

NHS LANARKSHIRE

**FALLS PREVENTION AND BONE HEALTH
STRATEGY (2008)**



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Section 1: EXECUTIVE SUMMARY

Falls represent a major national public health issue and are the leading cause of elderly mortality and the largest cause of elderly injury and hospital admission in the UK and Europe. 30% of the population over 65 and 50% of those over 80 fall each year. In Lanarkshire this equates to 33,835 falls per annum. GROS (2006)¹. There is reliable evidence that a quarter to one third of these falls could be prevented, with lives saved, suffering avoided and costs reduced.

Each NHS Board has been asked to develop a combined falls and bone protection strategy which will allow CHPs to develop operational implementation strategies. Currently our resources are tied up in treating fractures as a result of fall. The Lanarkshire strategy provides a systematic, long term and integrated approach to falls risk management and bone health, but requires a shift in this resource to provide the prevention elements required.

As part of the Rehabilitation Framework, the Lanarkshire Falls Prevention and Bone Health Group have engaged stakeholders in profiling current service provision and identifying clinical priorities for patient who fall and patients who have osteoporosis. It has been confirmed that falls and bone health services are notably under developed, with inconsistency and inequity of service delivery across Lanarkshire.

The strategy proposes redesign and enhancement of community rehabilitation services including current Early Supported Discharge (ESD), rehabilitation, falls clinics and bone health services to support a new Falls Prevention and Bone Health Model. The proposals reflect the ethos of the future model for rehabilitation described in the Rehabilitation Framework (2007)² and take cognisance of parallel recommendations from Better Care, Better Health (2007)³, the National Institute for Clinical Excellence (2004)⁴ and the Urgent Care Pathways for Older People with Complex Needs (2007)⁵.

Key components of the delivery model are provided in the diagram below, with a detailed model, in context of wider rehabilitation services, provided on Page 45.

FALLS AND BONE PROTECTION PATHWAY			
Self Management Population Approaches	Identification of those at risk Level 1,2 ,3	Rehabilitation -Tiered exercise programme -Community rehabilitation	Specialist Falls and Osteoporosis Clinics

The strategy focus is on the following crucial areas:

- Population approaches
- Individuals at risk of falling at home
- Individuals at risk of falling in care home
- Individuals at risk of falling in hospital
- Individuals affected psychologically by falling

The economic impact of falls in Lanarkshire is considerable, with 3150 patients aged 60 and over presenting to A&E with fracture annually and 2610 patients aged 75 + presenting with minor injuries (laceration, head injury, soft tissue injury) per year as a direct result of a fall. (Analysis of A &E Falls, Wyllie 2007)⁶.

Of the fractures, 724 patients in Lanarkshire suffered a fractured neck of femur at a cost of £8.8M to acute services and over £9M in social care and prescribing costs in 2007. In addition this patient group alone utilised 16,652 orthopaedic bed days. There is significant robust evidence

that implementation of the strategy proposals will reduce falls between 6-30%. Supporting patients to self manage, stay at home or access specialist support, the strategy when delivered, has the potential to have significant impact on unscheduled care, 18 week targets, care home pressures and overall economic burden of falls, as well as extending years of quality life among older persons.

Costs

Recurring	£ 905,124
Non recurring Set Up	£ 149,200
Notional Projected Saving	15% reduction in falls
Opportunity Costs and Efficiency Savings across Acute and Social services	£2, 663,000
	30% reduction in falls
	£ 5,339,000

This investment will support the shift in care from unplanned fracture, to anticipatory prevention, taking a whole system approach to the management of falls and bone protection. Specifically this will provide funding for:

- Falls Coordinator for each CHP to develop an implementation action plan and co-ordinate strategy delivery (HDL requirement)
- Administration hub that will facilitate development of a falls database to inform service work and direction
- Additional 414 NP and 414 RP slots for specialist medical assessment
- Tiered exercise classes at three levels in every locality for an additional 2400 patients per annum, with community rehabilitation in peoples homes for the most frail
- Additional capacity for health support to care homes, for fracture prevention in this setting
- Hip protectors for 1500 care home patients
- Bone health- additional scanner, as well as scanning, medical consultancy and nursing time to support an additional 4200 scans and 2000 appointments per annum
- Clinical psychology support
- Training, education and health promotion, as well as robust service evaluation activity.

To deliver the savings described above and provide the prevention required, the service profile described in detail in the strategy document, requires support. As well as being dependent on financial support, the success of the strategy depends on commitment to whole system redesign (and the challenge to shift resource) as well as effective integrated working between acute and primary care, local authorities and the independent and voluntary organisations.

Section 2: INTRODUCTION

2.1 BACKGROUND

Falls are a major health problem and falls and fracture (in particular osteoporotic fracture) are intimately linked. In recognition of this (as part of The Delivery Framework for Adult Rehabilitation in Scotland February 2007)², Boards were tasked to deliver on clear recommendations with regard to Falls Prevention and Bone Health.

The National Falls Working Group outlined the future direction for falls and bone health services through HDL (2007)⁷ and identified the following key aspects to be developed:

- NHS Boards need to have a combined Falls Prevention and Bone Health Strategy under which CHP's can develop operational implementation strategies.
- CHP's need to appoint a Falls Prevention Lead or Co-ordinator, to work alongside the Rehabilitation Co-ordinator (which each health board requires to appoint as part of the Delivery Framework for Adult Rehabilitation).
- CHP's need to develop an operational combined Falls Prevention and Bone Health Implementation Strategy, working within the NHS Board Strategy and any wider Community Planning Strategy.

2.2 THE LANARKSHIRE POSITION

Falls services are delivered by a wide variety of providers within Lanarkshire (agencies, services and professions) who are funded, managed and held accountable through different means. Currently there are pockets of excellent services for patients at risk from falling or following a fall. Unfortunately these services are historically underdeveloped and fragmented and have developed opportunistically in the absence of a cohesive strategy and supporting financial plan, which has undoubtedly hindered progress in this area. This complexity both in terms of service model and in delivery systems contributes to lack of clarity and effectiveness for both service providers and users.

A Lanarkshire Falls and Fracture Community was developed several years ago and have promoted evidence based practice in relation to falls and osteoporosis. Work to date has concentrated on three main themes: education, awareness and exercise. These well developed and successful interagency arrangements have provided the foundation for the preparation of this document.

2.3 DEVELOPING THE STRATEGY

The strategy has been developed through the Lanarkshire Falls and Bone Protection Sub-Group of the Rehabilitation Framework Steering Group. This inclusive group contains representatives of Care of the Elderly and A&E medicine, osteoporosis services, allied health professionals, acute and primary care nursing, public health, planning and local authority social services.

This strategy builds on the Falls Prevention and Amelioration in the Older Adult in Lanarkshire (April 2005)⁴⁵ document which was commissioned by the Area Nursing and Midwifery Committee (ANMAC). Several recommendations made by the Committee at that time are echoed within the strategy document.

The Steering Group sought to harness the personal and professional experience and expertise of those involved and the strategy reflects the available contemporary evidence around falls and bone health.

The Lanarkshire Strategy aims to: ***“reduce the number of falls which result in injury and ensure effective assessment, treatment and rehabilitation for those who have fallen”***.

This will be done through the development of an agreed whole system service model which covers all aspects of:

- Falls Prevention (including prevention and treatment of osteoporosis)
- Improved identification diagnosis and intervention
- Coordinated rehabilitation and long term maintenance
- Service Evaluation

And will focus on the following target areas:

- Population Approaches
- Individuals at risk of falling at home
- Individuals at risk of falling in care homes
- Individuals at risk of falling in hospital
- Individuals affected psychologically by falling

With a detailed structure to include:

- Supporting health improvement and self management (identifying those at high risk of falls and fracture)
- Screening
- Single point of access to assessment and Intervention
- Rehabilitation and Maintenance Teams (Community)
- Specialist Provision (Acute)

The strategy presents demographics, the contemporary evidence base, and describes current staffing and services. The future service model and associated planning and development issues are discussed with accompanying financial framework.

Section 3: FALLS AND BONE PROTECTION - THE LANARKSHIRE PERSPECTIVE

3.1 INFORMATION SOURCES

The Falls and Bone Protection Steering Group commissioned a piece of work to map services contributing to falls and bone protection in Lanarkshire and to provide an updated review of the evidence base. This engagement with stakeholders has assisted in the development of a current service profile and identification of clinical priorities. In addition, members of the Falls Clinical Community, members of the Falls and Bone Protection Steering Group and other stakeholders have contributed to each section of the strategy associated with their area of expertise. A list of individuals and services contributing to the profiling information and strategy has been included as Appendix 1.

3.2 LANARKSHIRE DEMOGRAPHICS AND FALLS

The annual risk of having a fracture can be predicted for population cohorts of the same age in Scotland. A third to one half of people over the age of 65 living in the community fall each year, many fall more than once, and the risk of falling increases with age. In addition to those being at risk of falling, it is estimated that one in two women and one in five men over the age of 50 have osteoporosis, and therefore have an increased risk of fracture. (National Osteoporosis Society Leaflet 2008)⁸. The studies predicting falls from population cohorts are sound (30% of the population over 65 and 50% over 80 fall each year). Based on this evidence and using current population figures for 2007, this equates to 33 835 falls per annum in Lanarkshire. Many falls do not require medical treatment and these falls are often the first sign of physical frailty and the potential future fracture. (Population Projection Lanarkshire – source GROS 2006)¹. Often health and social services only become aware of these falls if there is significant injury or change in the person's function.

Using available census data, population predictions, and current incidence rate for sex and age band cohorts, we can estimate that there will be more falls and 80% more hip fractures by 2030. This figure will increase if the population lives longer and falls and osteoporosis risk factors increase but will obviously decrease if life expectancy reduces or we dramatically improve our management of osteoporosis and falls. Figure 1 shows 65-79 years and over 80 population projections for Lanarkshire to 2031. Figure 2 shows projections to 2031 by CHP.

Figure 1

Percentage increase in N&S CHP populations, 2007-2031, 65-79 years and 80 years and over

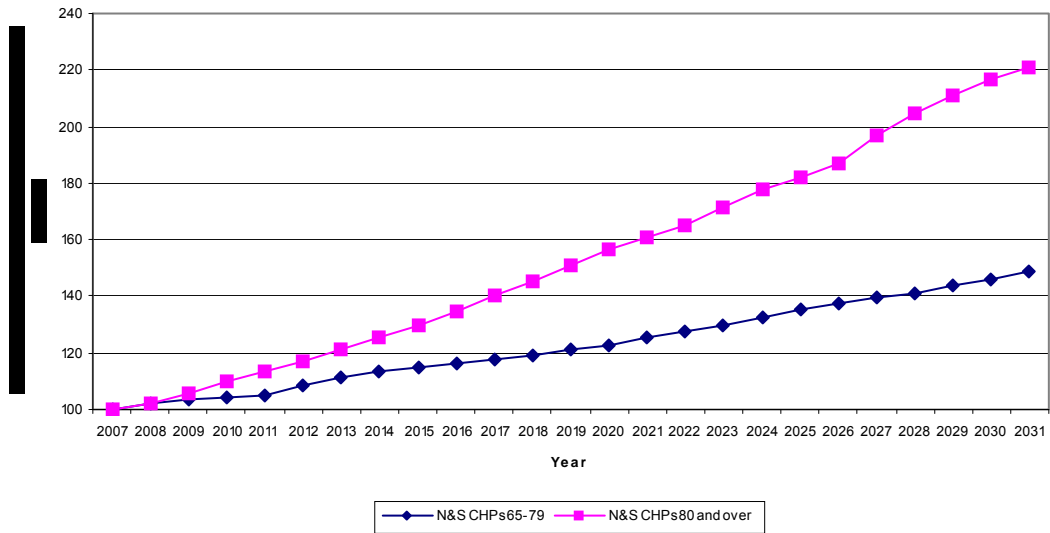
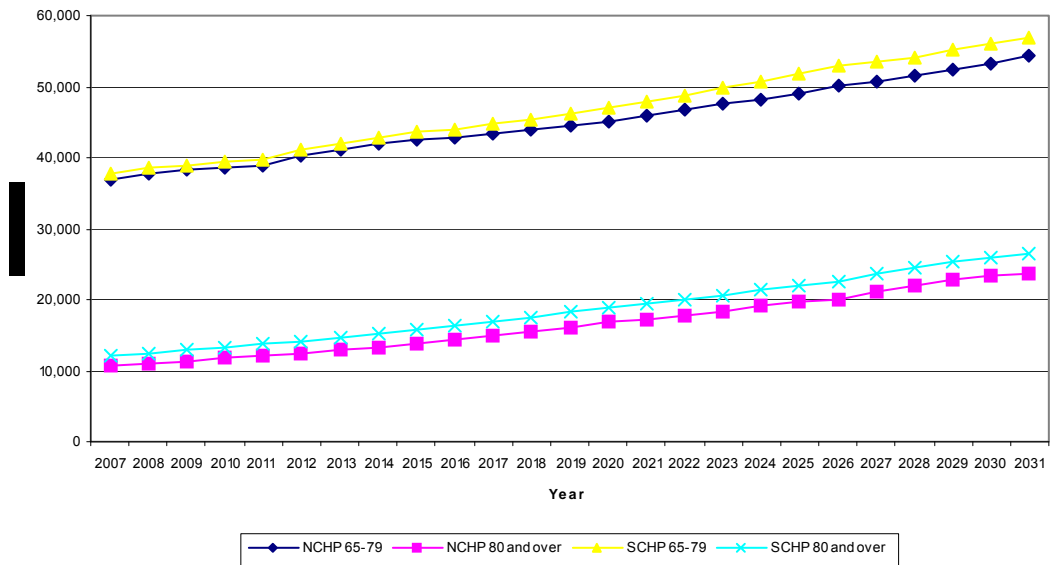


Figure 2 demonstrates population by CHP.

Figure 2

Lanarkshire CHP population projections 2007 - 2031



3.3 ECONOMIC IMPACT

The true cost of falls and indeed osteoporosis is difficult to quantify. In the hospital setting falls are a common presenting complaint to Emergency Departments and studies show that a third of hospital admissions from the Emergency Department are as a direct consequence of a fall. (West et al 2004⁹, Roland et al 2005¹⁰).

The main costs of falls are upon the NHS and Social Services, in the treatment of injuries from falls and during the subsequent periods of rehabilitation and care. Social care providers incur costs relating to home care and long term care provision. Primary care costs are experienced in terms of increased GP visits, rehabilitation and increased pharmacy costs. Impact on out-patient clinics with associated costs have been identified in several studies. The University of York work on economic impact of fractures also identified costs to ambulance services, with 50% of fractures requiring ambulance call out. (Parrott, S 2000)¹¹.

Costs are most easily attributable when we look at the resultant fractures. Between February and May 2008 Accident and Emergency departments across NHS Lanarkshire treated 1053 patients over 60 who were diagnosed with a fracture. These figures suggest that 10% of the population we predict will fall in Lanarkshire annually, will sustain a fracture (n=3150). The figures will rise year on year as our older population bands increase. Figure 3 details quarterly 2008 fracture figures by body site, Figure 4 by age and body site and Figure 5 comparison by hospital site.

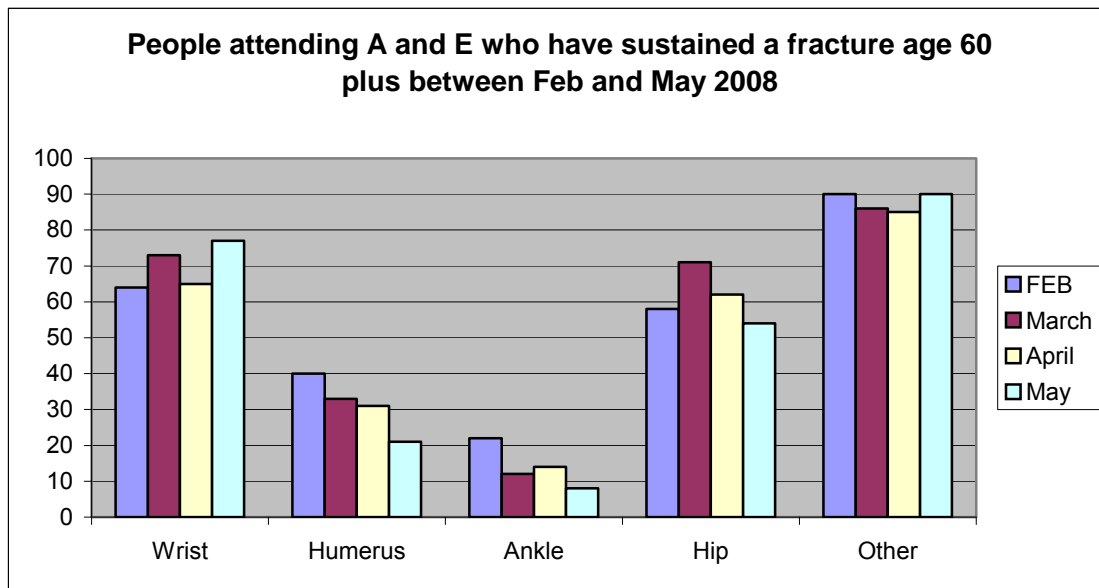


Figure 3

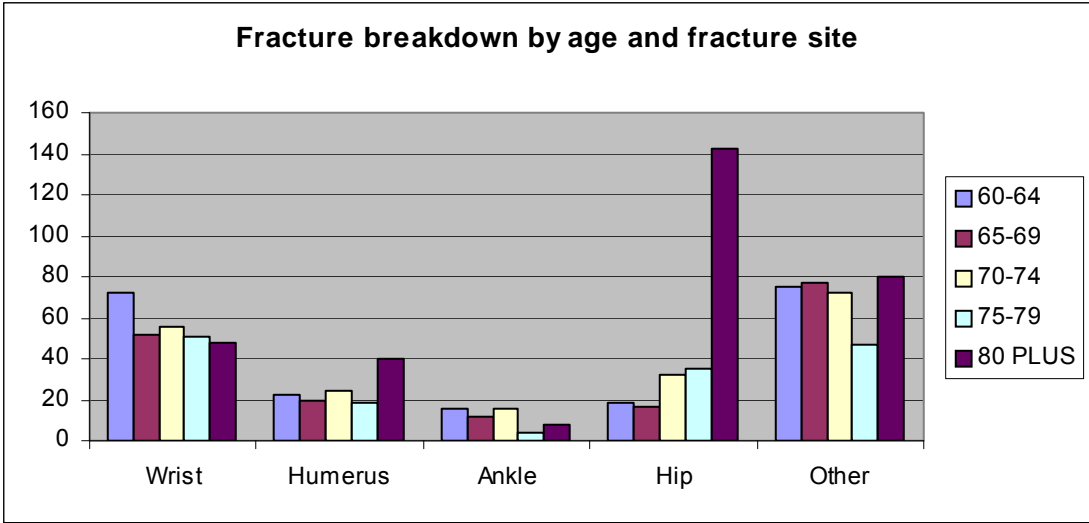


Figure 4

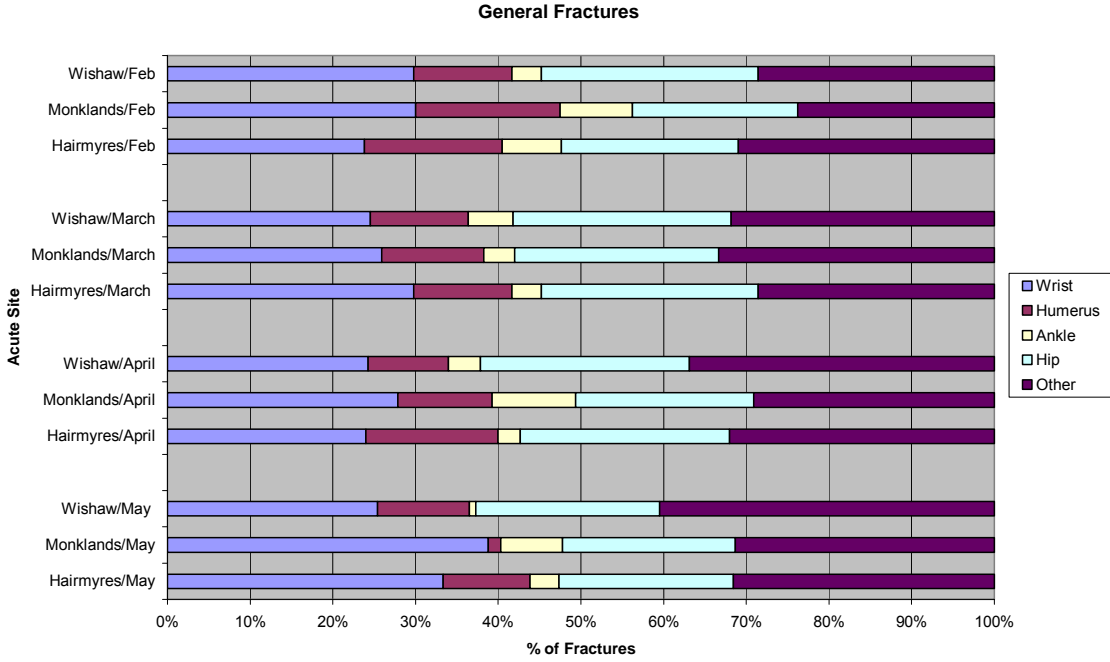


Figure 5

Lawrence et al in 2003¹² estimated the average hospital costs for a patient undergoing surgery for a hip fracture was £12,163. According to the Urgent Care Pathways for Older People Best Practice Guidance (2007)⁵ hip fractures account for 50% of injury related hospital admissions and 66% of bed days for people over 75.

In 2007, **724** patients were treated for a hip fracture in Lanarkshire. (Scottish Hip Fracture Audit 2007¹³). Indications are that this figure will increase to 735 for 2008. Total annual hospital cost for 2007 in NHSL based on Lawrence 2003¹² estimations are **£8 806,012**. The National Osteoporosis Society⁸ states that acute care costs only make up 45% of the total economic impact of fracture, with ongoing social care and long term hospitalisation accounting for 50% and pharmaceutical follow up for the remaining 5% of total costs. Social care costs in 2007 for this fracture group alone based on the Lawrence¹² and NOS⁸ calculations were therefore over £9M.

For patients who have broken their hip there is an associated mortality of over 20% within three months of the fracture, and of those who previously lived independently only just over half return to their previous level of independence. (Goldcare, Roberts, Yeats 2002¹⁴). Recent studies suggest that of the patients who are discharged home from hospital following fractured neck of femur, 42% will require extra carer help. (Roberts 2003¹⁵).

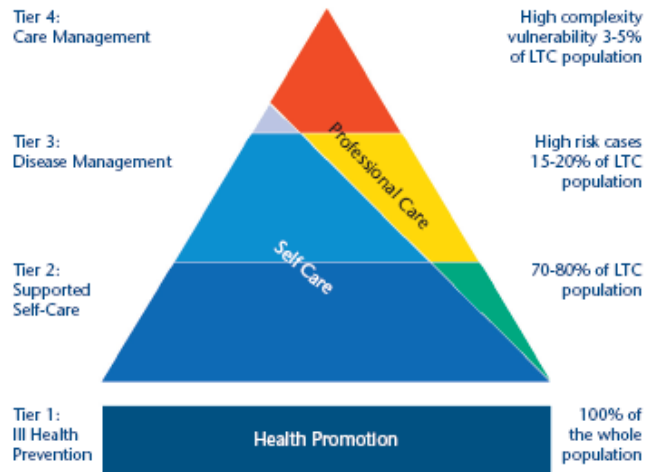
In addition to the time and cost of dealing with fractures in A&E, there is also a significant amount of time utilised by patients who fall (particularly in the older population) and suffer a minor injury requiring A&E intervention. A study was carried out at Wishaw General between June 2007 and May 2008 by the Fracture Liaison Nurse which sought to identify the number of minor injuries (to include laceration, head injury, soft tissue injury), in patients over age 75, as a result of a fall. The number of largely preventable injuries as a result of a fall in this age group in 12 months was **870** for this hospital site alone.

There are of course many other costs and impacts on the economy and for the patient; loss of fitness, loss of confidence, restrictions on the activities of daily living, increased informal care requirements, as well as nursing home placement.

3.4 IMPACT ON ORTHOPAEDIC CAPACITY

The orthopaedic workload generated by hip fracture and subsequent impact on capacity is substantial. The opportunity cost through reduction in falls and fracture is therefore highly significant. In 2007 length of stay for patients following hip fracture ranged from 5 to 120 days. Median length of stay also varied across the three acute sites, the average of which was 23 days. A conservative estimate of orthopaedic bed days utilised in the care of hip fracture patients based on this average is **16 652 bed days**. This strategy aims to support the shift in care from unplanned fracture, to anticipatory prevention, taking a whole system approach to the management of falls prevention and bone protection.

The National Framework for Service Change in the NHS in Scotland (May 2005¹⁶), Delivering for Health Nov 2005¹⁷, the Rehabilitation Framework 2007² and NHS Lanarkshire Long Term Conditions Strategy 2006¹⁸, describe (through the introduction of the NHS and Social Care Model reproduced below) how we should affect this shift in care.



The Lanarkshire Falls Prevention and Bone Health Group have taken cognisance of this model in developing their whole system approach to anticipatory care for falls prevention and bone health. It is anticipated that the redesign of falls and bone protection services to provide this preventative approach could prevent between **108 to 217** hip fractures in Lanarkshire per annum (taking minimum and best range, 15 to 30%, from significant studies). This could provide economic saving between **£1 313 604 and £2 639 371** per annum and **2484 to 4991** additional orthopaedic bed days, making a considerable contribution to the 18 week targets.

Section 4: STRATEGY LINK TO PERFORMANCE TARGETS AND OTHER STRATEGIES

Falls and fracture prevention work will support the system in meeting specific Health Improvement Efficiency Access and Treatment (HEAT) and National Community Care Outcomes. Key themes and measures which may be offered are:

2008/2009 HEAT TARGETS (Better Health, Better Care 2008³)

Access

- As a milestone in achieving 18 weeks referral to treatment, no patient will wait longer than 15 weeks from GP referral to first outpatient appointment from 31 March 2009).

Treatment

- By 2008/09, we will reduce the proportion of older people (aged 65+) who are admitted as an emergency inpatient two or more times in a single year by 20% compared with 2004/05 and reduce, by 10%, emergency inpatient bed days for people aged 65 and over by 2008.
- Reduce the number of readmissions (within one year for those that have had a psychiatric hospital admission of over seven days by 10% by the end of December 2009).
- Increase the level of older people with complex care needs receiving care at home.
- Improvement in the quality of health care experience.

National Community Care Outcomes

- Reduce the proportion of older people who are admitted as an emergency inpatient 2 or more times in a single year.
- No of emergency bed days in Acute specialities for people 65+ per 100,000 population.
- No of people 65+ admitted twice or more as an emergency who have not had an assessment per 100,000 population.
- Shift in balance of care from institutional to home based care.
- % of people 65+ with intensive needs receiving care at home.
- % of people receiving personal care at home.
- % of users satisfied with their involvement in the design of care package.
- % of users satisfied with opportunities for social interaction.

Successful implementation of the strategy will contribute directly and indirectly to the targets described by reducing the cost and burden associated with falls and related injury. Falls require emergency unscheduled care. Each fall prevented increases the proportion of work that can be planned to make better use of theatre resource, A&E time and acute bed capacity, while at the same time delivering on aspects of care such as local delivery, timely assessment and reduced burden on homecare resource, GP resource and out-patient clinic capacity.

The change delivered through this strategy, shares common themes with a number of other strategies across Lanarkshire to include New Horizon, A Plan for Modernising Primary Health Care Services 2008¹⁹ (draft), NHS Lanarkshire Health Improvement Strategy, North Lanarkshire Council Joint Community Plan²⁰, South Lanarkshire Council Joint Community Plan²¹, Lanarkshire Long Term Condition Strategy¹⁸ and the Older Peoples Strategy. The Lanarkshire Mental Health Improvement Action Plan which will be developed during 2008 will also be of relevance to many of the areas for action, as will the work of the Older Peoples Modernisation Board and Rehabilitation Framework Steering Group.

Section 5: THE EVIDENCE BASE

5.1 OVERVIEW

There is a strong evidence base of more than 60 randomised controlled trials of interventions to prevent falling. The evidence shows that risk assessment and multifactorial intervention programmes can achieve a substantial (15-30%) reduction in the incidence of falls among older people. Effective interventions are relatively simple and much can be achieved by redesign and coordination of existing services. In addition, fracture risk can be reduced by targeting effective, evidence based drug treatments to patients with osteoporosis.

5.2 EVIDENCE FOR MULTIDISCIPLINARY ASSESSMENT AND INTERVENTION

Clear evidenced based guidelines for falls prevention have been produced by the McClure Cochrane Review 2005²². Implementing these guidelines supports the aspirations of Delivering for Health ie supporting people who wish to remain at home, avoiding unnecessary hospital admissions and minimising delayed discharges. The evidence primarily relates to individuals in the community although there is evidence relating to care homes. The strongest evidence in these guidelines state that:

- All older people with recurrent falls or assessed as being at increased risk of falling should be considered for individualised multifactorial intervention.
- In successful multifactorial intervention programmes the following specific components are common
 - Strength and balance training
 - Home hazard assessment and intervention
 - Vision assessment and referral
 - Medication review and modification
- Following treatment for an injurious fall, older people should be offered a multidisciplinary assessment to identify and address future risk and individualized intervention aimed at promoting independence and improving physical and psychological function.

In addition to the NICE guidelines, research to date suggests that:

- Specific exercise programmes targeting balance and strength reduce the risk of falls in older people by up to 30% by helping maintain good balance and muscle power.
- Some studies have found hip protectors can reduce the incidence of fracture in care homes where there is an incidence of falling. Acceptability due to comfort and practicality are limiting factors.
- Home hazard assessment and modification that is professionally prescribed for older people with a history of falling is an effective intervention. The effectiveness of home hazard modification for older people without a history of falling is unknown.
- Population interventions can reduce falls by 6-33%.

5.3 EVIDENCE FOR PREVENTION IN HOSPITAL

The key markers of frailty during a hospital admission are the presence of confusion or a history of recent falls and loss of mobility. The Urgent Care Pathways for Older People Guidance (2007)⁵ highlighted the importance of specialist assessment where hospital admission is being considered.

There is evidence that falls prevention initiated in A&E can be effective. Currently there is a degree of under reporting with over a third of falls going unreported in computerised A&E records. The National Falls Audit (2006)²³ reported that the required integrated screening and onward referral process is lacking: "There is striking evidence of inadequate involvement of a specialist falls service in critical components of the hospital service. In A&E there is inadequate screening for risk of fall and the majority of A&E departments do not have the mechanism for involving a specialist falls service on site.

Two recent studies demonstrate that targeted prevention programmes in a hospital setting can be effective by reducing falls by as much as 30%. NHS Quality Improvement Scotland published a best practice statement in December 2005: *Working with Dependent Older People Towards Promoting Movement and Physical Activity*²⁴. This paper has a short section on preventing falls. Nurses in hospitals and care homes are expected to meet new quality care benchmarks for older patients set out in the statements.

5.4 EVIDENCE FOR OSTEOPOROSIS TREATMENT

Two guidelines inform clinical practice in the management of osteoporosis:

- SIGN Guideline 71: Management of Osteoporosis (2003)²⁵
- NICE Technology appraisal Guidance 87²⁶

SIGN 71²⁵ gave clear guidance on the diagnosis, pharmacological and non-pharmacological management of osteoporosis. The NICE Technology Appraisal guidance²⁶ provided secondary prevention recommendations for post-menopausal women in the use of bisphosphates, raloxifene and teriparatide.

The most effective treatment for preventing osteoporosis is the bisphosphate group of drugs (especially alendronate and risedronate). Their efficacy is summarised in SIGN 71²⁵, but essentially they reduce the relative risk of vertebral and non-vertebral fracture by 50%, with the highest absolute risk reduction in the highest risk groups. Bone density should be checked before commencing therapy as therapy is only effective where density is reduced, hence the link to DEXA scanning.

Calcium and Vitamin D are also useful in frail elderly where they reduce the risk of hip fracture by 35%.

Section 6: POPULATION APPROACHES TO FALLS PREVENTION

6.1 PUBLIC HEALTH APPROACHES

The Cochrane Systematic Review²⁷, as well as the National Service Framework standards¹⁶, recommended that population based intervention programmes contribute to the overall prevention of falls. While it is essential that a Lanarkshire approach to population based interventions is enhanced and implemented, this requires to be developed in partnership, (taking cognisance of national work), with NHS Health Scotland, NES, NHS QIS, the Scottish Falls Community, the Prevention of Falls Network Europe and local Higher Education establishments.

Primarily delivered in community settings through education and training, information will assist people to increase their knowledge and abilities to make health choices and assume more responsibility for their care.

The preferred Lanarkshire population approach is based on the WHO Safe Communities model²⁸, which is the approach that north and south community safety partnerships already take. Components of this population based model are as follows:

- Infrastructure is based on partnership and collaboration, governed by a cross-sectional group that is responsible for safety promotion in its community
- Long-term, sustainable programmes covering both male and female and all ages, environments and situations
- Interventions target high-risk groups and environments, and programmes promote safety for vulnerable groups
- Document the frequency and causes of injuries
- Evaluation measures assess the population approach, processes and the effects of change
- Ongoing participation in national and international Safe Communities networks

Specialist health promotion in relation to falls, including education and training, will be delivered by the enhanced falls team and are described further in the paper. Aims will be to raise awareness of the importance of falls, the importance of falls and fracture prevention and provide easily accessible information about steps that can be taken to reduce the incidence of falls.

Opportunities for brief intervention, education and health promotion require to be developed across age groups, with specific reference to target groups. Links to NHS 24, development of Lanarkshire web advice, as well as marketing strategies require to be developed. Some key elements are already addressed in other health promotion activities and strategies and described further in the next section.

6.2 LOCAL HEALTH PROMOTION STRATEGIES

There is currently a wide range of health improvement activity in Lanarkshire that contributes to addressing falls risk factors. The table below describes the life stage, action area and link strategies/services.

Life Stage	Area For Action	Action being taken
From conception to school age	Maternal well being Healthy diet Adequate safe sunshine exposure Adequate weight bearing physical activity	Maternity services strategy Healthy eating strategy Physical activity strategy Physical activity strategy
School Age	Healthy diet Adequate safe sunshine exposure Adequate weight bearing physical activity Avoidance of Smoking Caution about excessive dieting and athletic amenorrhoea	Healthy eating strategy Physical activity strategy Physical activity strategy Tobacco control strategy Healthy eating strategy and eating disorders service
Young Adults	Women with amenorrhoea/early menopause Healthy diet Adequate safe sunshine exposure Adequate weight bearing physical activity Avoidance of Smoking Caution about excessive dieting and athletic amenorrhoea Alcohol within recommended safe limits	Sexual health services Healthy eating strategy Physical activity strategy Physical activity strategy Tobacco control strategy Healthy eating strategy and eating disorders service Alcohol action plan
Adults at mid-life	Women at menopause Healthy diet Adequate safe sunshine exposure Adequate weight bearing physical activity Avoidance of Smoking Caution about excessive dieting Alcohol within recommended safe limits	Sexual health services Healthy eating strategy Exercise referral initiatives Physical activity strategy Tobacco control strategy Healthy eating strategy and eating disorders service Alcohol action plan
65+	Selective case finding for people at high risk of osteoporosis Falls prevention measures Healthy diet Adequate safe sunshine exposure Adequate weight bearing physical activity Avoidance of Smoking Alcohol within recommended safe limits	Falls prevention service Falls prevention service and population programme Healthy eating strategy Physical activity strategy Exercise referral initiatives Tobacco control strategy Alcohol action plan

The Lanarkshire Mental Health Improvement Action Plan which will be developed during 2008 will also be of relevance to many of the areas for action

Section 7: PREVENTING FALLS AT HOME- DEVELOPMENT OF A LANARKSHIRE FALLS SERVICE AND FALLS PREVENTION PATHWAY

A key objective of the strategy is to develop a clear and simple pathway for all service users that screens and identifies falls risk and signposts to a tiered level of intervention according to need. There is a requirement to agree, redesign and enhance the falls prevention and bone protection delivery model, with the aim of establishing a single, accessible and equitable Falls Service across Lanarkshire. The pathway will cover all components of care from self management, screening and referral, through to specialist assessment and intervention where required. Prevention of falls at home forms the cornerstone of the service, with development specific to falls in hospital and care home detailed beyond this section.

Implementation and evaluation of the service and pathway, will be lead by the Falls Co-ordinator each CHP is required to appoint, as announced under HDL(2007)⁷.

These lead officers will be responsible for the development and delivery of a co-ordinated, integrated falls service, ensuring risk management and prevention is addressed within primary and secondary care, social work, social work community alarm services, housing, the ambulance service, community alarm services, and the voluntary and private sectors. They will ensure that all interested parties across Lanarkshire are aware of the falls pathway/model, as well as the contribution of its components including access methods.

In addition to these two co-ordinators, administrative support will be required to manage referrals and maintain a falls database that will inform future actions, strategy and direction. Monklands and Cumbernauld Falls Service are currently using CELLMA falls and fracture database for their initial screening. It is recommended that this is developed to include multidisciplinary assessment to offer comprehensive intelligence on falls in Lanarkshire. Current IT work requires development to facilitate completion of home assessment on palm top computers, with information automatically downloaded. This system will facilitate transfer of information across hospital and primary care boundaries, with further work required as part of the implementation plan to investigate opportunities for social work information sharing. This will reduce duplication and support seamless service across transition points.

Financial Implications- Service Co-ordination

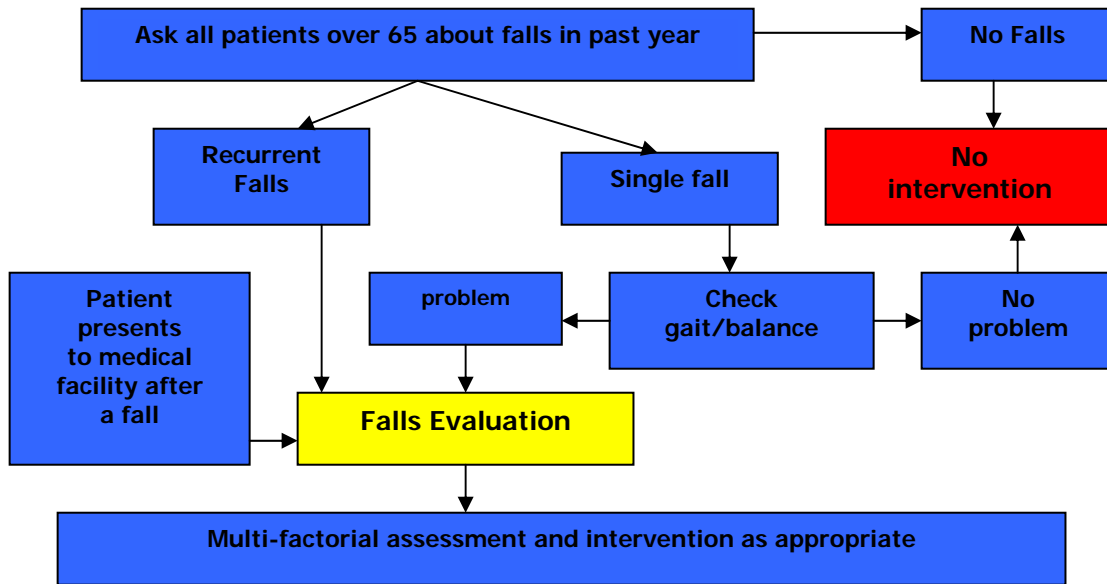
	Non-Recurring £	Recurring £
Falls Co-ordinators Band 7 x2 WTE		81,658
Service Administrator Band 4 x1 WTE		23,000
Administrative Support Band 2 x1 WTE		17,000
Set up costs-computers/telephone/furniture	4,000	
License costs to support CELLMA		9,400
Total	4,000	131,058

7.1 SCREENING AND INITIAL ASSESSMENT

Identification of those at risk is crucial to delivering appropriate intervention American²⁹ and British³⁰ Geriatric Society Guidelines indicate that all people over 65 should be offered a simple screening for falls. There are currently a number of routes for accessing falls assessment and Intervention. All older people in contact with health care and social care professionals should be asked routinely whether they have fallen in the past year and asked about the frequency, context and characteristics of the falls. This should be followed by access to specialist multi-factorial assessment, including consideration of assistive technology, followed by intervention where appropriate. (NICE 2004)⁴. The American²⁹ and British³⁰ Geriatric Society Guidelines on screening and assessment are depicted below in Table 1.

Table 1 Falls Screening /Assessment Guidelines

American and British Geriatric Society Guidelines



Community services will be supported to screen and assess for risk of falls. Work will be undertaken in partnership to ensure we can offer a tiered level of assessment detailed below:

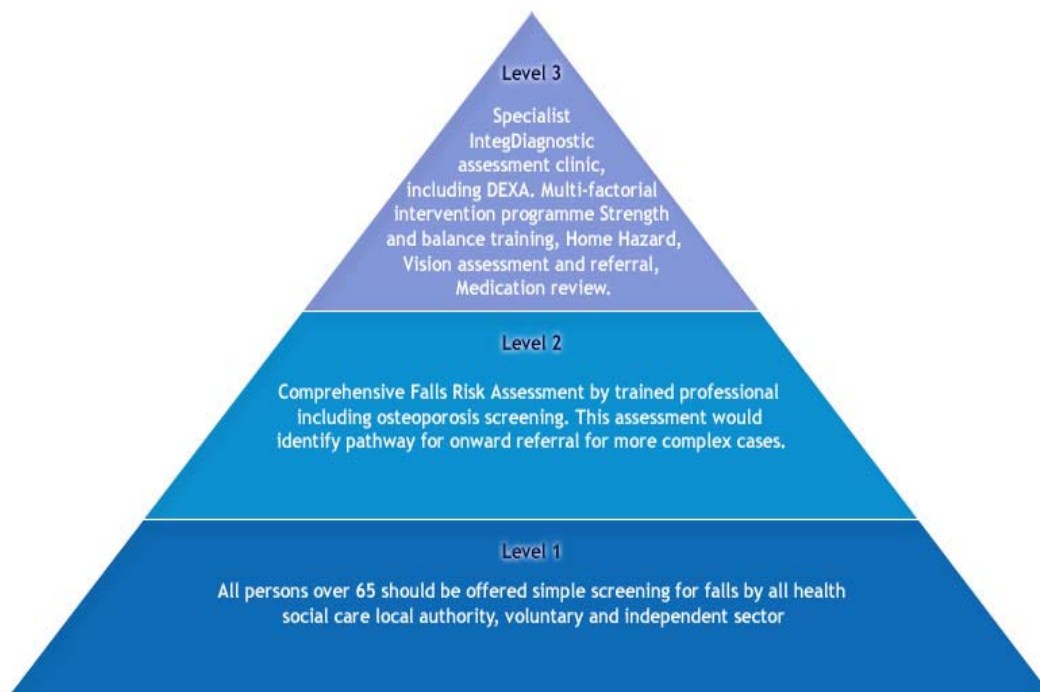
Level 1 – All persons over 65 coming into contact with a health care or social care professional will be offered a simple screening assessment for falls.

Level 2- A level 2 assessment would follow level 1 assessment when used by trained practice nurses, district nurses and allied health professionals eg community physiotherapists and occupational therapists.

A screening tool for osteoporosis, in addition to a more in depth falls assessment such as BP screening and pharmacy compliance.

Level 3- Specialist Fall's service with comprehensive initial risk assessment at home. With signpost to specialist components of the falls service which may include diagnostic clinic, DEXA scan referral, medication review and falls specialist rehabilitation to include nursing, occupational therapy, physiotherapy and social work assistant. People who have fallen will be referred through a single point of access. These specialist staff will provide education and training sessions on baseline Level 1 assessment, to all health and social care staff who may come into contact with people over 65 who have fallen.

Table 2: Tiered assessment of risk and ongoing intervention



In addition to health and social care services a number of independent, voluntary and other services also come into contact regularly with people who fall. Particular emphasis should be placed on developing robust pathways for referral from ambulance services and community alarm providers.

[7.1.1 Ambulance Service Response to Falls](#)

Ambulance services come in to contact with a number of patients who have fallen. A third of these patients are not sent to hospital. Ambulance services are therefore important partners in the implementation of local falls prevention services. These patients should be positively identified and made known to specialist community falls services and progress through the assessment process described. A group will be tasked with organising and agreeing referral criteria and process with ambulance services.

[7.1.2 Community Care Alarm Services](#)

As awareness of falls prevention interventions and treatment for osteoporosis increases together with other advances in care, other sources have emerged for recognising the burden of falls in the community. An example of this is the Community Alarm Service in North Lanarkshire Council, which provided an alarm service for 11,000 homes/patients in 2007 (the majority of whom are for older service users) and recorded 2552 incidences of the alarm being used following a fall. A similar service is provided in South Lanarkshire. A pathway for referral into service level 2 is required for Community Alarm Services.

Arrangements are also required in partnership to agree specific procedures for people who have fallen in their own homes and are uninjured, but unable to get up from the floor. A group will be tasked to agree identified procedures for assisting uninjured fallers from the floor.

[7.1.3 Home Support Services](#)

Monklands and Cumbernauld falls services have completed a successful training and education programme with home support workers in Coatbridge. This has enabled home support workers to directly refer to falls services via the home support manager. Home support workers are an

essential link in identifying service users who have fallen. The new falls service will be the single point of contact for these providers and service users.

7.1.4 Other Agencies

Other essential links that require referral pathways to the Falls Service include Home Safety Partnership, Care and Repair, housing partners, leisure services, play centres and voluntary organisations.

7.2 FALLS PREVENTION INTERVENTIONS

Assessment will be followed by a range of interventions to include:

- Community Rehabilitation
 - Tiered Exercise Programme
 - Domiciliary Physiotherapy
 - Occupational Therapy
- Out-Patient Falls Clinics
- Pharmacy for Medication Review
- Assistive Technology
- DEXA scan
- Optometry
- Podiatry

7.2.1 Community Rehabilitation

The guidelines and review of RCTs recommend that multi-component, multi-disciplinary falls rehabilitation should be available to all appropriate patients at risk of falling or following a fall, at suitable times and within accessible premises. Evidence suggests that that in the area of falls, exercise provision needs to be targeted with a specific emphasis on strength and balance training for it to be effective (NICE 2004)⁴, while exercise in the area of osteoporosis needs to be targeted at bone loading. Individuals will be referred to falls classes based on Tinetti Falls Risk Assessment. Exercise will be provided in either a group setting for those who can travel or at home for more frail elderly. (Timed Up and Go, Whitney et al 2005)³¹.

Rehabilitation at Home

Current rehabilitation for patients following a fall is provided at home by domiciliary physiotherapists and nursing, occupational therapy and support staff within Rapid Response, Early Supported Discharge and day hospital teams. Community rehabilitation capacity is very limited and not always provided by a specialist practitioner. **Although falls prevention is a public health issue, we do not currently have the capacity to provide rehabilitation for significant numbers of patients to demonstrate a preventative difference.** We have already highlighted number of falls predicted currently for Lanarkshire from older people population information (33 835 older people per annum). To demonstrate a significant impact we propose to identify, screen, assess and provide appropriate intervention for those at high risk within the falls cohort.

Review of early supported discharge teams has already been carried out and redesign of inter-professional community rehabilitation teams, with early supported discharge teams and specialist falls service as an integral part is key to establishing a proactive rehabilitative falls service.

These staff will provide the close links with other community health care professionals, as well as social services, independent and voluntary staff to provide screening, assessment, education and rehabilitation where appropriate, including exercise classes and multi-disciplinary in reach to support the hospital fall's clinics. Additional allied health professional capacity is required to assess and provide rehabilitation for those identified.

Tiered Exercise and Education Programme

Current falls classes are provided at Hairmyres Hospital through RADAR and at Wishaw General within the Day hospital, where a tiered approach allows referral on to Wishaw sports centre. These classes provide group exercise for very small numbers. Older people's group exercises are also provided at Coathill Hospital and at Blantyre Leisure Centre, although they are not

exclusive to people who have fallen. There are therefore significant variances across NHS Lanarkshire in terms of approach, capacity and patient access. Redesign of Falls Exercise Programme is therefore crucial to ensure the introduction of a standardised Tiered Exercise and Education Programme in partnership with leisure services.

Individuals will be referred to an appropriate exercise programme based on their risk stratification following assessment. Exercise provision will be delivered in hospital, community or leisure settings by physiotherapists or leisure staff (who are qualified Postural Stability Instructors (currently 6 in NHSL and leisure). Individuals will progress through the tiered programme until they reach their optimum potential, with an overarching aim of promoting ongoing self management of their exercise programme. To support this, an exercise booklet and DVD will be provided to patients, carers or family following appropriate training. Evidence suggests that patients should be assigned to classes according to their risk stratification/ ability. A tiered programme has been developed based on need and professional judgement to allow patients to progress in terms of balance and strength. The proposed tiered exercise programme is described in Table 3.

It is likely that the very frail and those whose falls requires medical investigation will be referred to the falls clinic for assessment, currently available on each hospital site and then on to hospital based classes. Introducing classes at the Monklands site and increasing the class number (x4 at each site per week) will allow 270 patients at highest risk, per annum, to participate in twice weekly classes for a period of 10 weeks. Current numbers are 55 NP per annum. Patients will then progress where able, through to leisure based classes.

Classes at level 1-3 will be developed twice weekly and run in leisure settings in each locality for 10 weeks, providing group exercise for the following numbers per annum:
 Level 1: 630 patients per annum (14 patients per class, patient to PSI ratio 7:1).
 Level 2: 700 patients per annum (18 patients per class, patient to PSI ratio 9:1).
 Level 3: 950 patients per annum (24 patients per class, patient to PSI ratio 12.1).

At level 4 patients can then self manage through links into current older people's leisure classes and other exercise opportunities for which a class fee may be levied.

An education element will be added to each class and an exercise booklet or DVD supplied to all patients to support home exercise between classes.

With classes at each level, in every locality in Lanarkshire, the strategy costing will provide an additional 27 classes (at varying levels) providing evidence based exercise to an additional 2,550 patients on an annual basis (2000 in group sessions in local settings close to their home and 250 in their own home).

Tiered Exercise and Education Programme

Programme	Target Group	Delivery
Hospital based/Individuals at Home	Suitable for frail functionally dependent individuals who require high levels of supervision	X2 weekly for 10 weeks
Level 1-Community based-leisure led	Suitable for patients are independently mobile and have better safety awareness	X2 weekly by PSI trainers
Level 2- Community based-leisure led	High level balance activities for functionally independent people	X2 weekly by PSI trainers
Level 3- Leisure based	Low risk fallers Post-menopausal osteoporosis group	X2 weekly by PSI trainers
Level 4-Leisure based	Independent older people	X2 weekly-own transport required-open referral through leisure schemes
Exercise booklet/DVD Education	Suitable for all patients-used in care home as home based physical activity, suitable for housebound	

Essential components of this programme are organised transport and suitable community or leisure accommodation. It is envisaged that level 3 class attendance will be self sustaining and service users will be encouraged to use public transport. Local availability will ensure classes are close to home. The additional transport infrastructure must be established through identification of community based organisations able to provide transport. Service level agreements may be required and there may still be a cost attached to the transport and possible accommodation costs. Agreement on what will be provided by Health and Social Services and what clients will pay for has to be worked through. A group will be tasked to develop and implement the tiered exercise component of the strategy, including transport and accommodation arrangements.

Marketing and education strategies are required to improve uptake and adherence to exercise classes as there is evidence (Yardley et al 2006 and 2007)³² that older people are likely to restrict their activity due to fear than increase their perceived exposure to risk.

Classes will be run on a rolling programme to allow places to be filled as soon as available, to keep the group dynamic and to ensure capacity is utilised effectively.

Financial Implications- Community Assessment, Rehabilitation and Tiered Exercise

	Non-Recurring £	Recurring £
Physiotherapist Band 6 x2 WTE (Tiered Exercises, Falls Clinics, Community Rehab)	2,000	70,400
Occupational Therapist Band 6 x 2 WTE (Community Rehabilitation, Falls Clinics)	1,000	70,400
Junior AHP Posts (PT,OT) band 5 x3 WTE (Assessment and intervention) (1 OT, x 2PT)	3,000	85,122
Class PSI Trainers 27 additional classes		109,100
Training PSI/Otago	7,000	1,500
Social work assistants 0.5 each CHP	2,000	24,400
Total	15,000	360,922

7.2.2 Out-patient Falls Clinic

There are specialist falls diagnostic clinics provided x1 weekly at each of the three care of the elderly departments in Lanarkshire. Each has developed separately with individual features based on personnel and resources available. The National Institute for Clinical Excellence has produced guidelines for a specialist falls service and recommended the setting up of specialist falls clinics where a multidisciplinary team can assess and carry out individually tailored multi-factorial interventions. These guidelines form the basis of a planned and adequately resourced falls service across the three sites. Allied health professional and support worker development provided to support home assessment and home/tiered exercise rehabilitation will also provide expert support to the falls clinics where a shortfall has been identified (Wishaw General).

The Falls Clinical Community will review current criteria, practice and process for out-patient fall's clinics to ensure equity in procedure across NHSL. The clinics will undertake specialist medical review, with Specialist Falls Assessment being completed and provided by the Falls Service prior to attendance at the clinic.

To ensure we are able to meet demand for additional specialist medical assessment as a result of service redesign, an additional falls clinic is required weekly at each of the hospital sites. Consultant involvement in multi-disciplinary meetings will ensure appropriate action plans are developed for each patient requiring assessment at this specialist level.

Investment in this component of the service will provide an additional 414 NP slots and 414 review slots for specialist medical consultation per annum. Costs detailed below identify those in relation to falls only. It is not envisaged that this work would be the responsibility of one Consultant, but must link with other Consultant post developments within the Care of the Elderly Department to ensure a rounded role.

Financial Implications- Falls Clinic Care of the Elderly Consultant

	Non-Recurring £	Recurring £
Consultant 0.5 WTE	1,500	54,590
Total	1,500	54,590

7.2.3 Community Pharmacy

The new pharmaceutical care services contract offers great potential for harnessing the skills, expertise and patient contacts of community pharmacists throughout Lanarkshire. An important component is the development of the chronic medication scheme and in time it is anticipated that this will provide a consistency of service regarding osteoporosis. The pathway should include a link to review of all patients on 4 or more medications.

7.2.4 Falls and Osteoporosis (Direct Access to DEXA Services)

All patients aged >60 years who fall and fracture are currently offered DXA screening by the fracture liaison service/ falls nurses. To roll this service out to include all patients age 50> who fall and fracture in line with the Glasgow fracture liaison service and to screen on clinical risk factors for falls patients, in line with the current GP referral protocol will undoubtedly see an increased demand. The bone health strategy is dealt with in Section 11.

7.2.5 Optometry

Patients giving rise for concern in this area will be signposted to free eye test available from optician services

7.2.6 Podiatry

Patients are currently referred to community podiatry services.

7.2.7 Dietetics

Patients are currently referred to community dietetic services

7.2.8 Fast track

Fast track to essential services to reduce environmental risks of falls at home is required. This would include handrails from housing, community alarms, joint equipment and care and repair.

Section 8: PREVENTING FALLS IN CARE HOMES

8.1 CARE HOMES- THE CURRENT SITUATION

Older people moving into care, usually do so because increasing frailty and co-morbidity mean they are no longer able to stay safely in their own home. Risk management in care homes has therefore as much to do with reduction of harm as it has to do with prevention of falls. Incidence rates of falls in care homes are almost three times the rate of those living at home for people over 65. (American Geriatric Society 2001)²⁹. From April 2007- March 2008, 113 patients were admitted to Acute hospitals in NHSL from Care Homes in Lanarkshire with a hip fracture.

8.1.1 Falls Prevention Training

Care Homes already have a falls prevention pack which is delivered along with falls prevention training by the Care Homes Liaison Service. As part of the strategy this education tool will be re-launched, updated and include:

- The Canard Assessment tool
- Use and maintenance of mobility aids
- Environmental risk factors
- Individual risk factors
- Analysis of falls patterns

8.1.2 Continued provision of Calcium and Vitamin D

At present within NHSL all people over the age of 75 are offered calcium and vitamin D. As care home residents are seldom outside, all should be offered this medication to improve bone strength and reduce body sway.

8.1.3 Dietetic Input

All residents have nutritional screening on admission, which would identify other specialist interventions required. If indicated they will be referred to the community dieticians for further assessment and intervention.

8.1.4 Individual Falls Management

There is a requirement for each resident with a recent falls history to have a Falls Action Plan carried out in partnership with the person who is falling and their carer/family. The falls action plan should document:

- Individual roles and responsibilities
- Any underpinning elements leading to falls
- Environmental/personal communication needs
- Aids and equipment to prevent a fall
- Medication review-pharmacist or GP

Education and support for this management component is a current service gap.

8.1.5 Hip Protectors

The 2005 Cochrane review²² suggests that hip protectors may be useful in a setting where compliance can be assisted, but more research is necessary to give a clearer picture. Other research in this field indicates that the following may improve compliance and effectiveness of hip protectors:

- Assessment of residents to target resource to high risk individuals
- Provision of free hip protectors
- Staff education on the use and effectiveness of garments
- A champion within each home to ensure correct measuring and delivery to recipients.

A Lanarkshire audit suggests that hip protectors have been successful in reducing hip fracture in participating North and South Lanarkshire Care Homes. Residents within seven care homes were provided with hip protectors and staff were trained in their use and potential benefits. Hip fractures in the previous year, from the seven Care Homes involved, was 17. Following introduction of the use of hip protectors, with interventions suggested above (training, champions etc) these fractures were reduced to 4 hip fractures in these Care Homes in the pilot year.

8.1.7 Protocols for equipment, alarms and other interventions

The Care Home Liaison and Mental Health Care Home Liaison Nurses already provide advice on the use of equipment to reduce the risk of frequent falls. Protocols regarding their use are unavailable and require development. This will include a protocol on the use of restraint.

8.2 SERVICE DEVELOPMENT OF FALLS PREVENTION ELEMENT TO CARE HOMES

8.2.1 Provision of Calcium and Vitamin D

All residents should continue to be offered the above.

8.2.2 Referral pathways for further assessment

As part of the strategy agreement on a referral pathway for further assessment will be developed for residents who develop problems associated with falls risk including:

- Gait, balance and mobility issues
- Osteoporosis risk
- Perceived functional disability
- Visual impairment
- Cognitive impairment
- Urinary incontinence
- Medication review

8.2.3 Review of Care Home Falls Data

A comprehensive database is required linking into a wider Lanarkshire falls database to identify fall patterns within homes, to include timing, place, specific resident. This will inform specific action plans to remedy preventable causes.

8.2.4 Exercise for Care Home residents

Part of the education to care homes regarding falls prevention should include enabling staff to provide exercise safely for care home residents. All residents should have access to mainstream falls exercise classes if ability permits. It is anticipated that this education for Care Home staff will be developed by the new funded Care Home physiotherapist post.

8.2.5 Provision of Hip Protectors

Recommendations for provision of hip protectors in Care Homes is included in section 8 of this paper.

8.2.6 Additional Care Home Falls Prevention Capacity

Further capacity is required within the Care Home Liaison Service with administrative support to provide the following role within care homes:

- Increase awareness of falls prevention and management
- Support homes in developing and reviewing falls action plans for high risk residents
- Encourage the ordering of hip protectors and compliance in wearing

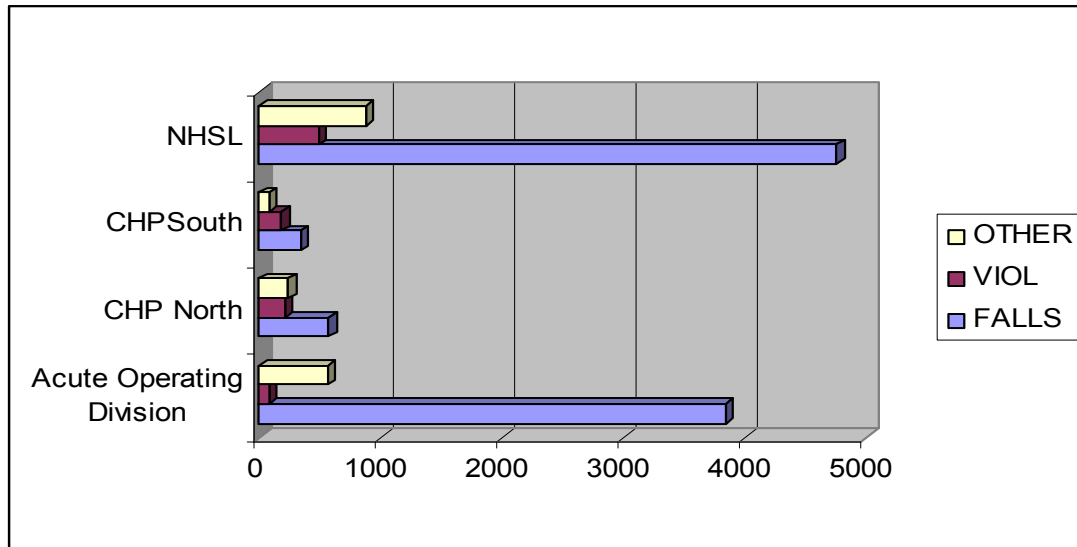
Financial implications

	Non-Recurring £	Recurring £
Care Home Liaison Post-1 WTE Band 5	1,500	28,374
Total	1500	28,374

Section 9: PREVENTING FALLS IN HOSPITAL

9.1 THE CURRENT SITUATION

Accurate recording and reporting of incidents, including falls, is completed through DATIX and reports are provided based on these statistics to the Occupational Health and Safety Management Group and the Acute, CHP North and CHP South Management Teams. A total of 6127 patient incidents were reported in 2007/2008 and of these 4762 were as a result of patient falls (an increase of 29%) on the previous year. Of the 6127 incidents reported 946 resulted in injury, the bulk of these being attributable to patient falls.



Within NHS Lanarkshire a multidisciplinary Falls Clinical Community was developed several years ago. Part of the remit of this group was to review best evidence in relation to risk assessment and management strategies within the hospital setting. This resulted in the development of a pan Lanarkshire falls risk assessment, care plan and a decision tree to assist ward staff in identifying patients at risk and to ensure that robust care plans supported vulnerable group.

Within the Acute Division a standard statement is in place to ensure falls risk minimisation. The standard is that [“All patients of 65 years and over are assessed and risk management strategies are addressed through falls risk assessment”](#). Senior nurses within the acute division have the responsibility to ensure the implementation and monitoring compliance with this standard.

9.1.2 Hospital Falls Co-ordinators

A Falls Nurse Specialist at Wishaw who covers all in-patient falls and also screens patients from an A&E fracture download on a daily basis. At Monklands Hospital a similar service is provided by the Fall's team that sit as a specialist arm of ESD. There is no Falls Nurse specialist at Hairmyres. Close working arrangements exist between these services and the Fracture Liaison Nurse.

9.1.3 Falls Groups

Within the three hospital sites, local groups for the management and prevention of falls have been developed. Terms of reference and membership are consistent across the groups. The membership of the group consists of occupational therapy, physiotherapy, nursing, medical and hotel services staff. The remit of the groups is as follows:

- To ensure adherence and implementation of local and national guidelines and standards
- Determine the level of training and development required by staff groups
- Evaluate current evidence around falls index tools and develop an NHS Lanarkshire approach to measuring falls as a benchmarking exercise
- Link with management and prevention of falls teams in the appropriate CHP area to share practice
- Provide a coordinated approach to services.

Recent work that the groups have undertaken relates to written information to patients and carers on prevention of slips, trips and falls. It is anticipated that these staff with specialist falls interest will link closely with specialist community assessment and rehabilitation teams to ensure seamless care for those who pass across organisational boundaries.

Local groups have identified training needs and each ward has a link nurse whose role is to disseminate information to staff. Training is provided by specialist falls staff, but a Lanarkshire wide approach is required to identify training needs and formalise education, awareness and support.

8.1.4 The Older People with Complex Needs Pathways guidance³³ recognises the current shortfall in identifying patients who have fallen in A&E. Staff locally suspect that there is a large opportunity missed to identify and code those who have presented to A&E with a fall and refer on to a falls service.

9.2 SERVICE DEVELOPMENT

Despite screening and risk assessment, falls continue to rise in hospital settings. These happen most, in continuing care wards. Local falls groups at each hospital site and in community hospital sites require to link and formalise falls prevention developments in the following areas:

- Ensure that the standard statement for the management and prevention of falls is adhered to and evaluated
- Formal falls awareness education, support and guidance is provided to all staff, regardless of their role in the hospital, where patients may be at risk of falling
- Analysis of falls through incidence reporting procedures initiates prompt action to address any hot spot areas.
- Falls hot spots received targeted training, education, awareness raising and support.

9.2.2 Hospital Falls Co-ordinators

Further work is required to agree a model for co-ordination of falls prevention in the hospital setting. This will include agreeing a standardised model across NHSL, defining co-ordinator role and identifying gap to address the growing falls problem in this setting.

9.2.2 Falls in A&E

There is evidence that falls prevention initiated in A&E can be effective. However there is difficulty in identifying patients because the consequence of the fall (namely the injury or the fracture) becomes the diagnosis and subsequent code for the episode of care. The primary event (the fall) is often not acknowledged clinically or in the coding.

Introduction of recording a fall or code for fall has proven problematic in this area, with pressure of workload and throughput in this area reducing the likelihood of onward referral. The Falls Nurse Specialist at Wishaw General is currently undertaking a research study to investigate the reliability of identifying fallers using existing It information and outcome codes, such as dizziness,

laceration and head injury, but this method is time consuming and may not direct to the appropriate patients.

The Older People with Complex Needs Pathways Guidance (2007)³³ is now advising that code to capture older people in the last year should be introduced. This ability to ask if an older person has fallen in the last year and code accordingly in A&E must be taken forward through the Falls Co-ordinators. Pathways for referral into a community falls services will initiate rehabilitation and intervention required.

9.2.3 Referral to Falls Service

All patients identified as at risk of falling or having had a fall should be referred to the Falls Service for appropriate investigation, rehabilitation and secondary prevention. NICE Guidelines (2004)⁴ state that multifunctional interventions for older people following a fall should include a home hazard assessment and safety intervention/modification by a suitably trained healthcare professional.

Section 10: HIP PROTECTORS

10.1 CURRENT SERVICE PROVISION

Currently £45,000 has been provided through Invest to Save funding to provide hip protectors in Care Homes. This is non-recurring funding.

A £25,000 recurring budget is available at Wishaw. Given the evidence on lack of effectiveness of hip protectors in a community setting, further thought must be given to the future utilization of this resource, particularly in view of the high number of falls in continuing care beds.

10.2 TRAINING AND AWARENESS

Further training and awareness will be developed to ensure all staff are taking appropriate action to assess and order hip protector appropriately.

10.3 ELIGIBILITY SETTING

As part of the strategy Lanarkshire require to develop eligibility criteria for hip protectors and also indicate how we will deal with replacement for patients who move out-with eligibility settings.

10.4 SERVICE DEVELOPMENT REQUIRED

Recommendations

It is recommended that:

- All residents in care homes should be assessed for their risk of falling
- Those at greatest risk be provided with 3 pairs of hip protectors each year they are at risk
- Education is required to all homes providing protectors to ensure that staff are aware of the benefits, have a champion in each home and are using protectors correctly.

To provide three pairs of hip protectors per resident identified as being at risk at a cost of £100 would give a total annual cost of approximately £150,000. Given previously described costs 12 hip fractures would require to be prevented to negate this cost

Financial implications

	Non-Recurring £	Recurring £
Hip protectors- Care Homes		150,000
Total		150,000

Section 11: USE OF EQUIPMENT AND GUIDANCE ON RESTRAINT

11.1 CURRENT USE OF EQUIPMENT AND RESTRAINT

The Mental Welfare Commission for Scotland³⁴ published good practice guidelines on the use of restraint “Rights, Risk and Limits to Freedom-Guidance on the use of restraint” in 2006 . This work provides guidelines that include the use of physical, mechanical and electronic barriers to moving freely.

In Lanarkshire a variety of equipment is provided after a fall, most commonly a walking aid. For some patients mental confusion is often a contributing factor and increasingly low level mattresses, specialist seating, non slip equipment and electronic alarm devices/sensors are being developed and requested.

NHSL Acute Division is 100% compliant in terms of profiling beds that go down to 12” from the floor and a few that have the ability to go completely down. All areas have access to hoists and stand aids.

11.2 DEVELOPMENT OF EQUIPMENT AND RESTRAINT SERVICE PROTOCOL

A Lanarkshire protocol is required for the use of equipment and restraint to reduce the risk for frequent fallers. This protocol will provide guidance on the key messages from “Rights, Risks and Limits to Freedom” for seating, bed rails, mats, low level beds and all electronic devices that record to restrict movement.

11.3 ASSISTIVE TECHNOLOGY

The term “Assistive Technology” is used in North and South Lanarkshire Councils for the application of advanced electronic equipment, which can be used as part of the care arrangements. It can act as a prompt for intervention and /or assist in assessment of need and care planning, including assessment and monitoring of falls risk. A full assessment for assistive technology is accessed through the locality social work teams.

SECTION 12: TARGETING OSTEOPOROSIS

12.1 ESSENTIAL ELEMENTS OF AN OSTEOPOROSIS SERVICE

The goal of treatment for osteoporosis is the prevention of fractures. A number of pharmacological interventions have been shown to provide this prevention. However, despite clear evidence to support the assessment of BMD and pharmacological management of osteoporosis and recommendations from National Guidelines, (NHS Lanarkshire Guidelines for the Investigation and Management of Osteoporosis 2004)³⁵ osteoporosis is under-diagnosed and many patients do not receive appropriate assessment and treatment. This national evidence is supported by local peer review audit undertaken in Coatbridge, which showed that only 10% of eligible patients were receiving appropriate therapy where approximately 70% should have been receiving treatment.

Optimal primary and secondary prevention of fractures will be achieved through medical treatment of osteoporosis and through concurrent use of strategies aimed at reducing the risk of falls. Services should identify people who have sustained new fractures (in all settings) and identify people at risk in the community who have previously had a fracture or are at high risk from having one. At risk patients should be offered a timely DEXA scan to assess their bone mineral density and appropriate treatment based on the results. They should also be given information and advice on how to deal with the condition and should be empowered with an understanding of the need to continue with medication long term in order to reduce future fractures as well as lifestyle interventions which will reduce their fracture risk. A combined falls and bone health service would provide a seamless pathway for patients, as osteoporosis, fracture and falls are closely linked.

12.2 CURRENT SITUATION

Lanarkshire guidelines are currently in place for the Investigation and Management of Osteoporosis for Hospital and General Practice. Direct access to DEXA from both secondary and primary care has been in operation in Lanarkshire since 1998. Scanner provision in Lanarkshire has not increased since its inception in 1998, at that time the service was performing approx 500 scans per year but this has increased considerably in the last few years. Last year (2007) 3500 patients attended the service with a further 1200 being offered appointments at Golden Jubilee Hospital in Clydebank. Demand currently outstrips capacity by 190 patients per month. Waiting time projection based on current demand and resources (double current wait by April 2009) are depicted below in Figure 6.

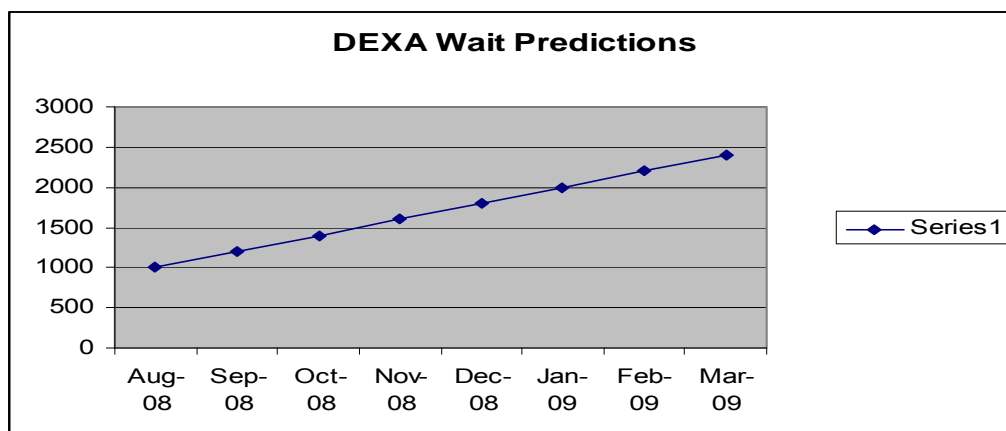


Figure 6

The Fracture Liaison Service delivers a strategic approach to secondary prevention of fractures in Lanarkshire. It is based on the principle of identifying all patients over the age of 60 presenting to hospitals with a fracture. The fracture liaison nurse identifies all patients attending A&E departments across Lanarkshire, with a fracture, over the age of 60 using available IT systems. The nurse effects delivery of fracture risk assessment and protocol based treatment on all three

hospital sites when appropriate. Nursing capacity has not allowed further development of the service. An additional nurse specialist would allow for additional screening and assessment, as well as preventative work to be undertaken in primary care.

Currently there is a fortnightly osteoporosis clinic based at Wishaw General run by the rheumatology department. The purpose of this clinic is to deal with the more complex cases of osteoporosis management.

12.3 IMPROVING IDENTIFICATION OF PATIENTS WITH HISTORY OF FRACTURES

New fractures presenting at all acute hospitals over the age of 60 are notified to the fracture liaison service on a monthly basis via the e-health manager. Work is ongoing with x-ray department's at all acute sites to formalise a method of reporting and identifying vertebral fractures. GPs will be encouraged to seek and record past fracture histories (>50) in the computerised systems. Once identified these patients could be referred via direct access for DEXA scan and treatment. A standardized system for recording and reporting vertebral fractures is also required, in particular to develop links between radiology and the bone health team.

12.4 IMPROVING OF DEXA SERVICES

As part of the diagnosis for osteoporosis and prediction of future fracture risk patients require to have a DEXA scan performed with treatment recommendations based on the WHO²⁸ definition of standard deviations below (that of a healthy young adult as advised by SIGN 71²⁵, NICE 87²⁶, and RCP (2002) GIO guidelines²³).

The demand for DEXA scans has seen a sharp increase in referral some of the reasons for this are:

- The development of a Lanarkshire wide fracture liaison/falls service.
- A growing elderly population that is estimated to increase further from 15.9% over 65 in 2001 to 26.6% over 65 in 2031 as Scotland's population increases so will the prevalence of long term conditions (Kendrick, 2004)³⁶.
- The implementation of protocols covering medications widely used for breast and prostate cancers that have been linked with high osteoporosis risks highlighting the need to scan and monitor regularly this patient group.
- Increased awareness of osteoporosis as a condition by both the general public and clinicians.
- The impact of SIGN 71²⁵, NICE 87²⁶, BOA guidelines and the Scottish Hip fracture Audit¹³.

A recent audit of the scanners workflow revealed that in March 2008 the department received 400 scan requests and performed 190 scans in that month. Redesign of the current process to include additional **Radiography helper** (pre and post scan work to free radiography time for more scans), **Administrative support** (to deal with request from scanned patients which radiographer currently deals with), and **Increased accommodation** (to improve patient follow between radiography dept and specialist nurses) would allow one scanner to deal with current demand, but would not address the backlog of referrals or the predicted and necessary increase in future referrals required to address SIGN, NICE and RCP Guidelines in the prevention and management of osteoporosis.

If Lanarkshire is to become self sufficient, meet government targets for current waits and address future demand, a second scanner is required. Location of this scanner in South Lanarkshire will improve access for patients in this geographical area. Modern scanners can be linked through the NHS internet allowing the operator to seek advice from a professional on another site. Interpreting a DEXA scan in patients with vertebral abnormalities requires experience and training.

Reporting of all DEXA scans is recommended by SIGN, with a legal requirement under “Ionising Radiation (Medical Exposure) Regulations (IR (ME)R2000)³⁷ that all examinations are reported by a competent person. To maximise efficiency of DEXA scanning all scans should be reported by someone with expertise in interpreting scans and who is fully aware of local treatment guidelines. This would prevent over treatment of those at low risk of fragility fractures and under-treatment in patients with a mixture of osteoporosis and vertebral abnormalities.

Extending the service to identify all patients aged 50 plus in line with SIGN²⁵ and NICE²⁶ guidelines would have the following impact:

Group of Patients	Number identified based on 2007 figures for Lanarkshire	New patients each year requiring DEXA scans and/ or clinic reviews.
Identify and offer screening to all new fracture patients aged 50-60	1400 per year approx 60% agree to screening	840 patients per year
Identify and offer screen to all new fracture patients aged 60 plus with link to falls service at age 65	2400 per year approx 60% agree to screening	1440 patients per year
Identify and offer screening to all patients having a thoracic or lumbar spine x-ray that has been reported with core terminology indicating an osteoporosis risk. Age 60 plus at all three acute hospital x-ray departments.	1200 per year approx 80% agree to screening	960 patients per year
Identify and offer screening to all patients having a thoracic or lumbar spine x-ray that has been reported with core terminology indicating an osteoporosis risk. Age 50-60 at all three acute hospital x-ray departments.	1200 per year approx 80% agree to screening	960 patients per year
Establish and sustain compliance/review clinics for patients diagnosed with osteoporosis and commenced on treatment	Approx 50% of these patients can be expected to be commenced on treatment	2100 patients would need review appointments at 10 patients per session would require the nurses to staff 5 sessions per week.

With this volume of patients attending the nurse-led clinics it will undoubtedly lead to an increase in the number of complex cases identified that require a medical review. This will have an impact on the osteoporosis clinic capacity and waiting time therefore additional osteoporosis clinic sessions should be anticipated and planned as part of this review. Provision of suitable office/clinic accommodation for the nurses, to host their clinics in conjunction with the DEXA scanners is required.

Financial Implication-Bone Health Element

Additional Funding Requirements	Non Recurring £	Recurring £
Consultant sessions x2 per week		18,500
Radiographer Band 6 1.2 WTE		42,240
Nurse Band 6 1.2 WTE		42,240
Radiographer Helper Band 3 1 WTE		19,700
Secretary Band 4 1 WTE		23,000
Purchase price of scanner	65,000	
Building costs scanner installation (estimate)	25,000	
Annual maintenance costs		8,500
Sundries		5,000
Twice yearly patient education events		3,000
Total	90,000	162,180

For the above additional funding the fracture liaison service would be able to

- Identify over **6000** new patients each year who are at the highest risk of having osteoporosis. Not all will agree to be screened but based on previous years figures from Lanarkshire fracture liaison service over **60%** of all fractures identified through accident and emergency will attend and over **80%** of patients who are identified from the x-ray department will attend, this will create additional demand for DEXA scans in the region of **4200** patients per year (full capacity for one DEXA scanner).
- These scans will be reported by the fracture liaison nurses and sent back to the patients GP with a treatment plan and the patient will be given health promotion/ condition management advice at the clinic in line with NHS Lanarkshire strategy for the management of long term conditions¹⁸.
- The patients diagnosed with osteoporosis will be offered at least one review appointment with the osteoporosis nurse in an effort to increase drug compliance estimated at 2100 clinic appointments per year.

12.5 PHARMACOLOGICAL INTERVENTIONS

Pharmacological intervention for this patient group is adequately covered in the Lanarkshire Guideline on the Management of Osteoporosis³⁵ (adapted from SIGN²⁵ and NICE²⁶ guidelines). Prevention of corticosteroid induced osteoporosis is also covered in this document. The primary care action plan over the last four years has focused on targeting calcium and vitamin D supplements at the high risk population of elderly >75 who have a good chance of being vitamin D deficient. The plan has also tried to ensure better compliance with supplements for patients at any age already taking a biphosphate or other drugs for the management of osteoporosis.

12.6 PHYSIOTHERAPY AND EXERCISE

Provision and associated cost are already described under the prevention of falls at home section- tiered exercise programme.

12.7 PATIENT EDUCATION

Developing and sustaining twice yearly new patient education sessions for newly diagnosed osteoporosis patients is a vital component of any new service. It allows opportunities for updating on drug therapies and an opportunity for bone health staff to re-enforce the importance of medication and lifestyle advice given at initial clinic visit.

Section 13: ADDRESSING THE PSYCHOLOGICAL CONSEQUENCES OF FALLS

13.1 PREVALENCE AND RISK FACTORS FOR FEAR OF FALLING

Evidence suggests that many older people, both fallers and non-fallers, experience psychological difficulties related to falls. The prevalence of fear of falling is estimated to be between 12% and 65% in people who have not previously fallen and between 29% and 92% in those who have fallen; with women being disproportionately adversely affected (PROFANE 2005)³⁸. Approximately 50% of community living older adults report a fear of falling and/or low self efficacy in relation to falls (Howland et al 1993)³⁹. Falls are also a known risk factor for developing late onset agoraphobia (Lindesay 1991)⁴⁰.

Fear of falling has been conceptualized as:

- Encompassing activity limitation
- Few resulting in low confidence in balance ability
- Low fall related efficacy which translates to low confidence at avoiding falls

13.2 FEAR OF FALLING AND PSYCHOLOGICAL CONSEQUENCES OF FALLING

The perceived cause of a fall is important as it may affect a person's interpretation of their control over the prevention of future falls. A fall within the 'safety' of the home, but also outside home, can have a negative impact on an older person's psychological well-being, as they are more likely to interpret the fall as an indication of physical and/or cognitive decline. This may also be viewed as leading to loss of independence/the need to move to a care home/becoming a burden on family. Equally the circumstances surrounding the fall may also have a devastating psychological impact (i.e. if the older person was left waiting for a long time lying on the floor before somebody came to rescue them).

'Post fall syndrome' is a common consequence of an older person experiencing a fall. It is characterised by a fear of falling, loss of confidence and voluntary restriction on activity after a fall that is dramatically out of proportion to the physical injuries sustained. Other such consequences include negative thinking that reduces self esteem, attributing the fall to factors that are out with the persons control and changes in behaviour such as avoidance, reduction in activities, social withdrawal and agoraphobia. These often lead to a phobia of falls, increased levels of depression and generalized anxiety in older people who have fallen.

The psychological consequences of fall should therefore not be underestimated. According to Skelton (2008)⁴¹, the psychological implications of fall predict reduction in activity and physical functioning and increased risk of falling. Failure to address psychological issues may adversely impact on the rehabilitation aims of specialist falls services.

13.3 ACTION TO REDUCE THE PSYCHOLOGICAL CONSEQUENCES OF FALLS

The National Service Framework for Older People (NSFOP)⁴² and NICE guidelines on falls (NICE, 2004)⁴ recommend that the psychological consequences of falls should be addressed. There is evidence from the literature to recommend the use of multi-factorial interventions which include a significant element of psychological intervention (Zijlstra et al 2007⁴³, Tennstedt et al 1998⁴⁴). Interventions which take account of the cognitive, behavioural and emotional aspects of fear of falling, within a multi-factorial, multi-disciplinary treatment are most likely to be effective.

Enhancement of psychological assessment, as well as cognitive, behavioural and emotional interventions are required for the full team to fully address psychological issues.

Occupational therapists and physiotherapists in the falls service in particular are key in facilitating exposure to activities of daily living and mobility in those who have fallen and will work closely with service users to address functional issues associated with the psychological consequences of falling.

Training and resources for staff will provide:

- Assessment, intervention and psycho-education to patients as part of the integrated multi-disciplinary Falls Service.
- Improved psychological screening within the service and resultant care pathways.
- Training of other staff about the psychological consequences of falls and the prevalence and consequences of fear of falling.
- Brief psychological interventions in relation to fear of falling.

Additional Funding -Financial implications

	Non-Recurring £	Recurring £
Training		3,000
Total		3,000

Section 14: INTEGRATED FALLS SERVICE DELIVERY MODEL

14.1 REHABILITATION MODEL

The future Falls and Bone Protection Model is set in the context of the generic future "Rehabilitation Model" described in the Delivery Framework for Adult Rehabilitation². The Lanarkshire Falls Model is detailed in table 3. Page 45.

A coherent integrated system for community based rehabilitation requires further work, with maturity of team development and integration variable across the Lanarkshire. The way forward in terms of contribution and organisation of services providing rehabilitation in the community, as an alternative to hospital rehabilitation, includes development of flexible service delivery between hospital discharge teams, community teams, social services, domiciliary physiotherapy and Day Hospitals.

35% of current Early Supported Discharge Teams workload is attributed to falls. Redesign of these services to position them as an integral part of wider community rehabilitation, with support from others delivering community rehabilitation and specialist hospital assessment and diagnosis, will form the backbone of the Lanarkshire Falls Service. This is only however one component of Intermediate care. Falls services will access a menu of alternatives to hospital admission including step up and step down beds in community hospitals and care homes.

The falls component of future Community Rehabilitation Teams will be overseen by the two Falls Coordinators, which each CHP requires to appoint as part of the Delivery framework for Adult rehabilitation. These Coordinators will work alongside the Rehabilitation Co-ordinator to shape community rehabilitation delivery. Close working with Fracture Liaison Services will provide two way screening, referral and appropriate intervention.

Service components are based on robust evidence base. Workforce planning recommendations are based on professional judgement and use of current assessment, visit and clinic workload.

14.2 UNDERPINNING FRAMEWORK

14.2.1 Access

It is vital that people are able to access the various components of the falls prevention service. A single point of access to falls prevention service will be provided through a Falls Service Administration Centre. This will also form the base for the Falls Co-ordinators, providing a central hub.

Providing patient transport for people from their own home (or a care home) to group interventions requires planning to implement this part of the strategy.

14.2.2 Training

Successful implementation of the strategy is dependent on having appropriately trained staff, with awareness of falls issues, their implications and how to access assessment and intervention. Sub- groups need to consider implications for trainer time, staff backfill and types of training to meet needs.

Postural Stability Instructor training for to deliver the exercise classes has already been discussed under the tiered exercise section.

14.2.3 Resources and Publication

There will be an ongoing requirement for information booklets, hip protector advice and home exercise booklets and DVDs.

14.3 STRATEGY EVALUATION

A performance management framework to evaluate strategy achievement requires development across agencies, with a variety of data currently available in both health and social settings. Assistance will be provided by ISD Departments, Clinical Effectiveness and Modernisation.

Evaluation is required at both a community/population level and an individual level. There is merit in unbiased evaluation from out with health and social services. Better information is required to understand the frequency and pattern of falling among the older population in Lanarkshire at a population level. There is also a requirement to develop valid and workable indicators of the performance of the falls prevention and bone health strategy.

Development of a Lanarkshire falls database through service administration are key to facilitating robust evaluation of falls strategy development. Work is required to ensure comparability and relationship of data captured to defined denominator populations.

The capacity to benefit will be dependent on local implementation factors, as success is dependent on a combination of identification, assessment and rehabilitation.

Aspects of evaluation will include:

- Activity Analysis –Screening, Assessment, Intervention, DEXA
- Demographic Analysis
- Fracture Outcomes
- Functional Indicators (reduction in falls risk)
- Prescribing Analysis
- Analysis of Patient Journey
- Quality of Life Indicators
- Patient & Carer Satisfaction Surveys
- Analysis of Clinical Contacts
- Cost Benefit Analysis

Financial implications

	Non-Recurring £	Recurring £
Training	2,000	
Resources and Publications		10,000
Audit and Evaluation Clinical Effectiveness Officer-Band 6 (Non recurring 1 year temp contract)	35,200	5,000
Total	37,200	15,000

Section 15: FINANCIAL FRAMEWORK- PROPOSED SERVICE DEVELOPMENT
15.1 CURRENT STAFFING

The following table identifies current resource dedicated to falls in NHS Lanarkshire.

Profession	WTE	Funding Source
Consultant	4 sessions	Mainstream
Specialist Nurses	2.00	Mainstream, Delayed Discharge
Physiotherapists	1.30	Delayed Discharge/ESD
Occupational therapy	1.50	Delayed Discharge/ESD
Admin band 3	1.30	Mainstream/ESD

Additional assessment and rehabilitation capacity is provided by community nursing, community AHP services and social services including homecare.

15. 2 ADDITIONAL RESOURCES REQUIRED

Additional resource required to deliver the strategy and address the growing falls financial burden are described in the table below.

Strategy Section		Non recurring £	Recurring £
7 Deliverables	Falls Co-ordinator and Admin Support Develop operational action plan and implement the strategy Co-ordinate all components of the service	4,000	131,058
7.3 7.4 Deliverables	Out-Patients Specialist Falls Clinics Tiered Exercise and Education Programme <ul style="list-style-type: none"> ▪ Increase AHP and leisure capacity to falls clinics, tiered exercise classes and rehab ▪ Additional 2400 patients will receive specialist assessment and rehabilitation ▪ Additional – patients seen by Consultant at Falls Clinics per annum. 	1,500 15,000	54,590 360,922
9 Deliverables	Falls Prevention Support to Care Homes ↑capacity for health support to care homes to focus on falls prevention, management and training support (reduce fractures this setting)	1,500	28,374
10 Deliverables	Hip Protectors To provide hip protectors for all those at risk (1500 patients) in Care Home setting and hospital continuing care setting		150,000
12 Deliverables	Bone Health Additional scanning, radiography and nursing capacity which will: <ul style="list-style-type: none"> ▪ Address current DEXA waits ▪ Identify, scan and support an additional 4200 patients per year who are at highest risk of osteoporosis ▪ Provide an additional 2100 osteoporosis nurse appointments for treatment plan and medication compliance ▪ 2 additional Consultant osteoporosis clinics per week 	90,000 DEXA scanner +installation	162,180
13 Deliverables	Psychology Training To support the psychological aspects of falls and consequent fears/impact on function		3,000
14 Deliverables	Underpinning Framework Training, evaluation , publications and resources (public health)	37,200	15,000
TOTAL		£ 149,200	£905,124

15. 3 Implementation and Organisational Arrangements

Implementation of the falls strategy and enhancement of falls services as an integral part of mainstream redesigned community rehabilitation services will provide prevention of falls through provision of planned, co-ordinated population approaches, multi-factorial assessment, investigation and rehabilitation.

Changes will be driven through the CHP's (as required by HDL (2007) 13⁷, with Falls Co-ordinators having a service development and improvement role to implement these plans. The Falls Co-ordinators will work closely with the Rehabilitation Co-ordinator to deliver an integrated approach to falls prevention.

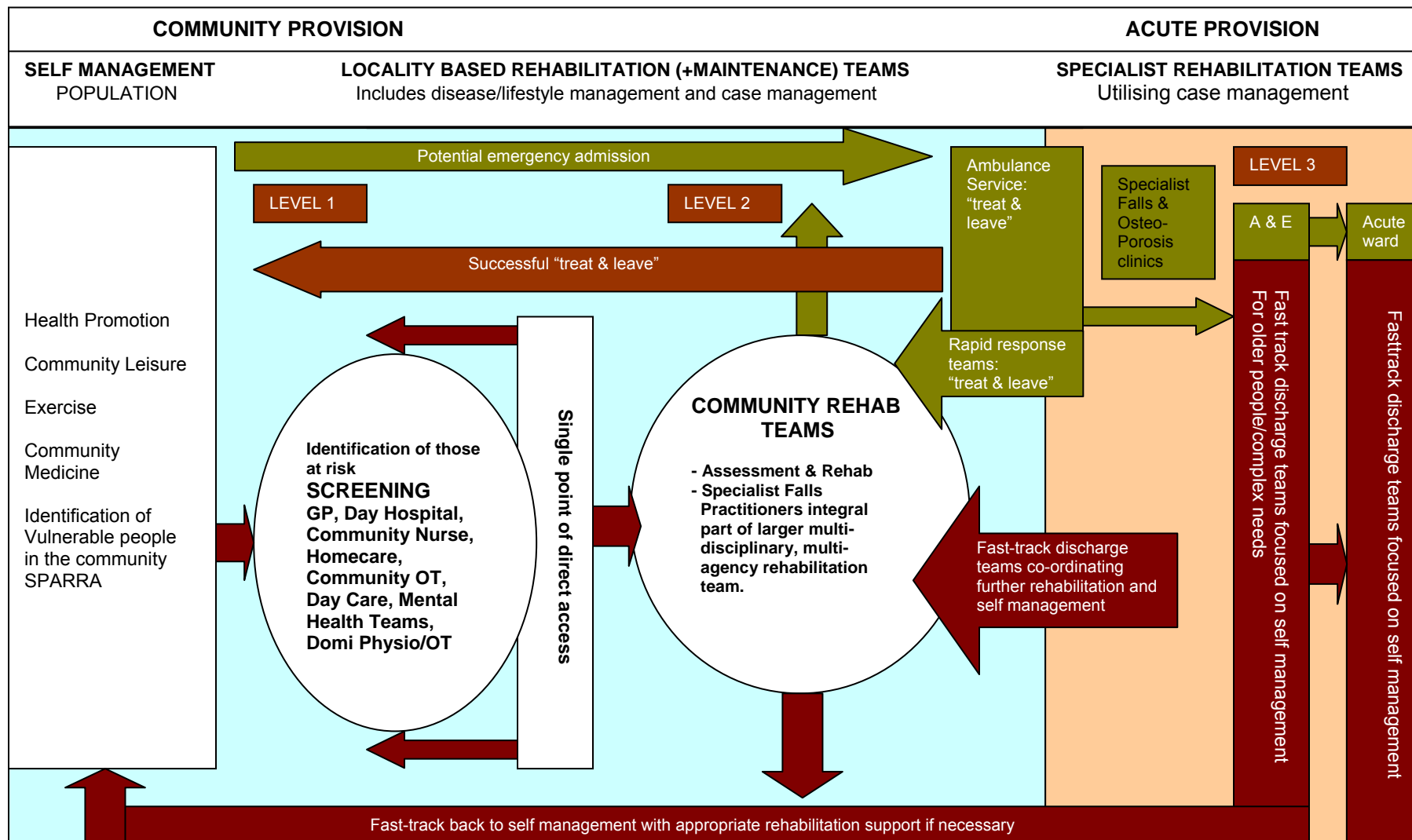
Work is required to develop an NHSL Rehabilitation Strategy and Implementation Plan that will describe how we will implement recommendations from the Framework for Adult Rehabilitation (2007)². The falls strategy delivers on a strand of this work, showing falls services within the wider future community rehabilitation model in Table 3, Page 45.

15. 4 Prioritisation

While the evidence base supports a multi-factorial approach to falls prevention and the Steering Group are keen to advocate a whole system redesign of falls services, there is robust evidence base and benefits from individual sections. It is also recognized that money for all components of the redesign is not easily available for release or reallocation. Prioritisation and benefits for each section are therefore described below to allow consideration of individual components.

Priority	Service Component	Benefit
1	Falls Co-ordinator and Admin Support	<ul style="list-style-type: none"> ▪ Develop operational action plan and implement the strategy, developing and co-ordinating all components of the service ▪ Facilitate development of falls database to inform future actions ▪ Requirement of HDL 13 (2007), ensure achievement of optimal outcome
2	Tiered Exercise and Education Programme	<ul style="list-style-type: none"> ▪ Additional 29 falls exercise classes across NHSL, additional 2400 patients will receive specialist falls assessment and rehabilitation ▪ 15-30% reduction in falls – for NHSL this will mean a reduction of up to 10 140 falls per annum. ▪ Reduction in Fracture neck of femur- between 108 and 216 less per annum (and reductions in associated mortality rates: 22- 48 lives per annum) ▪ Fractures at other body sites- 472 to 944 less per annum. ▪ Impact on A&E attendances and target wait times here- 5 070 less ambulance attendance following fall and 2700 less self referrals. ▪ Bed days saved –up to 4991, with economic savings across health and social services (care and home costs) of £5Million
3	Bone Health	<ul style="list-style-type: none"> ▪ Meet 18 week target (currently 190 referrals per month over DEXA capacity) ▪ Closely linked with tiered exercise outcomes of up to 30% reduction in falls and thus fracture rates -identify bone health issues in additional 4200 patients, who are most risk of fracture after a fall.
4	Underpinning Framework- Training, evaluation, publications and resources	<ul style="list-style-type: none"> ▪ Robust evidence that public health intervention reduce falls up to 6% (2028 less falls per annum). ▪ Vigorous evaluation of use of additional resources and all service elements are required to inform outcomes, future direction, priorities and sustainability.
5	Out-Patients Specialist Falls Clinics	<ul style="list-style-type: none"> ▪ Appropriate medical management and intervention for an additional 440 patients per annum from those most at risk.
6	Hip Protectors Falls Prevention Support to Care Homes	<ul style="list-style-type: none"> ▪ Evidence of up to 40% reduction in falls in Care Home setting only- although compliance is shown to be an issue, so must be linked training and support described in the paper. Associated reduction in fractured translates to 45 less fractured NOF from this setting. ▪ Lower priority has been given due to recent investment in care home support. Further piloting in high risk nursing homes prior to rollout across NHSL is recommended.
7	Clinical Psychology	<ul style="list-style-type: none"> ▪ Quality of life benefits for patients.

Table 3- Future Model- Falls Provision (Based on Future Model for Rehabilitation; Coordinated, integrated and Fit for Purpose; NHS Scotland 2007)



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APPENDIX 1- STEERING GROUP MEMBERSHIP

Eamonn Brankin- General Practitioner
Alison Cavinue- Care Home Liaison
Senga Cree (Chair) - Head of Physiotherapy
Evelyn Devlin- South Lanarkshire Council
Michael Gallacher- Consultant Care of the Elderly
Roy Garscadden- Head of Planning
Mary Hood- Dietetics
Jim Nisbet- Older Peoples Service Manager- North Lanarkshire Council
Rose Letham- ESD Service Manager
George Lindsay- Chief Pharmacist
John Logan- Public Health
Louise Mercer- South Lanarkshire Council
Georgie Madden- Discharge Manager
Karen Malone- ESD Service Manager
Lianne McInally- Occupational Therapist
Melinda Shakespeare- Senior Social Worker-North Lanarkshire Council
Caroline Mitchell- Osteoporosis Nurse
Robin Munro- Consultant Rheumatologist
John O'Donnell- Health and safety advisor (SALUS)
Damien Reid- Consultant Care of the Elderly
Sandra Sage- Older Peoples Service Manager- South Lanarkshire Council
Jim Wright (Chair)- General Manager Coatbridge Locality