual's <i>fracture risk</i>. It uses the following information to calculate an individual's 10-year probability of a fracture: age; sex; height; weight; fracture history; paternal fracture history; smoking history; alcohol intake; steroid use; history of rheumatoid arthritis; diagnosis of secondary osteoporosis and femoral neck bone mineral density. <i>For further information on the FRAX[®] tool visit www.shef.ac.uk/FRAX</i>

Key actions and further information	Key stakeholders	Issues and considerations
<p>UK guidance on the diagnosis and management of osteoporosis is provided by a number of organisations:</p> <ul style="list-style-type: none"> • Scottish Intercollegiate Guidelines Network (SIGN) (2003)¹⁶ • National Institute for Health and Clinical Excellence (NICE) (2008)^{14,17} • National Osteoporosis Guideline Group (NOGG) (2008)¹⁸ <p>For further information on national guidance visit www.nhshealthquality.org</p> <p>WHERE?</p> <p>Identifying the need for assessment and onward referral may take place in secondary care (including A&E), in primary or community care</p>		<ul style="list-style-type: none"> • Specific training may be required for practitioners who are in a position to identify individuals with osteoporosis and fracture risk • Local referral pathways to services that provide further assessment for/of osteoporosis and fracture risk will need to be established. Once established, all practitioners involved in screening will need to be notified • Please note, guidance on the use of DXA in women over 75 with fragility fracture varies between guideline documents provided by the organisations listed under 2a). When deciding local protocols, further information on the use of DXA may need to be sought from a knowledgeable source

Service aims

3. Older people (65 years and older) reporting a *single, non-injurious* fall are offered an *initial falls risk screen*^{9,12} and an initial assessment to identify clinical risk factors for fracture

Opportunistic case identification:

4. Older people (65 years and older) are asked routinely (at least once a year) whether they have fallen, and are observed for gait and balance deficits^{5,9,12}
5. Older people who are diagnosed with osteoporosis receive an *initial falls risk screen*¹⁸
6. Men aged 50 years or more and postmenopausal women receive an initial assessment to identify clinical risk factors for fracture¹⁸

Key actions and further information	Key stakeholders	Issues and considerations
<p>HOW?</p> <p>a) To identify a high risk of falling, provide an <i>initial falls risk screen</i> when an individual:</p> <ul style="list-style-type: none"> • reports a single non-injurious fall • attends a routine health check or other assessment or review • presents with another health or social issue, and/or • is diagnosed with osteoporosis. <p>An example of an initial falls screen is outlined below.</p>	<p>WHO?</p> <ul style="list-style-type: none"> • Health or social care practitioners with appropriate training, skills and knowledge <p>May include:</p> <ul style="list-style-type: none"> ➤ A&E staff ➤ Allied Health Professionals ➤ Ambulance service 	<ul style="list-style-type: none"> • Systematic identification of falls and case finding has capacity issues: specialist services may not be able to cope with an increased number of referrals. Process mapping and service redesign may be required⁵ • The <i>initial falls risk screen</i> has two components: (1) a few basic questions, and (2) a gait and balance check.

Key actions and further information	Key stakeholders	Issues and considerations
<p>If high risk is identified, follow local protocols and referral pathways for further intervention, which may include multifactorial assessment and/or focused medical assessment.</p> <p>b) To identify risk of fracture, provide an <i>initial fracture risk assessment</i> (if osteoporosis has not previously been diagnosed and treated) <i>An example of a referral criteria for a Direct Access DXA Service, based on risk factors, can be found in Appendix 7</i></p> <p>If risk is identified, follow local protocols and referral pathways for investigation (which may include DXA) and/or treatment</p> <p>c) For those individuals who are not referred on for further intervention, provide health and wellbeing advice⁵ (see Stage (1) above) and re-assess risk periodically (at least yearly)^{5,9}</p> <p>Initial falls risk screen</p> <p><i>The following example of a screen is drawn from NICE⁹ and the American Geriatrics Society and the British Geriatrics Society (AGS /BGS)¹² guidance.</i></p> <p><i>First:</i></p> <ul style="list-style-type: none"> Enquire about falls in the last year. <i>If the individual has fallen, establish:</i> <ul style="list-style-type: none"> frequency of falls; how many falls in past 12 months circumstances and characteristics of fall/s consequences of fall/s Observe gait and balance and enquire about difficulties experienced with walking or balance¹². The <i>Timed Up and Go Test</i>²⁰ is an example of a standardised gait and balance test. <p><i>Then, from the responses to the questions above, and the outcome of the balance and gait check, classify and act accordingly.</i></p> <p><i>The following example of classification and referral pathway following the screen is drawn from AGS/BGS¹², NICE⁹ and DOAS⁵ guidance.</i></p> <p>i. Single explained fall with normal gait and balance Suggested action: Provide health and wellbeing advice and re-assess periodically</p>	<ul style="list-style-type: none"> Care home staff Care managers Care providers Doctors Fracture Clinic staff Fracture Liaison services GPs Nurses Pharmacists Practitioners within rheumatology, orthopaedic, endocrinology, osteoporosis and older people's clinics/wards Single shared assessment assessors Social Workers Sheltered Housing Wardens Telecare services, including community alarm services 	<ul style="list-style-type: none"> An initial falls risk screen aims to identify individuals at high risk of falling; it is not intended to determine all contributory factors or appropriate interventions All healthcare professionals working with older people known to be at risk of falling should develop and maintain basic professional competence in falls assessment and prevention⁹ Specific training may be required for practitioners who will be carrying out an initial falls risk screen or initial fracture risk assessment Opportunistic case identification links with the Single Shared Assessment process, which may trigger further assessment or identify need for health education and/or advice on falls prevention As part of an initial falls risk screen enquire about fear related to falling, which may be identified as a significant risk factor for falling⁹ in an individual and indicate the need for further assessment and intervention High falls risk does not always indicate presence of modifiable risk factors If osteoporosis has previously been diagnosed and treatment commenced, check for adherence and persistence with treatment (<i>consultation comment</i>) Local referral pathways to services that provide further assessment of falls and fracture risk (including DXA and other osteoporosis services) will need to be established. Once established, all practitioners involved in screening will need to be notified <p><i>Local referral pathways may include referral to:</i></p> <ul style="list-style-type: none"> Community Rehabilitation Services Day Hospitals DXA Services

Key actions and further information	Key stakeholders	Issues and considerations
<p>ii. Recurrent falls (2 or more in past year), single injurious fall (ie requiring medical attention), single fall with abnormal gait and balance, abnormal gait and balance Suggested action: Provide multifactorial assessment (including fracture risk assessment) NB Individuals found to have gait and balance deficits are considered for their capacity to benefit from interventions to improve strength and balance</p> <p>iii. Medical problem or unexplained fall (including reports of loss of consciousness, suspected blackouts, dizziness) Suggested action: Provide focused medical assessment with multifactorial assessment as indicated</p> <p>Initial fracture risk assessment</p> <p>An initial fracture risk assessment is based on identifying the presence of significant clinical risk factors for fracture in an individual (see risk factors under <i>Issues and considerations</i>). If risk is identified, follow local protocols and referral pathways for DXA, further investigation and/or treatment</p> <p>A working example of a referral criteria for a Direct Access DXA Service, taken from an established service and based on clinical risk factors, can be found in Appendix 7</p> <p>In the presence of significant clinical risk factors, the 10-year probability of a major osteoporotic fracture (spine, hip, fracture or humerus) can be determined using the FRAX[®] tool¹⁵. For further information on the FRAX[®] tool visit www.shef.ac.uk/FRAX</p> <p>See list under 2a) above for UK Guidance on the diagnosis and management of osteoporosis.</p> <p>WHERE does risk identification take place?</p> <p>In hospital, care home, primary, secondary and community care and in the wider community</p>	<p>• Identifying the <i>need</i> for assessment/ onward referral may be the role of any health and social work practitioners with appropriate knowledge and training</p> <p>• Delivering the fracture risk assessment (including assessment using FRAX[®]), providing further investigation and intervention may be the role of health practitioners with appropriate training, skills and knowledge, including:</p> <ul style="list-style-type: none"> ➢ GPs ➢ Practitioners specialising in osteoporosis 	<ul style="list-style-type: none"> ➢ Falls clinics / older people's medical clinics ➢ GPs ➢ Other osteoporosis services ➢ Specialist Falls Services <p>• Consider individuals who are housebound and do not attend GP Practices or Primary Care facilities (<i>consultation comment</i>)</p> <p>Validated falls risk screening tools</p> <ul style="list-style-type: none"> • <i>Validated screening tools</i> to identify individuals with a high risk of falling have been produced. These tools use a scoring or rating system based on the accumulative effect of known risk factors to identify those at greatest risk of falling or sustaining a falls-related injury. An example of a validated screening tool is the Falls Risk Assessment Tool: Part 1 (FRAT)²¹ • The choice of screening tool needs to reflect the setting, population and the purpose for which the tool is applied. Currently, no single tool can be recommended for implementation in all settings and for all subpopulations within each setting • Be aware that screening tools may under or over estimate an individual's risk of falling therefore clinical judgement is also required • The following risk factors for the assessment of fracture probability have been identified¹⁸. Some of these factors increase fracture risk through their association with low BMD whereas others act independently of BMD to increase fracture risk (such as a history of falls): <ul style="list-style-type: none"> ➢ Age (BMD decreases with age) ➢ Alcohol intake of 3 or more units daily ➢ Current glucocorticoid treatment (any dose, by mouth for 3 months or more) ➢ Current smoking ➢ Falls

Key actions and further information	Key stakeholders	Issues and considerations
<p><i>WHEN does risk identification take place?</i></p> <p>Initial risk assessment may be carried out when an individual reports a single non-injurious fall or at routine health check or review or when the individual presents with another problem: <i>Examples include:</i></p> <ul style="list-style-type: none"> • BP monitoring, diabetes review, podiatry appointment, medication review • Single Shared Assessment or review • SPARRA follow-up 		<ul style="list-style-type: none"> ➤ Gender (women are at greater risk) ➤ Low body mass index (< or equal to 19kg/m²) ➤ Parental history of hip fracture ➤ Previous fragility fracture, particularly of the hip, wrist and spine, including morphometric vertebral fracture ➤ Secondary causes of osteoporosis including rheumatoid arthritis, untreated hypogonadism in men and women, prolonged immobility, organ transplantation, Type 1 diabetes, hyperthyroidism, gastrointestinal disease, chronic liver disease and chronic obstructive pulmonary disease

Stage 3**Responding to an individual who has just fallen and requires immediate assistance**

At this stage:

- An individual has fallen and has requested assistance
- The individual may have sustained an injury and/or be unwell **or** is asymptomatic, appears uninjured but is unable to get up from the floor/ground independently, and
- Appropriate onward referral and intervention at this stage may prevent further falls and unwanted consequences of falls.

Service aim		
1. Older people who have just fallen and require immediate assistance have access to services that provide an effective, safe and timely response		
Key actions and further information	Key stakeholders	Issues and considerations
<p>HOW?</p> <p>a) Services providing an urgent response assess the individual to ascertain the presence of injury and/or illness</p> <p>b) In a given locality, clearly identify service providers responsible for assisting an <i>uninjured</i> individual from the floor and establish referral pathways into this service</p> <p>c) Utilise mechanisms for assisting an individual from the floor that minimise risk of injury to the individual and the service provider</p> <p>d) Minimise the time an individual spends on the floor after a fall by using early identification mechanisms, such as Telecare, for those considered to be at highest risk</p> <p>WHERE?</p> <p>The location of the fall may be in the home, care home or wider community</p>	<p>WHO?</p> <p>May include:</p> <ul style="list-style-type: none"> • Ambulance service • Falls response teams • NHS 24 • Out-of-hours services • Telecare including community alarm services 	<ul style="list-style-type: none"> • Action planning should be considered from the outset when the individual is assisted from the floor (<i>consultation comment</i>) • Equipment used to assist an individual from the floor should be available and well maintained (<i>consultation comment</i>) • In some areas, ambulance services do not attend <i>uninjured</i> individuals who have fallen. In this situation, alternative means for providing assistance to get up from the floor need to be identified (<i>consultation comment</i>) • Service provision over a 24-hour period should be considered • Specific training for practitioners responding may be required

Service aim
2. Older people who have fallen, but are not conveyed to hospital following the fall, are considered for further assessment of falls and fracture risk and offered this where indicated

Key actions and further information	Key stakeholders	Issues and considerations
<p>HOW?</p> <p>a) Following the initial intervention, refer for further assessment in accordance with local protocols and referral pathways or provide information on accessing local services (see <i>Stage 2, Service Aim 3 above for further information</i>)</p> <p>WHERE?</p> <p>The location of the fall may be in the home, care home or wider community</p>	<p>WHO?</p> <p><i>Including:</i></p> <ul style="list-style-type: none"> • Ambulance service • Care home staff • Falls response teams • NHS 24 • Out-of-hours services • Sheltered housing wardens • Telecare including community alarm services 	<ul style="list-style-type: none"> • Consider the issue of obtaining consent from the individual before referring for further intervention (<i>consultation comment</i>) • Further assessment of falls risk may not be appropriate at the time of the fall but can be delivered at a later date (<i>consultation comment</i>) • Local referral pathways may include referral to: <ul style="list-style-type: none"> ➢ Community Rehabilitation Services ➢ Day Hospitals ➢ Falls clinics/older people's medical clinics ➢ GP ➢ Specialist Falls Services

Service aim
3. Older people who have received treatment for any injury due to a fall, or treatment for any acute medical condition related to a fall, are offered further assessment of falls and fracture risk

Key actions and further information	Key stakeholders	Issues and considerations
<p>HOW?</p> <p>a) Refer the individual directly for multifactorial assessment, delivered by professionals with appropriate skills, to identify contributory factors for falls and risk of osteoporosis and fractures (see <i>Stage 2, Service Aim 1 above for further information</i>)</p> <p>WHERE?</p> <p>The location of the fall may be in the home, care home or wider community</p>	<p>WHO?</p> <p><i>Including:</i></p> <ul style="list-style-type: none"> • Ambulance service • NHS 24 • Telecare including community alarm services • Falls response teams • Sheltered housing wardens • Care home staff • Out-of-hours services 	<ul style="list-style-type: none"> • Consider the issue of obtaining consent from the individual before referring for further intervention (<i>consultation comment</i>) • Local referral pathways may include referral to: <ul style="list-style-type: none"> ➢ Community Rehabilitation Services ➢ Day Hospitals ➢ Falls clinics/older people's medical clinics ➢ GP ➢ Specialist Falls Services

Stage 4 Co-ordinated management including specialist assessment

At this stage:

- An individual has been identified as being at high risk of falling and/or sustaining a fracture
- Falls risk and fracture risk management are considered in combination, with services for falls and osteoporosis operationally linked or dovetailed
- Intervention aims to identify, then minimise, an individual's risk factors for falling and sustaining a fracture
- A case/care management approach may be initiated, and
- Timely, appropriate and co-ordinated management may lead to reduced A&E attendances and hospital admissions including admission with a fragility fracture.

ASSESSMENT

Service aim		
1. Older people (65 years and older) identified as having a high risk of falling are offered a multifactorial assessment to identify contributory risk factors ^{5,9,12}		
Key actions and further information	Key stakeholders	Issues and considerations
<p>HOW?</p> <p>a) Provide multifactorial assessment (including assessment of fracture risk if not previously carried out), delivered by professionals with appropriate skills and training</p> <p>b) Identify modifiable and non-modifiable risk factors for falls</p> <p>c) Ensure the assessor or a co-ordinator/case manager provides and/or arranges the interventions indicated from the assessment</p> <p>Multifactorial assessment</p> <p>May include:</p> <ul style="list-style-type: none"> • Falls history^{5,9,12} (from older person and witness) <ul style="list-style-type: none"> ➢ Including: <ul style="list-style-type: none"> ➢ Frequency of falls; how many in past 12 months ➢ Circumstances of the fall ➢ Any loss of consciousness ➢ Symptoms at time of fall ➢ Injuries and consequences 	<p>WHO?</p> <p>Multifactorial assessment may be provided by a number of services including:</p> <ul style="list-style-type: none"> • Rehabilitation, AHP and nursing services • Day Hospitals • Falls clinics/older people's medical clinics • Specialist Falls Services <ul style="list-style-type: none"> • Assessment should be carried out by healthcare professionals with appropriate knowledge, training skills and experience^{5,9,12} <p>Initially may include:</p> <ul style="list-style-type: none"> ➢ AHP ➢ Doctor ➢ Nurse ➢ Pharmacist 	<ul style="list-style-type: none"> • The multifactorial assessment may be carried out by a single practitioner or alternatively, by more than one practitioner, each completing the component most relevant to their expertise¹² • In practice, the initial assessment of individual risk factors may take the form of a multifactorial 'screen', which can identify risk factors <i>and</i> trigger referral for a more detailed assessment provided by a practitioner specialising in the area. <i>For example</i>, an initial check of feet and footwear carried out by a nurse/physiotherapist/occupational therapist as part of a multifactorial screen may identify the need for further assessment by a podiatrist (<i>consultation comment</i>) • The range of assessments needs to be co-ordinated by someone to ensure all the results are seen and appropriate interventions are commenced. Recent trials of multifactorial assessment followed by referral without assurance of the intervention have not proven effective¹²

Key actions and further information	Key stakeholders	Issues and considerations
<ul style="list-style-type: none"> ➤ Ability to get up from floor unassisted ➤ Changes to lifestyle as a result of falling • Relevant medical history¹², including history of acute or long term medical conditions/problems • Physical examination which may include: <ul style="list-style-type: none"> ➤ Cardiovascular examination^{5,9,12} <ul style="list-style-type: none"> ○ heart rate/rhythm ○ blood pressure (BP) including lying and standing BP ➤ Neurological examination^{5,9,12} <ul style="list-style-type: none"> ○ lower limb peripheral nerves ○ proprioception ○ reflexes ○ tests of cortical, extrapyramidal and cerebellar function • Assessment of cognition and mental state including depression and anxiety^{5,9,12} • Osteoporosis and fracture risk assessment^{5,9} <i>See 'initial fracture risk assessment' outlined in Stage 2 above. If indicated, follow local protocols and referral pathways for further assessment, which may include DXA, and treatment</i> • Assessment of gait, balance, general mobility, muscle strength and lower limb joint range of movement/function^{5,9,12} • Assessment of functional ability^{5,9,12} <ul style="list-style-type: none"> ➤ Activities of daily living including use of adaptive equipment and mobility aids as appropriate ➤ Perceived functional ability ➤ Curtailment of activities due to fear of falling • Assessment of fear related to falling^{5,9,12} • Medication review^{5,9,12} (all prescribed and over the counter medications and doses) • Assessment of home environment^{5,9,12} <ul style="list-style-type: none"> ➤ Home hazards/home safety ➤ Safe use of mobility aids 	<p><i>Then, as required, this may include:</i></p> <ul style="list-style-type: none"> ➤ Continence services ➤ Dietician ➤ Mental health specialist services ➤ Optometrist/orthoptist ➤ Podiatrist ➤ Psychologist ➤ Social worker ➤ Specialist physician 	<ul style="list-style-type: none"> • If the interventions indicated from the assessment process are not provided by the assessor, local referral pathways to related services/clinics are required • The need for focused medical assessment may not be identified until this stage. Local referral pathways to services providing focused medical assessment may need to be established • Several assessment tools are available to supplement assessment. Any tool selected should be standardised, validated, reliable and relevant to the target group and setting (<i>consultation comment</i>) • Assessment in isolation will not reduce falls, but is essential to enable tailoring of interventions to meet the needs of the individual^{9,12} <p>Where indicated, also consider including the following in the multifactorial assessment:</p> <ul style="list-style-type: none"> • Assessment of hearing⁵ • Review of alcohol intake⁵ • Assessment of nutrition/hydration⁵ • Assessment of pain⁵ • Assessment of non-cardiovascular dizziness, <i>for example</i> Benign Paroxysmal Positional Vertigo and other vestibular dysfunction • As part of the home hazard assessment, also assess the individual's behaviour in the context of their environment (<i>consultation comment</i>)

Key actions and further information	Key stakeholders	Issues and considerations
<p>➤ Ability to perform activities of daily living (if appropriate)</p> <ul style="list-style-type: none"> Assessment of vision^{5,9,12} Foot and footwear examination^{5,12} Urinary continence^{5,9,12} (and faecal continence⁵) check <p>See 'Issues and considerations' for additional components that may be indicated.</p> <p>WHERE?</p> <p>Primary care or secondary care, in the home or care home</p>		<ul style="list-style-type: none"> Also consider lower urinary tract symptoms and nocturia (<i>consultation comment</i>)

Service aim

2. People identified as at risk of osteoporosis and fracture are offered further investigation where indicated

Key actions and further information	Key stakeholders	Issues and considerations
<p>HOW?</p> <p>a) Provide further investigation, which may include BMD measurement by DXA and investigation of osteoporosis</p>	<p>WHO?</p> <ul style="list-style-type: none"> Direct Access Densitometry Services Fracture Liaison services Osteoporosis services including DXA scanning 	<ul style="list-style-type: none"> Local referral pathways to services that provide further assessment of fracture risk and osteoporosis (including DXA and other osteoporosis services) will need to be established. Once established, all practitioners involved in screening will need to be notified

Service aim

3. Older people with suspected or confirmed blackouts and those with unexplained falls, vertigo and dizziness are offered focused medical assessment

Key actions and further information	Key stakeholders	Issues and considerations
<p>HOW?</p> <p>a) Provide focused medical assessment then provide and/or arrange interventions indicated by the assessment (this may include</p>	<p>WHO?</p> <ul style="list-style-type: none"> GP Physician or geriatrician 	<ul style="list-style-type: none"> Local referral pathways for multifactorial assessment following focused medical assessment may include referral to:

Key actions and further information	Key stakeholders	Issues and considerations
<p>specialist medical investigation/intervention and/or multifactorial assessment).</p> <p>Focused medical assessment may include⁵:</p> <p>History from patient and witness <i>May include:</i></p> <ul style="list-style-type: none"> • Past medical history including history of epilepsy, ischaemic heart disease, heart failure, diseases associated with autonomic neuropathy • History of falls and blackouts <ul style="list-style-type: none"> ➢ Frequency, circumstances and situation, description from witness ➢ Prodromal symptoms: light-headedness, dizziness, palpitations, chest pain ➢ Post-event weakness, disorientation • Drug history <p>Examination <i>May include:</i></p> <ul style="list-style-type: none"> • Cardiovascular examination (<i>may include</i> heart rate and rhythm, lying and standing blood pressure, heart rate and BP responses to carotid sinus stimulation, and auscultation for aortic stenosis) • Neurological examination • Assessment of non-cardiovascular dizziness, <i>for example</i> Benign Paroxysmal Positional Vertigo and other vestibular dysfunction • Gait assessment • Assessment for anxiety/depression/cognitive impairment <p>WHERE? Primary care or secondary care</p>		<ul style="list-style-type: none"> ➢ Community Rehabilitation Services ➢ Day Hospitals ➢ Falls clinics ➢ Specialist Falls Services <ul style="list-style-type: none"> • Local referral pathways to services/clinics that provide further investigation will need to be established <p><i>This may include clinics such as:</i></p> <ul style="list-style-type: none"> ➢ Cardiology ➢ Ear, Nose and Throat ➢ Neurology ➢ Pacemaker ➢ Syncope <ul style="list-style-type: none"> • Once pathways are established, all practitioners involved in focused medical assessment will need to be notified

TREATMENT

Service aim
<p>4. Following assessment, an older person is considered for an <i>individualised</i>, multifactorial intervention programme^{9,12} aimed at:</p> <ul style="list-style-type: none"> • minimising the identified risks for falling and/or sustaining a fracture • promoting independence, and • improving physical and psychological function

Key actions and further information	Key stakeholders	Issues and considerations
<p>HOW?</p> <p>a) Where indicated, provide a multifactorial intervention programme. Interventions are offered that target the individual's modifiable risk factors, identified through multifactorial falls assessment and osteoporosis and fracture risk assessment^{9,12}</p> <p>b) Provide interventions that aim to:</p> <ul style="list-style-type: none"> • minimise the risk of falling, and • minimise the risk of sustaining a fragility fracture <p>Multifactorial intervention programmes to minimise falls risk For older people living in the community, consider the following as part of a multifactorial intervention programme (against a background of the identification of causes and recognised risk factors):</p> <ul style="list-style-type: none"> • An exercise programme targeting strength, balance and gait^{9,12} <ul style="list-style-type: none"> ➢ Provide individually prescribed, progressive exercise programmes, including a combination of strength, balance and gait training ➢ Flexibility and endurance training should also be offered, but not as a sole component of the exercise programme ➢ Include regular review, progression and adjustment of exercise prescription as appropriate ➢ When prescribing exercise, take into account the physical capabilities and general health of an individual (ie tailor the exercise) ➢ Exercise may be performed in groups or individually as a home exercise programme ➢ Before commencing an exercise programme, consider if the individual requires a medical assessment ➢ Consider including Tai Chi-type exercises <p><i>The AGS/BGS Guideline¹² recommends an appropriate exercise programme following multifactorial assessment, for all community residing older people at risk of falling.</i></p> <ul style="list-style-type: none"> • Gait training and the provision of appropriate walking aids⁵ 	<p>WHO?</p> <ul style="list-style-type: none"> • Multifactorial interventions may be provided by a number of services including: <ul style="list-style-type: none"> ➢ Community Rehabilitation Services ➢ Day Hospitals ➢ Falls clinics ➢ Specialist Falls Services • Interventions should be delivered by professionals with appropriate knowledge, skills and experience • Exercise is prescribed by: <ul style="list-style-type: none"> ➢ Health professionals with suitable qualifications (usually a physiotherapist) ➢ Exercise practitioners with suitable qualifications, knowledge and experience 	<ul style="list-style-type: none"> • Multifactorial interventions are often delivered by a number of practitioners of various disciplines. This presents challenges of co-ordination, which is required for effective interdisciplinary working • Interventions should be delivered by the practitioners carrying out the assessment, <i>or</i> the assessors should assure the interventions are carried out by the health professionals to whom the individual has been referred. Recent trials of multifactorial assessment followed by referral without assurance of the intervention have not proven effective¹² • Practitioners who are involved in developing falls prevention programmes should ensure that the programmes accommodate participants' different needs and preferences⁹ • Practitioners should promote the social value of the programmes⁹ • Consider transport provision for those individuals who are unable to independently access services (<i>consultation comment</i>) • A systematic review and meta-analysis investigating effective exercise for the prevention of falls²³ identified <i>exercise dosage</i> as one of the key factors associated with effective exercise programmes and suggested a minimal effective exercise dosage would equate to a twice-weekly programme running over 25 weeks. The authors conclude that this finding has important implications for service delivery as the majority of current programmes typically run for shorter periods than this. This supports the case for providing ongoing exercise opportunities for older people following discharge from the healthcare setting • An exercise pathway between health and local authority (and other) leisure services enables a continuum of physical activity and promotes activity in later life (<i>consultation comment</i>)

Key actions and further information	Key stakeholders	Issues and considerations
<ul style="list-style-type: none"> Medication review with modification/withdrawal^{5,9,12} <ul style="list-style-type: none"> Pursue reducing the number of medications, or dose of individual medications. Review all medication, and withdraw or minimise to reduce potential side-effects of polypharmacy and drug to drug interactions Whenever possible, withdraw or minimise psychotropic medications (including sedative hypnotics, anxiolytics and antidepressants) and antipsychotics (including new antidepressants or antipsychotics) (with specialist input as required) Home environment assessment and intervention to reduce identified hazards^{5,9,12} <ul style="list-style-type: none"> Provide home hazard assessment in conjunction with follow-up and intervention, not in isolation. Intervention may include adaptation or modification of the environment Interventions to promote the safe performance of daily activities¹² Management of foot problems and footwear^{5,12} <ul style="list-style-type: none"> Advise on footwear that may reduce falls risk, such as shoes of low heel height and a high surface contact area Vision assessment and referral^{9,12} <ul style="list-style-type: none"> Expedite surgery for older women in whom cataract surgery is indicated, as it reduces risk of falling Advise not to wear multifocal lenses while walking, particularly on stairs Management of postural hypotension^{5,12} Management of heart rate or rhythm abnormalities^{5,12} Cardiac pacing for older people with cardioinhibitory carotid sinus hypersensitivity who have experienced unexplained falls^{9,12} Provision of vitamin D supplements for older people with proven vitamin D deficiency and consider provision for those with suspected vitamin D deficiency or who are otherwise at risk of increased falls¹² Provision of vitamin D supplements for older people residing in long-term care settings with proven or suspected vitamin D insufficiency¹² 	<ul style="list-style-type: none"> Interventions should be delivered by professionals with appropriate knowledge, skills and experience 	<ul style="list-style-type: none"> Local referral pathways to related services/clinics may be required. <i>May include referral pathways to:</i> <ul style="list-style-type: none"> Audiology and hearing aid services Care and repair services Continence services Dietetic services Local authority occupational therapy services Telecare including community alarm services Mental health services for older people Ongoing appropriate exercise services Other rehabilitation services Optometry/orthoptic services Podiatry services Services to support reduction of alcohol consumption Social services, home care and day care Specialist health services such as pain, orthopaedic and rheumatology clinics, vertebroplasty services Smoking cessation services Telecare is the remote or enhanced delivery of health and social services to people in their own home by means of telecommunications and computerised systems. Telecare usually refers to equipment and detectors that provide continuous, automatic and remote monitoring of care needs, emergencies and lifestyle changes, using information and communication technology (ICT) to trigger human responses, or shut down equipment to prevent hazards²⁴ <ul style="list-style-type: none"> Telecare equipment and devices include: <ul style="list-style-type: none"> Bed or chair occupancy detectors Community alarm systems Falls detectors Medication dispensers Movement detectors A falls prevention programme may comprise single interventions, multifactorial interventions (multiple component intervention based on individual assessment) or multiple interventions (the same components are provided to all participants). Studies investigating these three different approaches were included in the Cochrane review by Gillespie et al²⁵, with the following key findings:

Key actions and further information	Key stakeholders	Issues and considerations
<ul style="list-style-type: none"> • Provision of vitamin D supplements in older people residing in long-term care settings who have abnormal gait and balance or otherwise at increased risk of falls • Information provision and education, using communication appropriate to an individual's understanding^{9,12} <i>Consider this intervention as <u>part of a multifactorial intervention</u>¹²</i> <ul style="list-style-type: none"> ➤ Provide written and oral information for the individual at risk and their carers, which may include information on the following⁹: <ul style="list-style-type: none"> ○ The preventable nature of some falls ○ What measures can be taken to prevent falls ○ The physical and psychological benefits of modifying falls risk ○ How to cope following a fall, including how to summon help and how to avoid a long lie ○ How to stay motivated if referred for falls prevention strategies that include exercise ○ Where further advice and assistance can be accessed • Teaching the individual strategies to cope in the event of a fall and avoid the consequences of a long lie on the floor⁵, <i>including</i>: <ul style="list-style-type: none"> ➤ How to summon help (consider including information on Telecare as indicated) ➤ How to prepare for a long lie ➤ How to get up from the floor ➤ Stress and anxiety management • Referral to social services or home care to assess the need for support at home⁵ <p>In addition, and as indicated, provide advice on the following and/or refer to specialist services⁵:</p> <ul style="list-style-type: none"> ➤ Alcohol intake ➤ Fear of falling ➤ Hearing impairment ➤ Nutrition and hydration ➤ Pain management ➤ Smoking cessation ➤ Urinary or faecal incontinence 		<p><i>Single interventions:</i></p> <ul style="list-style-type: none"> ➤ Exercise is effective, as a <i>single intervention</i>, in reducing rate and risk of falling. Three different approaches were found to be effective: multiple component group exercise, Tai Chi as a group exercise and individually prescribed multiple component exercise carried out at home ➤ Home safety interventions, as a <i>single intervention</i>, may be effective in participants who are at higher risk of falling compared with those not selected on the basis of risk. For people with poor vision, home safety intervention appears effective in reducing both rate of falls and risk of falling ➤ Accelerating first eye cataract surgery for older people on a waiting list significantly reduces rate of falls compared with waiting list controls ➤ An educational programme for primary care physicians on use of medication significantly reduced risk of falling in older people under their care. ➤ Gradual withdrawal of psychotropic medication reduces rate of falls ➤ Vitamin D supplementation, when administered to older people selected on the basis of low vitamin D level, is effective in reducing rate and risk of falling <p><i>Multifactorial interventions:</i></p> <ul style="list-style-type: none"> ➤ Assessment and multifactorial intervention is significantly effective in reducing rate of falls, but does not, overall, have a significant effect on risk of falling <p><i>Multiple interventions:</i></p> <ul style="list-style-type: none"> ➤ Several multiple interventions have been found to be effective including: <ul style="list-style-type: none"> ○ A combination of exercise, education and home safety intervention (significant reduction in rate of falls) ○ Exercise plus vision assessment; exercise

Key actions and further information	Key stakeholders	Issues and considerations
<p>For older peoples in extended care settings, multifactorial interventions with an exercise component are recommended for those who are at risk of falling⁹. Also include staff training in the list of interventions</p> <p>WHERE?</p> <p>Services are provided locally where possible¹</p> <p>Interventions to minimise fracture risk Following assessment/investigation, which may include DXA, interventions may include:</p> <ul style="list-style-type: none"> Pharmacological management of osteoporosis^{14,16,17} <ul style="list-style-type: none"> ➤ Offer pharmacological interventions that have been shown to reduce fracture risk, including bisphosphonates, strontium ranelate, raloxifene and teriparatide Long term support for adherence and persistence with osteoporosis treatment Non-pharmacological management including^{16,18}: <ul style="list-style-type: none"> ➤ Advice on correction of nutritional deficiencies, particularly of calcium, vitamin D and protein ➤ Bone loading exercise including high intensity strength training and low impact weight-bearing exercise 	<ul style="list-style-type: none"> Interventions should be delivered by professionals with appropriate knowledge, skills and experience <p><i>May include:</i></p> <ul style="list-style-type: none"> ➤ GP ➤ Secondary care medical staff, including osteoporosis specialists ➤ Fracture Liaison Nurses <p><i>May include:</i></p> <ul style="list-style-type: none"> Community Pharmacy <ul style="list-style-type: none"> Exercise is prescribed by: <ul style="list-style-type: none"> ➤ Health professionals with suitable qualifications (usually a physiotherapist) ➤ Exercise practitioners with suitable qualifications, knowledge and experience 	<p>plus vision assessment plus home safety; exercise plus home safety (significant reduction in risk of falling)</p> <ul style="list-style-type: none"> Prior to discharge, where multifactorial interventions have been provided, establish a system for checking that all agreed interventions have been provided and completed (<i>consultation comment</i>) Consider reviewing the individual at a determined point following discharge (<i>consultation comment</i>) Check relevant current national or local guidelines for recommendations for pharmacological management of osteoporosis The use of hip protectors A Cochrane review concluded²⁶ <ul style="list-style-type: none"> ➤ No reduction in hip fracture incidence from the provision of hip protectors was shown in community-dwelling study participants ➤ Hip protectors may help reduce the risk of hip fractures in nursing or residential care ➤ Acceptance and adherence by users of the protectors is poor due to discomfort and practicality

Key actions and further information	Key stakeholders	Issues and considerations
<p>c) Encourage individuals to participate in the multifactorial intervention programme with positive messages of potential benefits. <i>To promote participation consider the following⁹:</i></p> <ul style="list-style-type: none"> Healthcare professionals involved in the assessment and prevention of falls discuss which changes a person is willing to make to prevent falls Provide information that is relevant and available in languages other than English Falls prevention programmes address potential barriers such as low self-efficacy and fear of falling, and encourage activity change as negotiated with the participant 		<ul style="list-style-type: none"> Yardley et al²² outlined the following approaches: <ul style="list-style-type: none"> ➤ When offering interventions, promote immediate benefits that fit with a positive self-identity. Examples of benefits that are highly valued by older people include: <ul style="list-style-type: none"> ○ confidence in functional capabilities ○ increased independence ○ proactive self management of health ➤ Encourage confidence in self management rather than dependence on professionals, by giving older people an active role ➤ Draw on validated methods for promoting and assessing the processes that maintain adherence, especially in the longer term. (These could include encouraging realistic positive beliefs, assisting with planning and implementation of new behaviours, building self-confidence, and providing practical support)

Appendix 1: Steering group

Denise Brown	Principal Manager Community Care Older Peoples' Services North Ayrshire Council Representing Association of Directors of Social Work Older Peoples' Group	Ann Murray	Programme Manager Prevention and Management of Falls Practice Development Unit NHS Quality Improvement Scotland
Lynn Caldwell	Managed Knowledge Network Librarian NHS Education for Scotland	Steve Pavis	Programme Development Manager Information Services Division NHS National Services Scotland
Nicki Colledge	Consultant Geriatrician NHS Lothian	Susan Polding-Clyde	Nurse Consultant for Older People Care Commission
Elinor Dickie	Health Improvement Programme Officer - Physical Activity NHS Health Scotland	Mary Porter	Nurse Director NHS Fife Representing Scottish Executive Nurse Directors' Group
Morven Gemmill	AHP Director NHS Ayrshire & Arran	Anne Simpson	Manager for Scotland National Osteoporosis Society Representing Long Term Conditions Alliance, Scotland
Rosemary Hector	Practice Development Project Co-ordinator Practice Development Unit NHS Quality Improvement Scotland	Dawn Skelton	Expert Advisor to NHS QIS Falls Programme Reader in Ageing and Health Glasgow Caledonian University Member of HealthQWest
Anne Hendry	National Clinical Lead, Long Term Conditions Collaborative Consultant Physician in Geriatric Medicine NHS Lanarkshire	Claire Tester <i>Chair</i>	Practice Development Professional Officer - AHP Practice Development Unit NHS Quality Improvement Scotland
Leslie Humphries	Programme Administrator Prevention and Management of Falls Practice Development Unit NHS Quality Improvement Scotland	Jane Walker	Nursing Officer Primary and Community Care Directorate Scottish Government Health Directorates
Alex MacKenzie	Director North Glasgow Community Health and Care Partnership NHS Greater Glasgow and Clyde Representing CH(C)P Managers' Group	Carolyn Wilson	Falls Service Manager NHS Tayside Representing CH(C)P Falls Leads
Stella Macpherson	Public Partner NHS Quality Improvement Scotland		
Sarah Mitchell	Project Manager Delivery Framework for Rehabilitation Scottish Government Health Directorates		

Appendix 2: Examples from practice in Scotland

The examples from practice provided below illustrate the approach taken by specific services and organisations in Scotland to achieve an aim at a particular stage of the older person's journey of care. These illustrations are intended to highlight one possible approach, recognising that other methods are possible and may be preferable in a different locality or context. The examples provide a brief 'snapshot' only and contact details are provided so further information can be sought. All examples featured are mainstream services and are neither time limited projects nor pilots.

Stage 1 Supporting health improvement and self management to reduce the risk of falls and fragility fractures

Environmental street and pavement audits

Environmental street and pavement audits are undertaken in Perth and Kinross involving the local authority Traffic and Road Safety Department, older community members and the Falls Service Manager. A walk-about around the areas is carried out with the older adults identifying the potential falls trip hazards, then recommendations are made to the Council Roads Department for repairs to be actioned.

Contact: carolynwilson@nhs.net

The use of a 'home safety unit' as an information and educational resource

Perth and Kinross Home Safety Partnership has developed an innovative mobile Home Safety Unit to highlight the number of safety hazards that can exist in a normal household. Launched in January 2009 by the Community Safety Partnership, the unit is fitted out to replicate a modern home, and can be transported by a fire truck to enable the home safety message to be demonstrated in the community.

The Home Safety Unit comprises a small bedroom, bathroom, living room and kitchen area, each with common hazards relevant to that area, and has an inbuilt computer, projector and smart board. It is equipped with simulated but realistic risks like fire safety, trip hazards, crime prevention and provides advice on practical and simple steps to take to avoid accidents in the home. Also fitted on it is a wide range of Telecare products including: a falls detector, personal alarm, motion detector and bed exit monitor.

Contact: carolynwilson@nhs.net

Exercise provision for older people in the community

Culture and Sport Glasgow provides a group exercise programme called Vitality, which is delivered in partnership with NHS Greater Glasgow and Clyde for people living with long term conditions, including those living with osteoporosis and older adults who have completed rehabilitation following a fall. The formats of the classes within the Vitality programme were established by a team of NHS physiotherapists and experienced exercise professionals to ensure consistency in delivery and quality assurance of the classes. The tiered approach to Vitality enables movement between levels if there is any change in an individual's needs.

The classes were piloted and then rolled out across Glasgow in October 2008 within Glasgow Club Leisure facilities and other suitable community venues. The highly trained instructors who deliver the Vitality classes have established links to other professionals who recommend the programme. The instructors also encourage individuals to participate in other suitable physical activities where appropriate. There is a transport opportunity for the most vulnerable participants to the lowest level of class, and there is a charge for class participation, which enables sustainability of the Vitality programme.

Contact: Deborah.Wylie@glasgow.gsx.gov.uk

Interventions to raise public awareness

Perth and Kinross has produced tea towels, calendars and bookmarks with falls prevention messages displayed in cartoon format to heighten public awareness about falls risk and prevention. The materials are distributed to older people within Perth and Kinross at community events, falls awareness presentations to groups of older people and through older people passing them onto their peers. On National Falls Awareness Day, bookmarks are distributed via Meals on Wheels, Books on Wheels, Sheltered Housing Wardens, Day Care staff, Occupational Therapy staff, libraries, GP surgeries and other relevant public places.

Contact: carolynwilson@nhs.net

Stage 2 Identifying individuals at high risk of falls and/or fragility fractures

A falls and fracture prevention protocol for older people presenting at A&E following a fall

In 2007, colleagues in the Medicine of the Elderly Service and the A&E department at the Royal Infirmary, Edinburgh set up a protocol to identify patients aged over 65 who require a falls prevention assessment following discharge from A&E, after presentation with a fall. Such patients are a high risk group who are frequently re-admitted. Their need for further intervention was discussed with local Community Falls Services and Day Hospitals, who agreed to accept referral of such patients. Both have standardised multidisciplinary pathways for patients with falls.

An initial proforma is completed by medical staff in the A&E department, which records the mechanism of the fall, how many falls have occurred in the last year and the outcome of a Get Up and Go test. Falls risk factors are also documented from a checklist. Those with recurrent falls and/or who present with gait and balance problems on the Get Up and Go test are referred by an Accident & Emergency-based Occupational Therapist either to their local Community Falls service, or, if there are significant ongoing medical issues, to a Day Hospital. Further referrals for DXA scanning (where indicated) to identify osteoporosis are made by the community teams and Day Hospitals.

Contact: nicky.colledge@luht.scot.nhs.uk

Community pharmacists identifying and referring older people at risk of falling

Community Pharmacists and their staff, including delivery drivers, in Glasgow were invited to training evenings on falls and osteoporosis. This enabled and encouraged them to identify individuals who met the criteria for referral to the NHS Greater Glasgow and Clyde Community Falls Prevention Programme (65 years and over, living in their own home and one or more falls in the last year).

Pharmacy Public Health Facilitators also visited Glasgow pharmacies and provided leaflets and posters and further encouragement to refer into the service. To reach housebound patients, leaflets were included with medicines delivered to the individual's home.

Specialist Pharmacists, carrying out medication reviews with fallers, routinely screen for osteoporosis and refer for a DXA scan and/or initiate appropriate treatment via their GP.

Contact: douglasmalcolmson@nhs.net

A Mobile Emergency Care Service identifying recurrent fallers and linking with falls management and prevention services

Falkirk Council's Mobile Emergency Care Service (MECS) and NHS Forth Valley are working in partnership to identify vulnerable people in the community who are falling frequently, and offer early access to Falls Management Clinics. MECS staff provide an emergency response to people in their homes when they experience a fall, applying their skills as registered first aiders and utilising a range of moving and handling equipment. Everyone referred for the Community Alarm Service, for whatever reason, is provided with an information booklet or tape, Avoiding Slips, Trips and Broken Hips, which offers useful advice and guidance on falls prevention.

Service user falls are closely monitored by MECS and identification of two falls within a period of 6 months results in a Mobile Operations Co-ordinator visiting the person to discuss the identified pattern of falling, inform them about the Falls Management Clinic and offer a direct referral for assessment, advice, therapy, exercise and equipment from the multidisciplinary staff available there. GPs, who endorsed the strategy by agreeing to direct referrals being made by senior MECS staff, are routinely advised by MECS of all patients who have experienced a fall in the preceding month.

The effectiveness of this service is demonstrated in the reduction in falls over the years since its commencement in 2002. The Falkirk Falls Management Project was started with no additional commitment of health or local authority resources but with the support of senior management in both organisations.

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Identifying people at risk of osteoporosis and fragility fracture

Collaborative working within NHS Greater Glasgow resulted in the introduction of a Fracture Liaison Service (FLS) in 1999. The need for an FLS was identified following the introduction of a Direct Access Densitometry Service (DADS) for primary care physicians, based upon agreed referral criteria. Only 10% of the expected individuals with fractures, most of which were prevalent fractures, were referred to the service in the first year.

The FLS was introduced to assume responsibility for fracture case-finding and for assessing and performing diagnostic evaluations (including axial DXA), and making specific treatment recommendations for the secondary prevention of osteoporotic fractures. There are now nine dedicated FLS nurses in NHS Greater Glasgow and Clyde (GGC) providing a one-stop clinic for all patients presenting with fragility fractures. In addition, we are now successfully identifying, through the radiology information system, individuals with vertebral and non vertebral fractures. We believe this allows us to achieve a 99.9% capture of high risk patients.

By the end of 2009, an FLS will be provided to all the acute hospitals within NHS GGC. Following the success of this FLS, the same one-stop service is provided to the DADS patients. Both FLS and DADS have strong links and referral pathways to NHS GGC's Community Falls Prevention Programme, Glasgow Physiotherapy and Exercise Service for Osteoporosis and community pharmacy, providing a holistic approach to this at-risk group.

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Identifying falls risk through the Single Shared Assessment process

In Perth and Kinross Community Health Partnership (CHP) the Single Shared Assessment process includes a trigger for assessors to enquire about falls history. All assessors are also provided with guidance on the action they should take having identified a history of falls as well as how and when to refer to specialist Falls Clinics for further intervention. The guidance provided asks practitioners to consider whether the cause of a fall can be identified and removed and suggested actions are then given to practitioners, for example, advising about environmental hazards, referring for medication review, issuing of appropriate falls prevention literature, etc. If the cause of the fall is unknown or cannot be rectified, then a referral can be made through the shared Single Shared Assessment IT system directly to a local Falls Clinic to request a specialised assessment.

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A community-based, integrated, multidisciplinary falls service: screening, triage and onward referral

The NHS Greater Glasgow and Clyde Community Falls Prevention Programme (CFPP) evolved from a pilot community falls project, based on published evidence and guidelines demonstrating effective multidisciplinary strategies for falls prevention. The aim was to develop a service with standardised protocols that could be rolled out across the NHS board area to ensure equitable access to the population aged over 65 who have fallen.

This service operates an open referral system to a central administration centre. Following referral, there is an initial telephone triage followed by a multifactorial risk screening in the older person's home, with onward referral to a variety of community and hospital services. The service has a clinical lead whose team comprises Allied Health Professionals, technical support workers, and administration staff. IT systems are in development to facilitate communication across the board-wide falls network. A publicity campaign used posters and leaflets to raise awareness of the service.

The CFPP accepts approximately 250 referrals per month, the majority from GPs, with a significant number of self-referrals. Fallers are seen at home within 4 working days of telephone triage. From the initial multifactorial risk screening, onward referrals are triggered according to protocols, to a range of 20 services including medical review at consultant-led hospital falls clinics (60% of fallers attend), occupational therapy, physiotherapy, exercise classes, pharmacy, community rehabilitation teams, psychology, DXA services and handyman service.

This is a comprehensive community-based service with strong links to other community and hospital services for older people. It continues to evolve and improve.

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Identifying people at risk of osteoporosis and fragility fracture

In May 2005, NHS Lothian launched an osteoporosis service. The service is based in the Department of Medical Physics, Western General Hospital, Edinburgh, and incorporates a Fracture Liaison Service (FLS) and a Direct Access Densitometry Service (DADS).

The FLS identifies individuals at three acute centres, who are aged over 55 years and have sustained a low trauma fracture. Following the identification using Trak (an electronic patient information service), patients are offered a DXA scan and a consultation with the Osteoporosis Specialist Nurse.

GPs and physiotherapists, including those working with older people at risk of falling, can refer patients to the DADS, guided by referral criteria. Following DXA, treatment recommendations are provided for the GP.

In addition, we provide an intravenous bisphosphonate service for patients who cannot tolerate oral medication. The Osteoporosis Specialist Nurse provides the training and support for an anabolic agent service which involves self-injected osteoanabolic drug regimes.

The osteoporosis service has close links with the local Day Hospital, where older people, identified by the Osteoporosis Specialist Nurse as being at risk of falling, can be referred.

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Jim.hannan@luht.scot.nhs.uk

Stage 3 Responding to an individual who has just fallen and requires immediate assistance

The use of Telecare in the management and prevention of falls

West Lothian CHCP has introduced Telecare for all vulnerable client groups. Currently 3,321 homes in West Lothian have Telecare packages installed and this covers 4,800 residents. Packages can include technology such as voice-activated home alert consoles, falls detectors, chair/bed occupancy sensors, automated reminders, voice prompts and door open alerts.

Local NHS continuing care hospitals and West Lothian Council care homes all have falls sensors installed. The community response time is on average 22 minutes from the first alert. Referrals come from a range of agencies and self-referrals. People over the age of 65 who have had more than one admission to hospital should routinely be offered the service on discharge from hospital.

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A falls response service for older people who fall, are uninjured, but cannot get up

Fife Council and NHS Fife, working with NHS 24, Ambulance, Fire and Police services, started the Fife Falls Response Service in 2006 for older people who fall at home and cannot get up, but who are otherwise uninjured; a group of people whose needs were being served in an ad hoc way. Recently the response element was extended to under 65s. The service was developed from Fife Council's pre-existing 'Mobile Emergency Care Service' (MECS).

The service targets people of higher dependency and frailty in two ways:

- 1) Response: MECS team is dispatched to assist the person to rise from the floor (service criteria apply).
- 2) Referral for NHS follow-up/advice from existing teams for those over 65 to minimise the likelihood of future falls or fractures, using an assessment tool.

The public, carers and staff value the service. This innovative service improves quality of life for vulnerable people and supports independent living by providing a response service and making links with community health services. It has helped people maintain their independence in the community.

Quotes Wife: *"This service is first class... could not ask for more... we used to keep struggling ourselves"*

Carer: *"the service is a blessing in disguise"*

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Stage 4 Co-ordinated management including specialist assessment

Home-based rehabilitation as part of a fall prevention programme

A joint initiative between the NHS and Social Work in 2004 set up a community-based team on the Isle of Bute to provide home-based rehabilitation. Two part-time support workers are employed through social work with professional support from existing NHS practitioners. Following assessment, there is agreement between the individual and the NHS practitioner on the setting of goals and mutual agreement on the process of achieving these goals. Ownership of the rehabilitation programme is assumed by the individual.

A holistic approach to encourage self efficacy is taken using evidence-based strength and balance exercise programmes to reduce falls risk (Sherrington et al 2008), and problem solving approaches are taken to raise safety awareness and the importance of other issues, for example nutrition. Participants are encouraged to continue their exercise programmes as part of their daily routine, encouraging independence and autonomy.

To date, data capture shows that 79% of set goals have been achieved and 2% partially achieved. Acute illness, hospital admission or death accounted for the 19% goals that were not achieved. These results demonstrate the success of this intervention with frail older people at risk of falls and show that goals can be achieved through a programme of supported home-based rehabilitation. This service promotes progressive independence and results in less dependence on services over time.

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The introduction of a Falls and Fracture Prevention Pathway

The Lothian Falls and Fracture Prevention Pathway was developed in 2002 by a Falls and Fracture Prevention Group chaired by Dr Nicki Colledge, Consultant Geriatrician. Following consultation with a short life working group comprising senior representatives from Health and Social Care and Community Health Services, along with consultants from the Acute Division, the Pathway was implemented in July 2006. It was incorporated into the existing remit of the jointly funded Rapid Response Service across the five areas of the City of Edinburgh and Day Hospitals.

The Pathway aims to provide a Falls Service to those at high risk of falling, where individuals have had more than one fall in the past year. Referrals are taken from professionals within the Acute Division, Health and Social Care and the Edinburgh CHP. The Pathway allows early identification of patients at high risk of falls, multidisciplinary assessment and individually tailored treatment programmes. Intervention includes Physiotherapy, Occupational Therapy, screening for fracture risk, syncope and postural hypotension by the therapists who are trained in taking erect and supine BP.

Following initial assessment and screening, it also triggers onwards referral to specialist services such as the Osteoporosis Service, Day Hospital for medical screening and the Integrated Care Pharmacist. Direct referral is made to all of these services. In recognition of the contribution this has made to delivery outcomes, it will now be rolled out across the whole of the joint services of Health and Social Care.

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Physiotherapy assessment and exercise as part of a fall prevention programme

Physiotherapy assessment and strength and balance exercise classes are a component of NHS Greater Glasgow and Clyde's (GGC) Community Falls Prevention Programme (CFPP). Following multifactorial risk assessment by the CFPP, or direct referral from Day Hospital Physiotherapists, Community Rehabilitation Services or Supported Discharge Physiotherapists, older people are offered a specialist assessment, delivered by a physiotherapist, at a local Falls Clinic or community venue. Following assessment, and where appropriate, individuals are offered a place in an exercise class delivered in their locality.

The classes aim to reduce falls risk by improving balance and strength, functional abilities, confidence and lifestyle through evidence-based, progressive and tailored exercise programmes and education. The physiotherapy-led classes are held at a range of community venues across NHS GGC. Through partnership working with Community Transport Glasgow, transport can be provided when required. Participants attend for a maximum of 18 weeks but this is dependent on progress, assessed by changes in outcome measure scores (Tinetti Gait and Balance Scale) on review at weeks six and twelve. To encourage long term maintenance of gains made within the classes, participants are offered a home exercise programme or community-based exercise classes run in partnership with Culture and Sport Glasgow.

A recent evaluation carried out by Glasgow Caledonian University will shortly be published, but preliminary findings suggest the physiotherapy-led strength and balance exercise classes significantly reduce participants' falls risk.

Contact: gg.fallsadmin@nhs.net (NHS GGC Community Falls Prevention Programme)

A community-based, integrated, multidisciplinary falls service

Monklands & Cumbernauld Falls Service is a community-based, integrated multiprofessional falls service, established in 2003 as a joint venture between NHS Lanarkshire and North Lanarkshire Council. It is a specialist component of the Lanarkshire Integrated Network Service. The team comprises a Consultant in Care of the Elderly, a Falls Specialist physiotherapist, occupational therapist and nurse, with access to administrative support, a rehabilitation support worker and a social work assistant. We accept referrals from hospital (including A&E) and community sources for patients meeting our criteria: 65 years and over, living within the catchment area (including residential care), with at least one fall in the past year. Medical consent from the GP is also required. The majority of our referrals (74%) are from community sources.

We provide patient-centred falls-specific screening, assessment and rehabilitation to patients within their home environment allowing us to tailor strategies to need. We developed a multifactorial Falls Screening Tool, which can be used by any member of the Falls Service. Patients are simultaneously screened for osteoporosis risk and offered DXA scanning where appropriate. Following screening, which also identifies the need for focused medical assessment, a tailored action plan is produced. We offer multifactorial rehabilitation, mostly home based, including the Otago exercise programme and referral to a gym based class. Due to our integrated status we can provide care management, co-ordinating all aspects of our patients' care.

In addition, we deliver comprehensive falls education to community and hospital workers, highlighting basic risk reduction, screening of fallers, and promoting our service. We also have a strong health education and promotion role in hospitals and the community.

Contact: sandra.lawler@lanarkshire.scot.nhs.uk

A specialist pharmacy team as part of a falls prevention programme

A Specialist Pharmacy team was set up as part of NHS Greater Glasgow and Clyde's Community Falls Prevention Programme (CFPP). Patients referred into the Falls Prevention Programme are offered a pharmacy medication review if they are taking four or more medicines. A central administrator co-ordinates appointments with GP practices and patients, and links with CHCPs, community pharmacists, falls clinics, and the CFPP. The specialist pharmacist visits the patient's GP and gathers all relevant drug and medical histories. A medication review is then carried out in the patient's own home.

This concentrates primarily on stopping/reducing 'falls risk' drugs and checking osteoporosis risk factors, referring for a DXA scan and/or initiating therapy (via GP) where appropriate. Recommendations from the review are then sent to the patient's GP for agreement. The patient is then usually informed of any changes by letter. Their community pharmacy is copied in and asked to follow up changes that have been made to ensure they are actioned and answer any questions the patient may have. The specialist pharmacists also attend the multi-disciplinary team meeting at the Falls Clinics enabling individual patients to be discussed with the falls consultant.

Contact: douglasmalcolmson@nhs.net

Screening for visual problems as part of falls prevention programme

In 2004, as part of the training programme for nursing staff working within specialist falls clinics in Perth and Kinross CHP, the local hospital's head orthoptist trained the nurses to undertake Snellen Visual Acuity eye testing. This training included education on common ophthalmic conditions in the elderly, the use of 6 metre and 3 metre distance Snellen test charts and near visual acuity reading. Also provided was advice on when and how to refer on for more specialist assessments. The nurses in all five falls clinics across Perth and Kinross now provide this screening as part of their falls assessment.

Contact: jennifer.stewart@nhs.net

Assessment of foot and footwear problems as part of a falls prevention programme

In January 2008, NHS Fife podiatry department devised a multifactorial information node for use in assessment of older peoples' falls. The information node is accessed and used in two ways. Firstly, it has been incorporated within a training package in care homes, aimed at carers who provide basic foot care. In addition, it is used as part of the Fife falls and bone health check list and care plan which provides a toolkit; the node is incorporated within the toolkit. This will be used by Allied Health Professionals and other health professionals within care homes, hospital wards and community settings, including the Fife Falls Response Team.

The aim of this node is to enable other health professionals to make informed decisions and appropriate referral to podiatry where necessary, following a falls risk assessment. Implementation of the node ensures the podiatry service contributes appropriately to falls management. There is evidence to suggest that the podiatry service can play an important role in the prevention of falls: Menz et al (2006) concluded that people with foot and/or ankle pathologies were more at risk of falling compared to those who had minor or no foot complaints.

Contact: dduncan@nhs.net (Debbie Duncan)

Falls prevention advice and information for older people, carers and the public

NHS Borders Falls and Bone Health Project Team felt that raising public awareness of falls prevention was an important issue, hence the decision to produce an information booklet, Taking care of yourself....Falls Prevention Advice. The booklet was produced by professionals across NHS Borders, in consultation with colleagues at Scottish Borders Council. There was public involvement via the stakeholder group and patients in a local Day Hospital. The booklet is at present being widely distributed across the region.

The booklet will be used as part of the educational element of Day Hospital programmes and, along with a basic training DVD, will be used by home care managers to raise awareness amongst their staff, who will then in turn distribute the booklet to their clients.

To date there has been a positive response from both professionals and more importantly the public. Comments include:

- *'Good commonsense approach, with lots of information, it made me think about all the things I should do!'*
- *'Easy to read, I like the cartoons'*
- *'Lots of things I hadn't thought of...very good'*

Contact: elaine.auld@borders.scot.nhs.uk

A physiotherapy and exercise service for osteoporosis

Since 2001, the NHS Greater Glasgow and Clyde (GGC) Physiotherapy Service for Osteoporosis has provided specialist input to individuals diagnosed with osteoporosis or osteopenia. This service aims to improve bone health through appropriate exercise and education, and also improve posture, pain control, balance, and general health and wellbeing. The service closely links with diagnostic and clinical osteoporosis services, and is offered to all individuals who will benefit from the advice and intervention of a Physiotherapist.

Patients are offered specialist assessment and individualised treatment according to published evidence and guidelines, which take place at their local Physiotherapy department. One treatment option is the 12-week Physiotherapy-led exercise and education class, held at a range of hospital and community venues across NHS GGC. Patients are introduced to safe, suitable and effective exercise for improving bone health and general health, and education to enable self management.

At the end of the programme, patients are provided with information about ongoing exercise options, including home exercises and a range of community exercise classes run in partnership between NHS GGC and Culture & Sport Glasgow. The service also has close links with the NHS GGC Community Falls Prevention Programme.

Contact: craig.ross@nhs.net.

The Otago Exercise Programme as part of a falls prevention programme

As part of a goal-orientated multifactorial falls programme, a number of physiotherapists in NHS Forth Valley are providing older people who have fallen with the opportunity to undertake the Otago Exercise Programme (OEP). This evidence-based exercise programme is designed to prevent falls and improve balance, strength and confidence. The OEP, developed in New Zealand for community-dwelling frail older people, has been shown to reduce falls by 30–46% in four published randomised controlled trials.

The older person commences the programme of simple exercises with the support of the physiotherapy team, and is then encouraged to continue the exercises at home, three times a week for maximum benefit. Physiotherapy support workers have also qualified as OEP Leaders. Physiotherapy intervention may also include practising daily activities, such as going up and down stairs and walking outside, depending on individual need.

The physiotherapy team is currently evaluating the effect of the programme on Day Hospital participants using a range of outcome measures. In partnership with Falkirk Council's Mobile Emergency Care Service, the OEP will also be offered to Housing with Care clients. The programme will be delivered by the Service's own personnel, following training provided by physiotherapists.

Contact: jmfn@fvah.scot.nhs.uk (Jean Nelson)

Occupational therapy as part of a falls prevention programme

Occupational therapists in Central Aberdeenshire are involved in falls prevention and management in a number of settings.

Occupational therapy (OT) assessment and intervention is provided as part of a 14-week multifactorial falls programme offered at a number of NHS and community venues in the area. A comprehensive OT assessment, which includes the use of the standardised tools to identify environmental issues and assess cognition and perception, ascertains the individual's needs. Tailored interventions to improve strength, stamina and confidence, and to provide advice on lifestyle management and energy conservation, are offered. Consideration is given to any equipment needs for function and safety.

Occupational therapists in the community also carry out initial falls risk assessments. They are ideally placed to identify falls risk owing to their involvement in all functional activities that impact on an individual's safety and risk factors.

For patients admitted to hospital following a fall, the process starts with an initial assessment by the ward occupational therapist and is continued following discharge until goals have been achieved.

All occupational therapy staff have access to a local resource, which provides information on the care pathway for the prevention and management of falls, and has been developed based on good practice and guidelines from the College of Occupational Therapy, NICE and NHS Grampian.

Contact: shona.strachan@nhs.net

A Falls Clinic as part of a falls prevention programme

The falls clinic at the Southern General Hospital, Glasgow was developed in 2003 and is run in the Day Hospital weekly. It is led by two geriatricians with a specialist interest in falls, in conjunction with nursing staff and physiotherapists. Occupational therapy assessments required are completed by NHS Greater Glasgow and Clyde's Community Falls Prevention Programme (CFPP). Referrals to the clinic are from the CFPP, with certain criteria triggering a specialist approach at the falls clinic. Referrals are triaged depending on falls history, ie those with suspected loss of consciousness are seen within 2 weeks and those with multiple falls are given a priority slot. Links with the Fracture Liaison Service, A&E, GPs and hospital colleagues have been developed.

Clinic patients have a multidisciplinary assessment (physiotherapy, nursing and medical) looking at all falls risk factors. The index causes for a patient's falls are identified. An individual, detailed and specific action plan is tailored for each patient. This is then written down and given to the patient. Patients have onward referral depending on the risk factors identified (ie exercise programme, ophthalmology, orthotics, another medical speciality). Patients with multiple or unexplained falls are followed up. A patient evaluation of the service was very positive. Similar clinics are run at a number of hospitals in Greater Glasgow, and uniform documentation is being developed.

Contact: Lara.Mitchell@ggc.scot.nhs.uk

General

A multidisciplinary, multi-agency falls training package

NHS Lanarkshire's Falls and Fracture Community is delivering a Falls Training Package to support workers from the health, local authority and voluntary sectors which provides assistance to older people in a range of settings including hospital, care homes, sheltered housing and in the older person's home.

The aims of the training are:

- To raise awareness of the many factors which contribute to falls in older people
- To identify measures which can be taken to modify falls risk
- To introduce the local Falls Assessment Tool and its practical application in assessing falls risk in older people
- To raise awareness of bone health

This promotes an equitable approach to the management of people who fall, assists with early identification and management of fallers, and provides an improved patient journey. The content of the education package includes information on the causes and consequences of falls, prevention strategies and details of referral and management pathways.

Contact: Lianne.McInally@lanarkshire.scot.nhs.uk

Falls prevention training in care homes

The care home liaison service in NHS Lanarkshire has been working since 2001 to provide education and support to all the care homes for older adults within Lanarkshire (around 86 homes). Preventing falls, with the subsequent attendance at local A&E departments, quickly emerged as a significant area of work, and all care homes were invited to participate in a programme of work around falls prevention. Interventions have included falls audits, walking aid maintenance and education for all staff following review of available evidence.

A resource folder has been compiled and issued to all homes, which includes assessment tools and information on osteoporosis and hip protectors. Advice leaflets have also been produced for residents and visitors. Education sessions include how to risk assess residents and environmental 'hot spots', with appropriate intervention.

Following these activities, audit identified that attendances at hospital due to falls or fracture had leveled off, despite an increase in the number of residents and a corresponding increase in number of attendances at A&E for other causes. Study days continue annually with small sessions delivered on a 'needs' basis in individual homes.

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A training programme for all CHCP staff

East Renfrewshire CHCP provides an integrated health and care service delivery model with a single management structure. The CHCP has developed a falls education programme which is delivered locally within the CHCP across health and social care services. The training was devised in partnership with health and social work professionals and service users. The training is delivered by the Falls Lead, the Social Work Falls Link, a physiotherapist, an occupational therapist and a community nurse. A holistic approach to falls management and prevention is used, with the key message being that falls are everyone's responsibility.

The training has addressed staff awareness of falls, what a fall is, the health and social impact of a fall, the recording within the shared assessment and appropriate onward referral. Phase one was completed with all assessment staff trained between August 2008 and November 2008. Over one hundred staff have participated in the training. As a result of the training there has been a recorded increase in falls referrals to the NHS Greater Glasgow and Clyde (GGC) Home Falls Prevention Programme and to the two Older People's Teams in East Renfrewshire for specialist assessment and rehabilitation.

Phase 1 Falls training for all assessment staff within the CHCP

Phase 2 Falls training for staff at four local care homes within Levern Valley who are not currently covered by the NHS GGC Care Home Services

Phase 3 Falls training for other staff within CHCP departments and teams such as the Housing Department, Learning Disability Team, Home Carers, Home Care Organisers and day centres. There is an identified list of these staff

Phase 4 Falls training for other agencies working in collaboration with the CHCP, such as voluntary agencies and local groups

Contact: Josephine.wight@Eastrenfrewshire.gov.uk

Appendix 3: Key messages from older people and their carers

Introduction

Older people and their carers' experiences of falls and falls prevention services, and their views on the content of Up and About, were sought in a series of group discussions held in three NHS board areas of Scotland throughout October 2008. In total, 31 service users and six carers with recent experience of falls and osteoporosis services attended these events.

From the discussions, key messages have been identified and outlined below to inform the planning, delivery and development of person-centred services.

Key messages

1. *Falls are under-reported.*

- Nearly all participants described experiencing several falls (seven or eight in some cases) which they did *not* report, prior to having a fall resulting in an injury requiring treatment by a healthcare professional.
- Nearly all participants described informing a healthcare professional of the fall/s *only* if a significant injury was sustained.
- Reasons stated for not reporting falls included (in order of frequency):
 - Concern that it would waste the time of the GP or A&E Department

'too many people go to casualty when they shouldn't'

'it was just a trip'

'.. well, if you don't break anything...'

- A fall alone was not perceived as sufficiently significant to see a GP
- Long waits to see a GP, and specifically to see the individual's own GP who was aware of the older person's medical history
- Perceived long waits in A&E Departments
- GP was perceived as 'too busy'
- Did not know whom to contact about the fall
- Nearly all participants agreed with the action outlined in Up and About: 'older people are asked routinely (at least once a year) whether they have fallen, and are observed for gait and balance problems'

'...I had fallen seven times, but the nurse only found out when she asked me, while she was taking my blood pressure, if I had fallen...just because you don't ask, doesn't mean you don't need help'

2. *Older people are often unaware that services to prevent falls are available and some think their GP is also unaware of these services.*

- Participants felt it would be useful to have information about falls prevention services at venues they frequently visited, such as GP practices, the library and the church.

3. *Discussing multidisciplinary assessment findings with the older person, and how these relate to the treatment plan proposed, is highly valued, useful and encourages participation in programmes.*

- In the majority of cases, participants believed they had received thorough assessments, often delivered by a number of disciplines. However, assessment findings were not routinely shared, explained or discussed with the individual and/or carers and the cause/s of the fall/s not clarified. Participants felt this information was important and would encourage older people to participate in programmes.

4. *Interventions provided to prevent falls and injury from a fall are generally valued and perceived as useful.*

- Interventions described by participants reflected interventions recommended in relevant published guidelines.
- A number of participants felt a medication review reduced the anxiety often experienced around taking a number of medications.
- Telecare services, in particular Community Alarm, were highly valued by the participants who received them.

- Several participants described an initial reluctance to participate in exercise programmes, which they reported was often due to preconceived ideas about exercise. However, they felt this could be overcome by a clear explanation of the need for exercise, opportunities to discuss concerns, 'customisation' of exercise for the individual, and an opportunity to attend a session/sessions as a 'taster'.
- The exercise preferences of the participants reflected the need for a range of available, ongoing exercise options following discharge from the service. Preferences included home programmes (using DVDs and booklets), exercise classes and other types of activities such as Tai Chi.
- Many participants highly valued the social interaction experienced in exercise classes, educational programmes and other group activities, describing the experience as motivating and mentally stimulating.
- Practising getting on and off the floor was reported to be a valuable part of rehabilitation by some, but a number of participants reported feeling very anxious during this activity.
- A home hazard assessment by an occupational therapist was highly valued and suggestions for home modifications appreciated. However, participants emphasised the importance of ultimately making their own decisions about changes to their home environment.
- The need for reliable transport to treatment sessions/exercise classes was highlighted by a number of participants.

5. Where an educational component of a falls prevention programme is provided, it is valued and useful. Individual preference for the method of delivery varies.

- Participants' comments highlighted a range of preferences in relation to method of delivery of education:
 - Information provided only verbally was not seen as sufficient
'you miss things if people are just telling you'
 - Whilst most found written materials useful, a number felt the materials were less useful if provided in isolation from the opportunity for discussion with a health professional and, in some cases, with other older people
 - A number of participants used the written materials provided to discuss falls prevention with carers and relatives once back at home, and
 - Group discussion with peers was highly rated and participants described learning a great deal from other older people they met on the programme.

6. Involving family and carers in falls prevention is highly valued and key to preventing falls.

- A number of participants reported that family members and carers play an important role in falls prevention both during and after attending a falls prevention programme. However, few family members and carers were actively engaged by practitioners in either planning or delivering interventions, including the education component.

7. Psychological consequences of falling are very common, wide ranging and can be helped.

- There was unanimous agreement that a fall can be a life-changing experience resulting in loss of confidence, fear, anxiety, embarrassment, depression and reduction in activity, socialisation and quality of life:
 - 'I was never the same after the fall'*
 - 'I suddenly became an old person'*
 - 'I don't really feel the same person'*
 - 'I was thoroughly demoralised'*
- Participants felt it was very important for health and social care professionals to appreciate potential psychological consequences.
- Uneven pavements, kerbs, bathing and practising getting on and off the floor were reported as causing much anxiety.
- Participants identified the following factors which could help reduce these problems:
 - Being treated with dignity
 - Being listened to
 - Having someone whom they could trust to speak to about falling
 - Re-assurance and encouragement from health professionals
 - Positive messages about what can be done to prevent falls and enable 'return to fitness'
 - Participating in exercise programmes
 - Participating in education programmes
 - Installation of hand rails at home, and
 - Being helped to understand the cause/s of a fall/s.

‘...we know things in the health service don’t always go as planned, but what is most important is that you are treated as a person – you know, with understanding and kindness, and with dignity and respect...’

Discussion group participant, NHS Forth Valley, October 2008

This consultation was organised, delivered and funded as part of the Practice Development Unit, NHS QIS, two-year Falls Programme, and in partnership with NHS Forth Valley, NHS Greater Glasgow and Clyde and NHS Ayrshire & Arran.

Further reading

Information on older people’s experience of falls and bone health services in England, including recommendations for practice can be found in the Royal College of Physicians report, [‘Older People’s Experiences of Falls and Bone Health Services \(England\)’](#)

‘Gaun Yersel’ - The Self Management Strategy for Long Term Conditions in Scotland. This can be found at http://www.ltcas.org.uk/fileadmin/ltcas/PDFs/LTCAS_gaun_yersel_.pdf

Appendix 4: Guidance on services for falls and fracture prevention in older people³

Provided by the British Geriatrics Society Falls and Bone Health Special Interest Group

The Falls and Bone Health Special Interest Group identified the following nine key aspects of a comprehensive falls service:

1. Primary care assessment – routine enquiry about falls whenever older people have contact with the primary care team or social services (as part of single assessment process). Agree initial primary care assessment and local secondary care referral criteria.
2. Referral pathway from the community for outpatient multidisciplinary assessment and treatment of community dwelling fallers, including strength and balance training by a physiotherapist. A home visit by an experienced occupational therapist to raise awareness of safety issues may be appropriate for selected patients.
3. Referral pathway from A&E for the multidisciplinary assessment of older people presenting to A&E with a fall including access to specialist medical review and access to detailed cardiovascular investigation for patients with non-accidental falls. A home visit by an experienced occupational therapist to raise awareness of safety issues may be appropriate for selected patients.
4. Referral pathway from community to physiotherapist-led (or nurse-led following training by a physiotherapist) home exercise programme for community dwelling, cognitively intact people aged 80 years or over.
5. Referral pathway from secondary care to a syncope/cardiovascular investigation/unexplained falls assessment service.
6. Use of calcium and Vitamin D supplements in ambulatory female nursing/residential home population.
7. Risk factors for falls and osteoporosis to be considered and addressed in a combined approach to prevention, particularly in those who have already sustained a low trauma fracture.
8. Hip protectors are recommended for those at high risk of hip fracture, particularly older people in care, although problems with compliance should be recognised*.
9. Appoint a local falls co-ordinator (eg a clinical nurse specialist) who will have management responsibility (important that he/she is within the PCT hierarchy) to liaise with primary and secondary care, social services, housing, ambulance, voluntary sector, etc to develop a co-ordinated approach to falls services, health promotion and audit.

* Since publication of the above guidance, in 2003, a Cochrane review²⁶ concluded in 2005 that there was no evidence for reduction in hip fracture incidence from the provision of hip protectors in community-dwelling older people but that hip protectors may help reduce the risk of hip fractures in nursing or residential care.

Appendix 5: Links to resources to support health promotion and health improvement

Stage 1 Resources

Alcohol

“Alcohol and Older People” Produced by Alcohol Focus Scotland
<http://www.alcohol-focus-scotland.org.uk/pdfs/Alcohol%20&%20Older%20People.pdf>

Dementia/memory

“Coping with dementia: A practical handbook for carers” Produced by NHS Health Scotland and Scottish Government
[Coping with dementia](http://www.healthscotland.com/uploads/documents/9310-CopingWithDementia2009.pdf) – link to site
<http://www.healthscotland.com/uploads/documents/9310-CopingWithDementia2009.pdf> - link to actual document

Food and Health

“The Good Life” Produced by the Food Standards Agency
[Good Life - Nutritional advice for both men and women over 50](http://www.food.gov.uk/multimedia/pdfs/publication/eatwellplate0907.pdf)

“The eatwell plate” Produced by the Food Standards Agency
<http://www.food.gov.uk/multimedia/pdfs/publication/eatwellplate0907.pdf>

Mental Health and Wellbeing

“Talking about Anxiety Disorders” Produced by NHS Health Scotland
[Anxiety](http://www.healthscotland.com/uploads/documents/9233-TalkingAboutAnxietyDisorders.pdf) – link to site
<http://www.healthscotland.com/uploads/documents/9233-TalkingAboutAnxietyDisorders.pdf> - link to actual document

“Talking about Bereavement” Produced by NHS Health Scotland
[Bereavement](http://www.healthscotland.com/uploads/documents/9227-TalkingAboutBereavement.pdf) – link to site
<http://www.healthscotland.com/uploads/documents/9227-TalkingAboutBereavement.pdf> - link to actual document

“Talking about Depression” Produced by NHS Health Scotland
[Depression](http://www.healthscotland.com/uploads/documents/9228-TalkingAboutDepression.pdf) – link to site
<http://www.healthscotland.com/uploads/documents/9228-TalkingAboutDepression.pdf> - link to actual document

“Talking about Panic Attacks” Produced by NHS Health Scotland
[Panic attacks](http://www.healthscotland.com/uploads/documents/5325-Talking%20About%20Panic%20Attacks.pdf) – link to site
<http://www.healthscotland.com/uploads/documents/5325-Talking%20About%20Panic%20Attacks.pdf> - link to actual document

Falls Prevention and Osteoporosis

“Taking positive steps to avoid trips and falls” Produced by NHS Health Scotland

[Taking positive steps](#) – link to site

[http://www.healthscotland.com/uploads/documents/9366-](http://www.healthscotland.com/uploads/documents/9366-TakingPositiveSteps2009.pdf)

[TakingPositiveSteps2009.pdf](http://www.healthscotland.com/uploads/documents/9366-TakingPositiveSteps2009.pdf) - link to actual document

“All about osteoporosis” Produced by the National Osteoporosis Society

[All about Osteoporosis](#)

Physical Activity

“Getting Fitter is Easier than You Think” Produced by NHS Health Scotland and the Scottish Executive

[Getting fitter is easier than you think](#) – link to site

<http://www.healthscotland.com/uploads/documents/GettingFitter.pdf> - link to actual document

Supporting older people in their own homes

“Good ideas. A practical handbook for supporting older people in their own homes” Produced by the Royal Bank of Scotland Centre for the Older Person’s Agenda, NHS Health Scotland and the City of Edinburgh Council

<http://www.qmu.ac.uk/copa/research/documents/Good%20Ideas%20Booklet/GOOD%20IDEAS%20BOOKLET.pdf>

Tobacco

“How to stop smoking and stay stopped” Produced by NHS Health Scotland and the Scottish Government

<http://www.healthscotland.com/documents/312.aspx> – link to site

[http://www.healthscotland.com/uploads/documents/8684-](http://www.healthscotland.com/uploads/documents/8684-HowToStopSmokingAndStayStopped2008.pdf)

[HowToStopSmokingAndStayStopped2008.pdf](http://www.healthscotland.com/uploads/documents/8684-HowToStopSmokingAndStayStopped2008.pdf) - link to actual document

Appendix 6: Timed Up and Go Test

Originally described as the 'Get up and Go test', Podsiadlo *et al*²⁰ described a modification, altering the scoring from a rated system (which might be compromised by subjectivity) to a timed test.

The Timed Up and Go Test (TUGT) is frequently cited, can be used in any setting and requires no special equipment. Judgement is required to assess performance.

Description:

The assessor observes and times the individual rising from sitting in a chair with armrests, walking 3 metres, turning 180°, walking back to the chair and sitting down.

The assessor observes the individual's ability to rise from the chair, presence of balance deficits when walking and turning, and need for assistance to complete the task.

If the individual can rise only by pushing through their arms, or is unsteady or requires assistance to complete this task, the person may require further assessment. A time of 10–14(+) seconds to complete the test has been shown to indicate a high risk of falls (the cut-off points vary between studies).

If no difficulty or unsteadiness is identified, the individual may be at lower risk of falls and need no further assessment.

This test is validated for community-dwelling older people.

Appendix 7: Referral criteria for a Direct Access DXA Service

Example provided by NHS Greater Glasgow & Clyde's Direct Access DXA Service (DADS)

- Men and women over 50 with a fracture at any site (not attributable to RTA or a skull fracture nor a fall from above head height)
- Steroids > 5mg of prednisolone or equivalent per day for more than three months
- Age > 60 years plus menopause less than 45 years
- Age > 60 years plus acquired kyphosis
- Age > 60 years plus significant self-reported height loss
- Age > 60 years plus family history of a first-degree relative with fracture
- Age > 60 years plus family history of a first-degree relative with kyphosis
- Age > 60 years plus family history of a first-degree relative with DXA confirmed osteoporosis
- Depo-Provera for > 5 years (*if DXA result will influence use of the drug*)
- Monitoring as recommended by DADS or Bone Mineral Metabolism Clinic or Fracture Liaison Nurse Service (usually five years from previous scan)

Glossary

active ageing

Where opportunities for health, participation and security are maximised, and taken up, in order to enhance quality of life as people age. It is a lifelong process that depends on the interplay of a variety of influences and recognises that older people are individuals whose diversity increases with age.

AGS

American Geriatrics Society

anticipatory care

Preventive care services delivered in geographic communities of greatest need.

BGS

British Geriatrics Society

BMD

Bone mineral density

case management

A joint process of assessment, planning and advocacy for options and services to meet an individual's needs. Quality cost-effective outcomes can then be aimed at through effective communication and use of available resources.

CH(C)P

Community Health (and Care) Partnership

cognitive impairment

A reduced ability to know, think, learn or make decisions.

community

A population in a geographic area, or the world beyond the health service setting.

DOAS

Do Once and Share. The DOAS Pathway for individuals who have fallen was one of approximately 43 DOAS pathways, covering a number of common conditions/topics, which were developed across England and Wales as part of the NHS Connecting for Health Programme. The final pathway was published in 2006 following extensive consultation.

dual energy X-ray absorptiometry (DXA)

A method for measuring bone mineral content (BMC) based on the use of two X-ray beams at different energy level with a specially designed scanner.

FLS

Fracture Liaison Service

fracture risk

The assessed risk of suffering a future fracture. Assessments may involve a combination of scans, X-rays, and risk questionnaires.

fragility fracture

A fracture occurring after a fall from standing height or less.

FRAT

Falls Risk Assessment Tool

inreach

Where community rehabilitation teams deliver services within acute (hospital) settings.

long term conditions

Health problems that require ongoing management over a period of years or decades. This includes a wide range of health conditions including non-communicable diseases (eg cancer and cardiovascular disease), communicable diseases (eg HIV/AIDS), certain mental disorder (eg schizophrenia, depression), and ongoing impairments in structure (eg blindness, joint disorders).

morphometric vertebral fracture

A fracture identified by a change in shape of a vertebra rather than from pain or other symptoms.

NHS Quality Improvement Scotland (NHS QIS)

NHS QIS was established in 2003 and leads the use of knowledge to promote improvement in the quality of healthcare for the people of Scotland. It performs three key functions:

providing advice and guidance on effective clinical practice, including setting standards; driving and supporting implementation of improvements in quality; and assessing the performance of the NHS, reporting and publishing the findings. In addition, NHS QIS also has central responsibility for patient safety and clinical governance across NHS Scotland. Website address: www.nhshealthquality.org.

NICE

National Institute for Health and Clinical Excellence

NOGG

National Osteoporosis Guideline Group

outreach

Where acute rehabilitation teams deliver services within the community.

process mapping

Identifying all the steps and decisions in a process to show people what their jobs are, and how they should interact with one another as part of that process.

self care

The actions people take for themselves, their children and their families to stay fit and maintain good physical and mental health. It includes meeting social and psychological needs, preventing illness or accidents, caring for minor ailments and long term conditions, and maintaining health and wellbeing after an acute illness or discharge from hospital.

self management

The ability to manage one's life with one or more long term conditions. It is the outcome of the person working together with all relevant individuals and services in support to achieve this goal.

single point of access

A 'one-stop' shop facility allowing users fast track access to a wide range of community services provided in the home setting. The aim of this service is to provide a single point of contact for patients, carers and professionals for advice, information and access to services - ensuring that the right people treat patients in the right place at the right time.

Single Shared Assessment (SSA)

SSA is a Joint Future initiative that promotes joint working and whole systems approaches in community care. The SSA aims to speed up delivery of services, sharing of information and avoid duplication of assessments. This is particularly useful for older people and those who require multiple services.

SPARRA

Scottish Patients At Risk of Re-admission and Admission

telecare

The remote or enhanced delivery of health and social services to people in their own home by means of telecommunications and computerised systems. Telecare usually refers to equipment and detectors that provide

continuous, automatic and remote monitoring of care needs emergencies and lifestyle changes, using information and communication technology (ICT) to trigger human responses, or shut down equipment to prevent hazards.

telehealth

The ability to deliver a service in a remote area via telecommunications technologies. See for example the Scottish Centre for Telehealth website: www.sct.scot.nhs.uk

transition of care

Where the individual moves between parts of health and social care, requiring continuity of care.

vertebroplasty

A procedure where bone cement is injected into a fractured vertebral body in order to stabilise the fracture and reduce pain.

WHO

World Health Organisation

whole system approach

Going beyond a collection of organisations which need to work together, to focus on a mixture of different people, professions, services, and buildings which have patients and service users as their unifying concern. The objective is to deliver a range of services in a variety of settings, providing the right care, in the right place at the right time.

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