Falls Prevention and Bone Health

Joint Strategic Needs Assessment

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This document contributes to

Westminster's Joint Strategic Needs Assessment

Contents

1: Introduction

This needs assessment supports the Falls Prevention Strategy for Westminster 2010-2013 and is part of a wider programme of needs assessment, the Joint Strategic Needs Assessment (JSNA), undertaken jointly by Westminster City Council and NHS Westminster. The JSNA process seeks to ensure that needs assessment is embedded into the commissioning cycle, to make sure we are designing and commissioning services to meet the health and well-being needs of our community and reduce health inequalities.

A fall is defined as 'an unintentional event that results in a person coming to rest on the ground, or another lower level.' (Kellogg International Work Group on the Prevention of Falls in the Elderly, 1987)

Everyone is potentially at risk from falling, however, although not an inevitable result of ageing, older people are considered to be most at risk, both from experiencing a fall and suffering from an injury that requires hospitalisation as a result of a fall (Cryer 2001).

This needs assessment, therefore, focuses on falls in older persons and specifically aims to:

- describe the risk factors for falls and identify those persons in Westminster most at risk of experiencing a fall;
- estimate the number of falls that occur in Westminster each year;
- estimate the prevalence of falls related injury in Westminster;
- describe the long term implications of falls for Westminster residents;
- describe evidence of the most effective way of preventing falls;
- describe current falls prevention services;
- determine whether existing services meet the needs of older people in Westminster and identify gaps in services and areas of unmet need;
- provide conclusions and recommendations for reducing the incidence of falls and addressing gaps in services and current unmet need.

2: What is the issue and why is it important?

Falls are a major cause of disability and a leading cause of mortality in persons aged 75 and over in the UK (Scuffham & Chaplin 2002). The incidence of falls amongst older persons is high; the Royal Society for the Prevention of Accidents (ROSPA) suggests that one in three people aged 65 and over experiences a fall at least once a year – this rises to one in two aged 80 years and over.

Not only does the high incidence of falls amongst older persons cause concern, but the combination of this high incidence coupled with the high susceptibility to injury and requirement for hospitalisation associated with falls in older persons, highlights the need to prevent falls amongst older persons (National Institute for Clinical Excellence, 2004).

Although most falls do not result in serious injury, the consequences of falling or not being able to get up from a fall are significant and include:

- psychological problems, for example, loss of confidence and fear of falling;
- impaired mobility which may lead to social isolation and loneliness;
- increase in dependency and disability;
- hypothermia;
- pressure-related injury;
- infection.

In some individuals the consequences of falling can result in injury such as fractures – an estimated 5% of all falls result in fracture (Tinetti *et al*, 1988). Hip fractures are particularly common in older persons; more than 95% of hip fractures in persons aged 65 and over are the result of a fall.

As a result of the injuries associated with falls, particularly in older persons, hospital admission is sometimes required. Not only is this something that older persons have told us they do not want, but hospital admission is associated with significant financial costs. 65% of costs associated with falls are related to hospital admissions of persons aged 65 and over. Local analysis shows that for the latest 12 month period for which

data is available (December 2007 – November 2008), hospital admissions attributable to falls cost NHS Westminster £1,361,213.

A further consequence of falls in older persons that require hospital admission is the potential need for residential or nursing care. Approximately 46% of hospital admissions for hip fractures sustained as a result of a fall result in admission to residential or nursing care.

Maintaining independence and supporting people to remain in their homes for longer is not only something that older people in Westminster have told us they want but it is a national directive, highlighted in the White Paper, *Our health, our care, our say* and more recently *Putting People First*. Reducing both the incidence of falls and also the associated morbidity has the potential to reduce admissions to residential and nursing care homes.

The National Service Framework for Older People (2001) included the specific aim 'to reduce the number of falls which result in serious injury and ensure effective treatment and rehabilitation for those who have fallen.'

3: The older population in Westminster

As older people are the biggest risk group for falls they are the focus of the Westminster Falls Prevention Strategy. Therefore it is useful to understand the demographics of the older population in Westminster to better understand the potential impact of falls at a local level.

3.1 The size of the population in Westminster

The population of England is ageing, with older people (persons aged 65 and over) making up an increasingly larger proportion of the total population; Office of National Statistics (ONS) mid-2007 population estimates report that there are over 8 million persons aged 65 and over resident in England (ONS, 2008).

The ageing trend observed at a national level is not so marked in Westminster; Westminster has a lower proportion of older people than both London and England as a whole; 11% of the Westminster resident population is estimated to be aged 65 and over, compared to 12% in London and 16% in England (ONS, 2008). Population estimates suggest that there are between 23,429 and 25,600 older people resident in Westminster, of whom between 3,000 and 3,400 are aged 85 and over (based on GLA 2007 and ONS mid-2007 population estimates).

Table 3.1: Mid year 2007 ONS population estimates

	Westminster	London	England
	% of population	% of population	% of population
65 to 74	5.6%	6.0%	8.2%
75 to 84	3.8%	4.1%	5.6%
85+	1.5%	1.6%	2.2%

Of the population aged 65 and over, 56% are female and 44% male. Compared to all age groups the ethnic make-up of the older population appears less ethnically diverse. Eighty four percent of the population aged 65 and over in Westminster are White. A small proportion of older people belong to Black and minority ethnic (BME) groups

(16%) than the population as a whole (29%), with Asian ethnic groups particularly underrepresented in the older population; an estimated 6% of persons aged 65 and over are Asian compared with 11% in Westminster as a whole.

3.2 How is the population in Westminster expected to change?

Nationally, the number of persons aged 65 and over is expected to increase. In 2008, persons aged 65 and over represented 16% of the total population in England; this is expected to increase to 20% by 2025.

How the size of the population of people aged 65 and over in Westminster will change over the next 15 years depends on the population projections used; currently the Office of National Statistics (ONS) and the Greater London Authority (GLA) produce projections. GLA population projections are generally considered more accurate for planning purposes.

Based on GLA population projections, there is unlikely to be a substantial increase in the number of older people resident in Westminster over then next 20 years; the number of older people is expected to increase from 23,429 in 2008 to 24,501 in 2026. Whilst over the next 15 years there is likely to be little change in the number of older people aged 70-79 and 80-89, the largest increases in the population aged 65 and over will be seen in the number of persons aged 65-69 and 90 years and over.

According to the GLA, the ethnic diversity of the older population in Westminster is expected to increase with an increasing number of older persons in Westminster belonging to BME groups. The largest increase will be seen in the 'Other' ethnic group; this ethnic group is extremely diverse, comprised of people from a range of countries of birth, languages and religions.

Figure 3.1: Projected trends in older people in Westminster by age

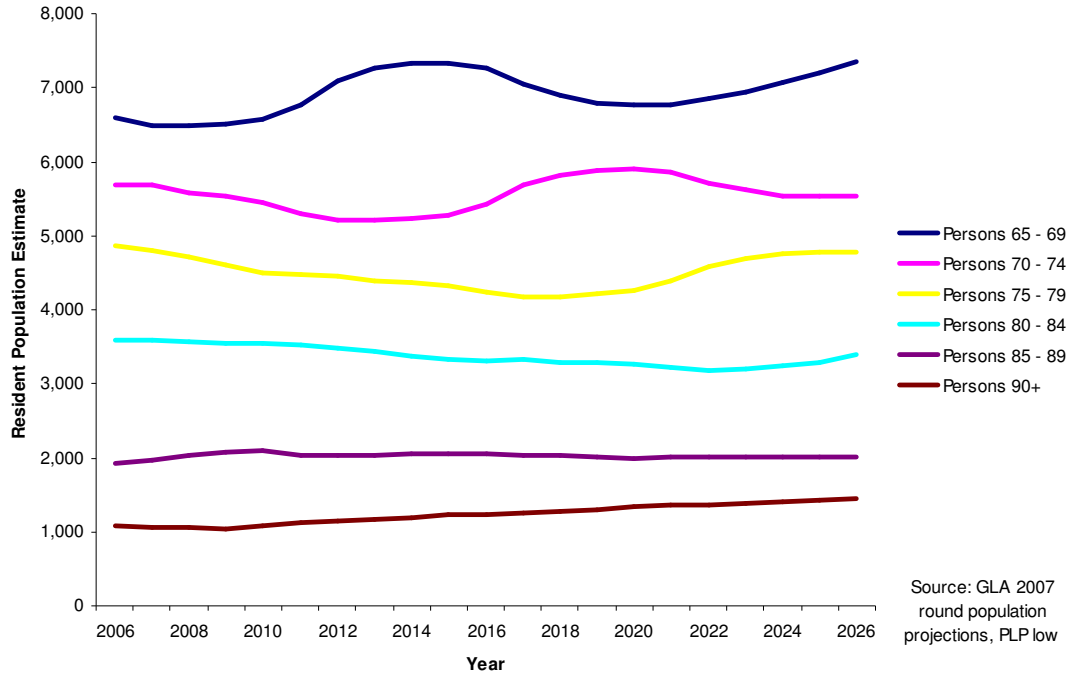
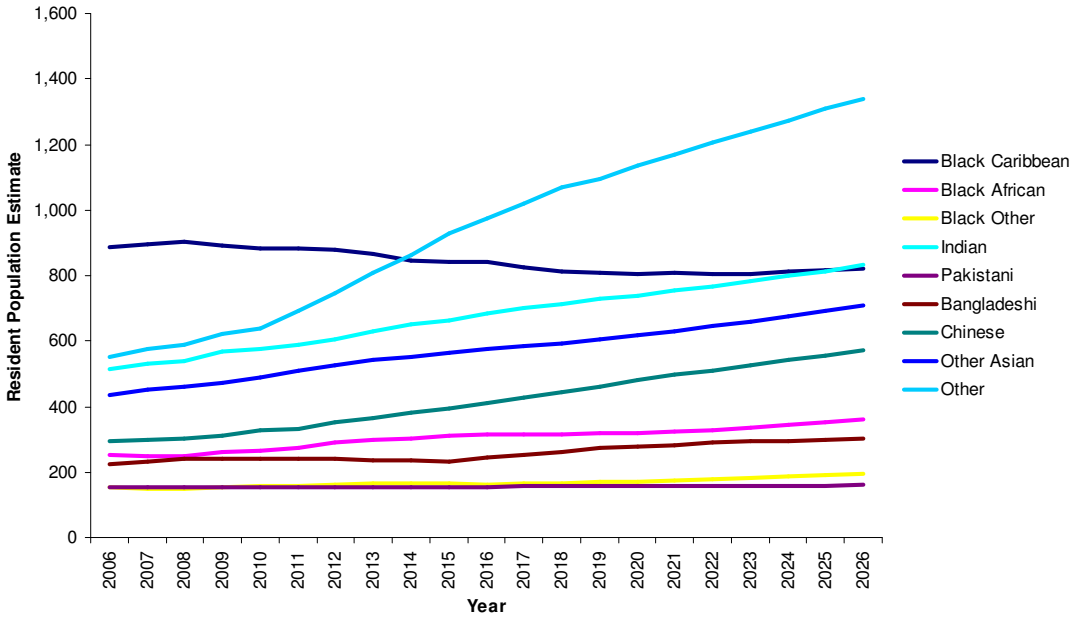


Figure 3.2: Projected trends in older people in Westminster by ethnic group



3.3 Wider determinants of health and well-being

Many factors impact on the health and well-being of older people - the factors that have been found to have the most significant influence on people's health and well-being are often referred to as the wider determinants of health. The majority of these key determinants of health and well-being lie outside the direct influence of health and social care.

3.3.1 Deprivation

Deprivation is an important factor to consider because we know that persons from more deprived areas experience inequitable access to services. The pattern of deprivation across Westminster is complex with areas of affluence and extreme wealth often lying adjacent to areas of significant deprivation. Twenty percent of Westminster's super output areas (SOAs[1]) are in the highest 20% of SOAs nationally for older people experiencing income deprivation. Areas of high income deprivation are largely concentrated in the North West of the borough.

As people get older their source of income changes; a decreasing proportion of income is from employment and an increasing proportion is from pensions and benefits.

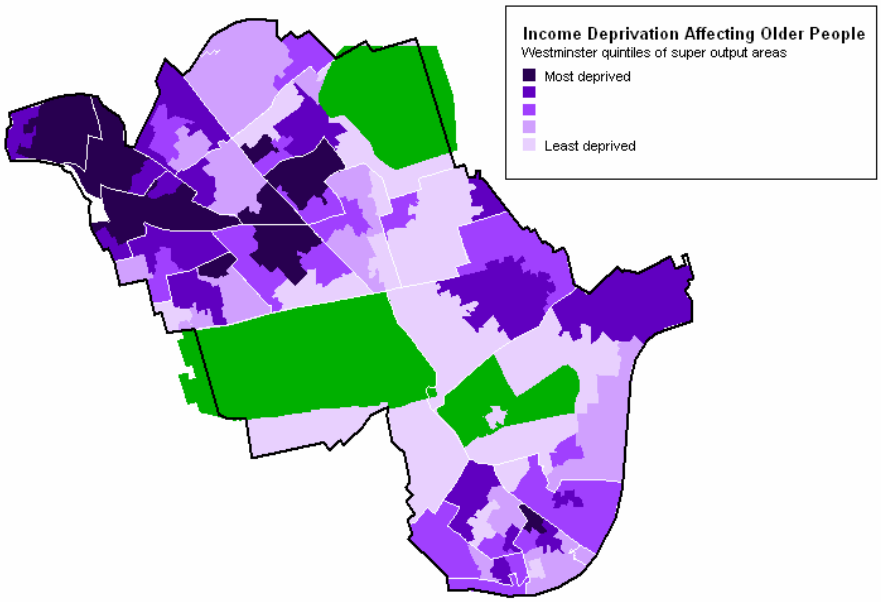
3.3.2 Housing and living arrangements

Westminster has one of the highest proportions of older persons living alone in England; according to the 2001 Census, one in two older residents lives alone in Westminster compared to one in four in England. The likelihood of an older person in Westminster living alone increases with age; 45% of those aged between 65 and 74 years living alone, compared with 64% of those aged 85 and over.

Not only does Westminster have one of the highest proportions of it's older population living alone in London, but it has the second lowest proportion of unpaid care in London. Just 7% of Westminster's residents provide some form of unpaid care compared with 8.5% in London and 10.6% nationally.

[1] Super output areas (SOAs) are geographical units that include an average if 1,500 people

Figure 3.3: Income Deprivation Affecting Older People Index, Westminster deprivation quintiles



SOURCE: Communities and Local Government (CLG) - The English Indices of Deprivation 2007

With high proportions of older people living alone, together with low proportions of older people recognised to be in receipt of unpaid care, the picture of older people in Westminster would appear to be one of living alone, often without substantial family support and some degree of social isolation. As a result older people in Westminster may be at increased risk of experiencing a fall and also less likely to be able to access health care as a result of a fall, thus potentially exacerbating the morbidity associated with falls.

3.4 Crime and fear of crime

Although older people are less likely to experience crime than younger people, fear of crime is often high. This can impact on the amount of physical activity being undertaken by older persons and can result in a loss of self confidence.

3.5 Access to transport

Transport enables older persons to keep in contact with friends and family and is seen as vital for maintaining independence. Car ownership decreases with age, therefore, older people are more reliant on public transport. A ‘freedom pass’ is given to persons over the age of 60 who are permanently resident in London to travel free. This

eliminates cost as a barrier to transport. However, lack of mobility, dementia, concerns over safety and fear of crime are still barriers to older people getting around.

3.6 Health and well-being of older people in Westminster

People in Westminster are living longer; life expectancy at birth during the period 2005 to 2007 was 81.5 years for males and 84.6 years for females compared to 76.2 for men and 80.6 for women during the period 2002-2006.

Trends, however, suggest that despite people living longer they are spending more years in poor health.

Approximately 45% of people aged 65 and over in Westminster reported having a limiting long-term illness in the 2001 Census. If the observed trend continues then an estimated 55% of persons aged 65 and over in Westminster will report a limiting long term illness which may affect the level of care required in later life.

The long-term conditions experienced by older people in Westminster are the same as those experienced by older people nationally and include cardiovascular disease, diabetes, respiratory diseases, mental health problems, including dementia, as well as problems with physical functioning and mobility.

For further information on the demographics and characteristics of older people in Westminster see the JSNA for Older People, available at http://westminstercitypartnership.org.uk/Partnerships/Health%20and%20Care/Pages/JSNA.aspx

4: Risk factors and bone health

4.1 What are the risk factors for falls?

A number of variables associated with increased risk of falling have been identified; such risk factors can be considered as either intrinsic or extrinsic. Intrinsic risk factors are those that are patient-related and include advanced age, chronic disease, muscle weakness, gait disorders, mental health problems and medications; such intrinsic factors are risk factors in their own right, however, the interaction of multiple risk factors can lead to an additive effect.

The National Institute for Health and Clinical Excellence (NICE), suggests a number of intrinsic factors most predictive of falling – these are considered separately for community dwelling older people and people cared for in extended care settings (NICE, 2004). Factors include:

Community dwelling for older people

- falls history;
- gait deficit;
- balance deficit;
- mobility impairment;
- fear;
- visual impairment;
- cognitive impairment;
- urinary incontinence.

People cared for in extended care settings

- falls history;
- gait deficit;
- balance deficit;
- visual impairment;
- cognitive impairment.

Leipzig *et al* (1999) also found that medications were an important risk factor for falls in both community and extended care settings; medications found to be associated with falls included benzodiazapines, antidepressants, neuroleptics and cardiotonic glycosides.

Extrinsic factors associated with increased risk of falls include environmental hazards or hazardous activities; extrinsic factors are identified as the primary cause of falling in approximately half of all falls. In a review of the literature, Connell (1996) found that environmental hazards such as walking on slippery or rough surfaces, obstacles, poor lighting or loose carpets can create conditions likely to cause falls for all people, but particularly for older persons living in the community who may already have intrinsic risk factors. Furthermore, the risk associated with extrinsic factors can be increased by behavioural factors such as being in a hurry, being inattentive or moving beyond limits or ability.

In addition to describing extrinsic risk factors in the general population, Connell (1996) also examined those extrinsic factors associated with falls in communal establishment settings. Risk factors include:

- use of bedrails;
- inappropriate height and stability of seating such as toilets, portable commodes etc.;
- wheelchair braking problems;
- obstacles created by mobility aids such as wheelchairs and walking frames.

Literature suggests that older people with learning disabilities may be at increased of experiencing a fall because of impaired mobility associated with conditions such as cerebral palsy and other more severe learning disabilities. The rate of mobility problems amongst persons with learning disabilities increases with age; 29% of people over 55 have mobility problems in comparison to 58% of people over 75 (NHS Health Scotland, 2004) The effects of antipsychotic and other medication use can impair mobility and contribute to falls.

People with learning disabilities may also have a higher prevalence of foot and toenail problems and may require specialist help, several community studies have found that

25-40% of adults with learning disabilities have foot problems. Some genetic causes of learning disabilities such as Edward's syndrome are associated with foot anomalies which may increase the risk of falls (NHS Health Scotland, 2004).

High rates of accidents and injuries occur amongst people with learning disabilities, in particular, accidents due to falls. These may be due to increased rates of epilepsy, medication use, balance problems or sensory and neurological impairment (NHS Health Scotland, 2004).

Sensory problems are common in people with learning disabilities and increases with the severity of the learning disability. This population therefore experiences accidents, and associated problems around mobility, balance and co-ordination which may result in falls or injury (Brown, 2005).

4.2 How common are the risk factors for falls in older people in Westminster?

4.2.1 Dementia and cognitive impairment

Dementia describes a number of brain disorders in which there is a progressive loss of brain function. The Alzheimer's Society estimates that there are currently over 700,000 people in the UK with dementia; this is predicted to rise to as many as 1.7 million by 2050 (Alzheimer's Society, 2007). In the UK it is estimated that one third of people with dementia live alone, one third live at home with a spouse and a further third reside in a care home setting.

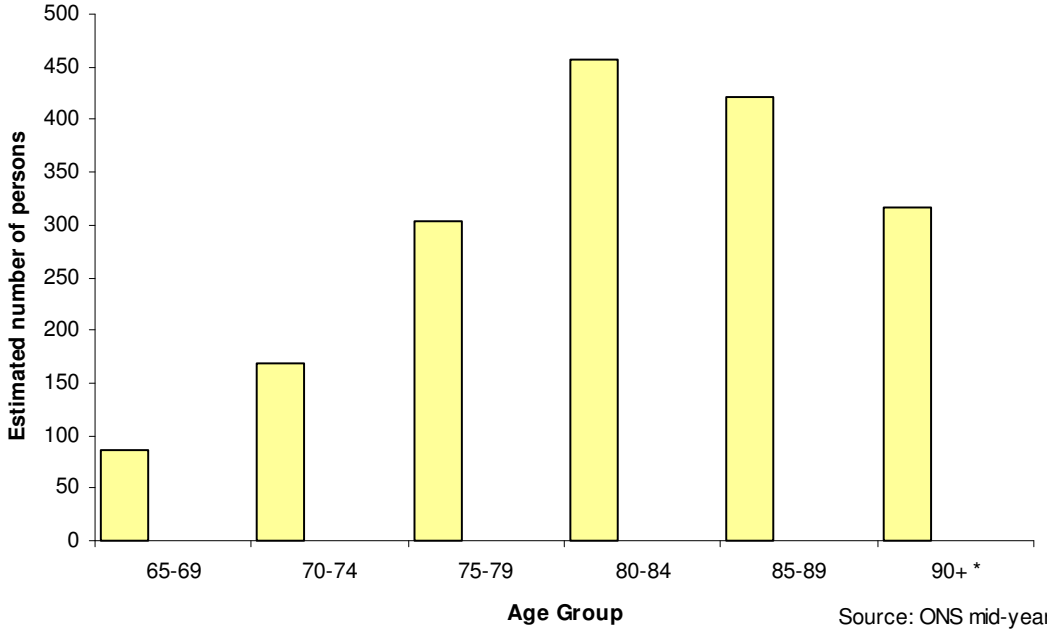
Dementia may result in depression and behavioural changes as well as a progressive decline in functions including memory and communication as well as skills needed for day to day living.

529 people have been diagnosed with dementia in Westminster (Quality and Outcomes Framework, 2007/08), however, the actual number of older people with dementia in Westminster is likely to be between 1,648 and 1,754. This suggests that almost 70% of cases remain undiagnosed and, therefore, are unlikely to be receiving appropriate care and management.

Prevalence of dementia increases with age (and is, therefore, highest in the 90+ age group); however, the largest numbers of people affected in Westminster are in the 80-84 age group given the size of the population.

The prevalence of dementia is higher in males than in females up to the age of 74; in individuals aged 75 and over, the prevalence of dementia becomes significantly higher in women. The number of females with dementia in Westminster is almost double the number of males. The gap between the number of males and females affected increases with age.

Figure 4.1: Estimated number of people with dementia in Westminster by age



Source: ONS mid-year estimates, 2006 and The Alzheimer's Society prevalence estimates.

4.2.2 Mobility

Problems with mobility are both a causative factor for falls and a consequence of falls.

Many physical functions change as people age and these changes often have a significant impact on the health, wellbeing and independence of older persons. Mobility declines with increasing age and this in turn affects a person's ability to remain active, mobile, independent and remain in their own home**.**

According to the Health Survey for England (2005) 35% of men and 49% of women aged 65 and over in London reported mobility problems[2] (this compares to 39% of men and 47% of women aged 65 and over in England). Applying the estimated

[2] Mobility problems defined as any difficulty walking a quarter of a mile on their own without equipment.

prevalence of poor mobility to the Westminster population means that there are almost 11,000 older persons in Westminster with mobility problems.

The proportion of older people with mobility problems is highest for women and increases with age; 29% of men and 31% of women aged 65-69 reported impaired mobility compared with 67% of men and 74% of women aged 85 and over.

Arthritis is a form of musculoskeletal disease that can cause deformity, loss of function and can significantly. Arthritis affecting the hands may impair the ability to perform day to day tasks, whilst arthritis affecting the hips and knees may affect mobility. Arthritis is the most prevalent chronic disease in older persons; the estimated prevalence in women is 47% compared with 32% in men (Health Survey for England, 2005); this is equivalent to 3,318 men and 6,138 women in Westminster.

4.2.3 Incontinence

Incontinence describes the condition in which physiological changes prevent individuals from remaining continent and is thought to affect an estimated 10-20% of females aged 65 and over, and 7-10% of males. It is estimated that between 2,229 and 3,990 older people in Westminster suffer from incontinence- a number expected to rise to as many as 5,330 in 2025.

4.2.4 Visual impairment

There is some evidence to suggest that poor vision is related to falls. It is common for older persons admitted to hospital as a result of a fall to have some form visual impairment.

The prevalence of visual impairment amongst older people is high; an estimated 98% of persons aged 65 and over wear glasses and 90% of blind and visually impaired people are aged 60 and over.

Low vision is defined as the impairment of visual function where remediation is not possible by conventional spectacles, contact lenses or medical intervention. An estimated 405 persons aged 65 and over in Westminster are registered with the local authority as having low vision (accounting for 75% of all persons registered as visually impaired in Westminster). A further 610 persons aged 65 and over in Westminster are registered as having a severe visual impairment (accounting for 75% of all persons registered as severely visually impaired in Westminster).

It is estimated that only a quarter of people who are visually impaired or severely visually impaired are registered and so, therefore, it is likely that the number of visually and severely visually impaired older people in Westminster is higher.

4.2.5 Stroke

A stroke describes the loss of brain function as a result of the blood supply to part of the brain becoming blocked. As a result, not only is stroke a significant cause of mortality, but it is associated with morbidity; stroke causes a greater range of disabilities than any other condition and has a greater impact than many other long term illnesses (Adamson *et al*, 2004).

The Quality and Outcomes Framework (QOF) reported prevalence of stroke in Westminster is 0.9%, however, modelled estimates of prevalence suggest that the actual prevalence is 1.7%, lower than the national prevalence of 2.5% (Eastern Region Public Health Observatory, 2008).

The prevalence of stroke increases which age. The estimated prevalence of stroke in persons aged 65 and above in Westminster is similar to the prevalence in England as a whole; in Westminster the prevalence in 65-74 year olds is 6.6% (6.4% in England). In persons aged 75 and over this increases to 11.7% (11.2% in England as a whole). Based on these estimates, approximately 2,126 persons aged 65 and over in Westminster have had a stroke.

According to the General Household Survey (2004-2005), persons aged 75 and over are most likely to experience a longstanding health condition as a result of a stroke, with males more likely than females.

4.2.6 Learning disabilities

As previously described, older persons with learning disabilities are at increased risk of falling. The prevalence of learning disabilities in the 65 and over population in Westminster is 1.63%, suggesting that there are between 382 and 417 older persons with some degree of learning disability in Westminster (Emerson & Hatton, 2004).

4.3 Factors affecting morbidity associated with falls

Osteoporosis is not a risk factor for falls *per se*, but is associated with increasing severity of the morbidity associated with falling. It is, therefore, important to consider

the number of people with osteoporosis as they are more likely to experience a fracture as a result of a fall than fallers who do not have osteoporosis.

Osteoporosis is a condition that affects the bones and literally means 'porous bones'. It causes the bones to become thin and weak and increases the risk of fracture after a minor bump or fall. As a result, bone mineral density is reduced and the amount and variety of proteins in bone is altered.

Although it can occur in any part of the body, bones of the spine, wrist and hips are most commonly affected.

A study by Liu-Ambrose *et al* (2003) showed that older women with osteoporosis are at particularly high risk of experiencing a fracture as they have lower bone density and risk of fall compared with their age-matched healthy counterparts. Strength and balance (which are both risk factors for falls), were reduced in women with osteoporosis. Furthermore, strength and postural balance, along with femoral neck bone mineral density were found to be strong predictors of fractures.

Fear of falling and fracture are common among those with osteoporosis and this may result in a self-imposed reduction in physical activities. This is turn may lead to decreased muscle strength and impaired balance putting individuals at further risk of falls and fracture.

The prevalence of osteoporosis increases with age as bones become more fragile and likely to fracture. 15% of men and women over the age of 50, 30% over the age of 70 and 40% over the age of 80 are likely to suffer with osteoporosis (Royal College of Physicians, 2009). Women are at higher risk than men as they have smaller bones also experience the menopause which accelerates the process of bone turnover.

Table 4.1: Estimated number of persons with osteoporosis in Westminster

Age	Prevalence	Estimated number in Westminster
50-69	15%	8,550
70-79	30%	5,610
80 and over	40%	2,880

Based on these prevalence rates, an estimated 17,040 people in Westminster are likely to experience osteoporosis.

Hospital admission data shows that hospital admission as a result of osteoporosis in persons aged 85+ is two times more likely than persons aged 80-84, three times more likely than persons aged 70-74 and 75-79 and almost four times more likely than persons aged 65-69.

Table 4.2: Rate of hospital admissions due to osteoporosis by age, Westminster 2008/09

Age Group	Rate per 100,000
65-69	435
70-74	492
75-79	500
80-84	842
85+	1,706

Persons from White ethnic groups are more likely than persons from Black and Asian ethnic groups to be admitted to hospital as a result of osteoporosis (601 admissions per 100,000 population, compared to 400 and 353 admissions per 100,000 population for Black and Asian ethnic groups respectively). There were no admissions for osteoporosis in persons from ethnic groups described as other.

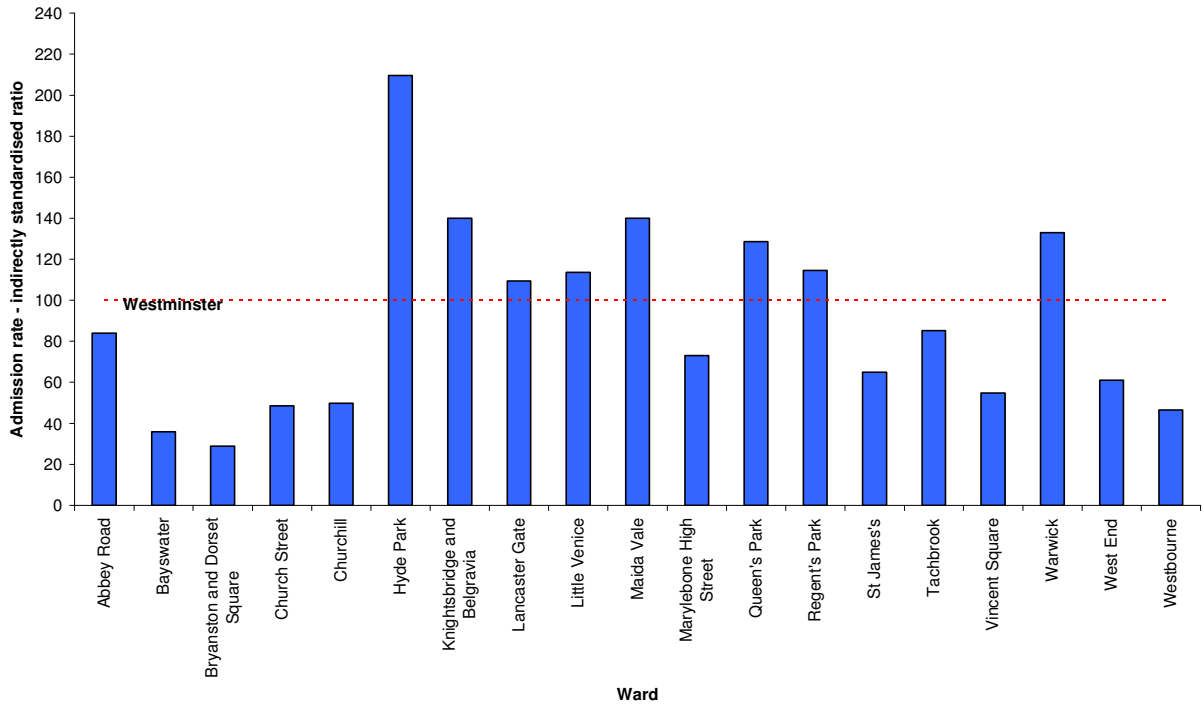
Table 4.3: Rate of hospital admissions due to osteoporosis by ethnic group, Westminster 2008/09

Ethnic Group	Rate per 100,000
White	601
Black	400
Asian	353

Hospital admission rates for osteoporosis vary by ward in Westminster. High admission rates are located in Hyde Park, Knightsbridge and Belgravia and Warwick

wards and low admission rates are located in Bryanston and Dorset Square, Bayswater and Westbourne wards. It appears as if there is no obvious relationship between hospital admissions and deprivation.

Figure 4.4: Rate of hospital Admissions due to osteoporosis by ward (indirectly age standardised), Westminster 2008/09



5: Epidemiology of falls in Westminster

5.1 Expected number of falls in Westminster residents

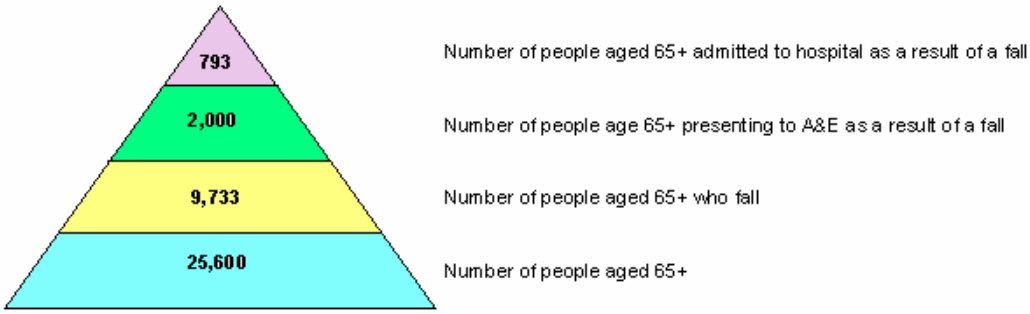
Estimating the number of people in Westminster who experience falls is problematic. Not all falls require hospitalisation; some falls do not even require treatment. Often the consequences of falls are managed in a community setting and data pertaining to these falls is limited.

Data from A&E and hospital admissions provides an estimate of the number of people who seek secondary medical care as a result of falling; such data, however, should not be regarded as an accurate reflection of the incidence of falls in Westminster because the majority of falls do not require hospitalisation. Data from the published literature was, therefore, applied to the Westminster population to provide estimates of the number of falls that occur that can not be identified using hospital admission data.

5.1.1 Expected number of falls

Evidence from the published literature can give an indication of the incidence of falls amongst older persons in Westminster. The Royal Society for the Prevention of Accidents (ROSPA) estimates that one in three people aged 65 and over and one in two people aged 80 and over are likely to experience a fall at least once a year. Based on these estimates, as many as 9,733 persons in Westminster aged 65 and over are likely to fall each year.

Figure 5.1: The incidence of falls amongst Westminster residents aged 65 and over



5.1.2 A&E admissions attributable to falls

St Mary's Hospital is the main provider of emergency care for Westminster residents. As part of the Falls Prevention Project between St Mary's Hospital and NHS Westminster, presentations to A&E in the first two months of 2006 and 2008 were examined to identify persons aged 65 and over presenting for a reason likely associated with a fall who were not admitted to hospital.

The results of these audits suggested that approximately 2,000 persons aged 65 and over attend A&E each year (but are not admitted) as a result of a fall.

5.1.3 Hospital admissions attributable to falls

ICD-10 W

The ICD-10 code 'W' identifies persons admitted to hospital as a result of a fall.

For persons aged 65 and over, the overall the rate of hospital admissions is lower in Westminster than in London. Between April 2008 and March 2009 there were 793 hospital admissions for falls amongst persons aged 65 and over; this is equivalent to a rate of 3,098 per 100,000. Anecdotal evidence suggests that this is an underestimation of hospital admissions associated with falls in older people in Westminster. Often persons who fall present to hospital with a primary diagnosis other than a fall, for example, a fracture and the reason for the fracture (or other injury) is recorded as a secondary or tertiary diagnosis. Local clinical evidence suggests that not all admissions where a fall was the underlying reason for admission have this recorded as so and, therefore, the number of admissions as a result of a fall locally could potentially be higher.

The hospital admission rate was higher for women than for men; the hospital admission rate for women was 3,814 per 100,000 and 2,252 per 100,000 for men.

Age specific rates show that the rate of hospital admissions increases with age. The rate of hospital admissions amongst Westminster residents aged 85 and over is more than twice that than for persons aged 80-84 and more than ten times higher than for persons aged 65-69.

Table 5.1: Age specific hospital admission rates, Westminster 2008/09

Age Group	Rate per 100,000
65-69	913
70-74	1,365
75-79	2,327
80-84	4,526
85+	10,324

Persons from White ethnic groups are more likely than Asian and Black ethnic groups to be admitted to hospital as a result of a fall (2,484 admissions per 100,000 population, compared to 1,176 and 1,133 for Asian and Black ethnic groups respectively). Whilst this is most likely a reflection of the ethnic mix of the older population in Westminster (84% of people in Westminster aged 65 and over are from White ethnic groups), it may also, in part, be indicative of the fact that persons from BME groups are less likely to seek medical attention as a result of a fall.

The hospital admission rate is, however, highest amongst persons from ethnic groups described as 'Other'. This is an extremely diverse ethnic group of which limited information is available. Current population estimates are derived from the Census and suggest that just under 4,000 persons aged 65 and over are from ethnic groups described as Other. Anecdotal evidence, however, suggests that this number could be higher and, therefore, the high rate of hospital admissions in this group could be attributable to the underestimation of the size of this population. However, it is important to consider that this is also a real trend, suggesting that older persons from Other ethnic groups are more likely to be admitted to hospital as a result of a fall than other ethnic groups.

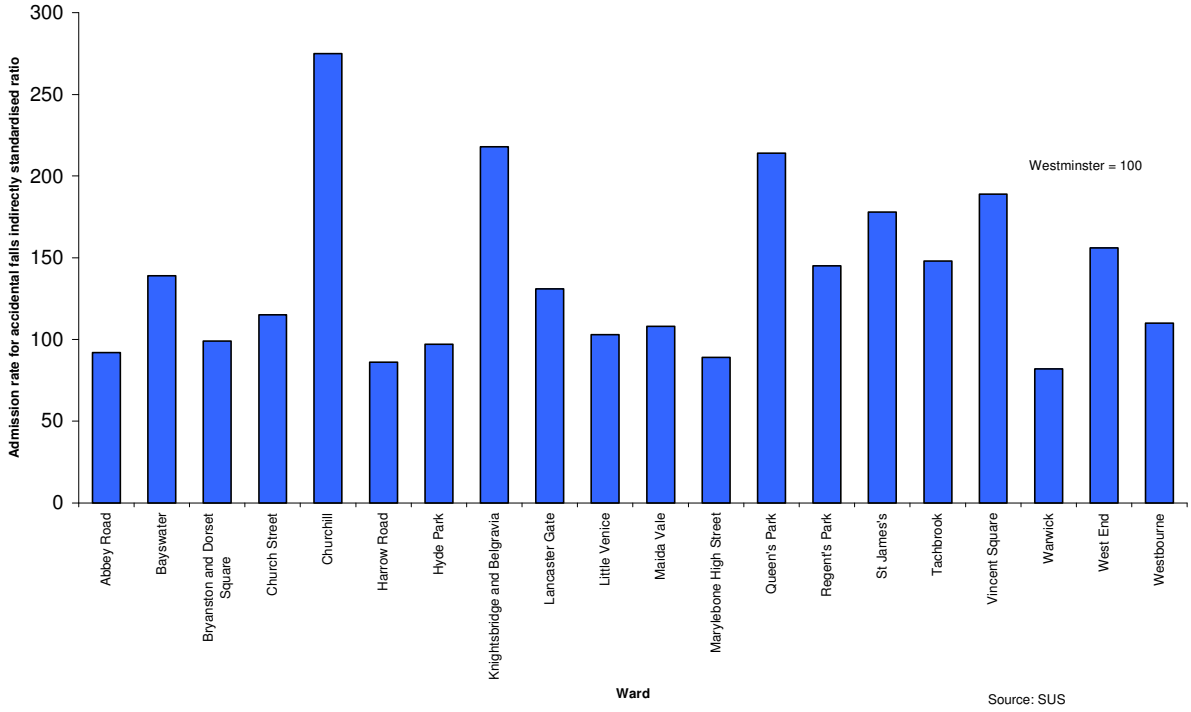
Hospital admissions rates are not uniform across Westminster. Indirectly age-standardised ratios were calculated to compare hospital admission rates between wards, accounting for the different age structures of wards. Admission rates were highest in St James's, Queen's Park, Knightsbridge and Belgravia and Churchill wards and lowest in Warwick, Marylebone High Street and Harrow Road Wards. This indicates that the underlying reasons why people fall and require hospital admission is

complex – there does not appear to be an association with deprivation which is often associated with access to health services.

Table 5.2: Hospital admission rates by ethnicity, Westminster 2008/09

Ethnic Group	Rate per 100,000
White	2,484
Asian	1,176
Black	1,133
Other	3,727

Figure 5.2: Hospital admission rates by ward (indirectly age standardised), Westminster 2008/09



Repeated admissions

659 people were responsible for the 793 admissions between April 2008 and March 2009; this is equivalent to 1.2 admissions per person.

Falls in communal establishments

Published literature suggests that the risk of falling is particularly high in persons cared for in extended care settings such as residential and nursing care homes. NICE (2004) suggests that the incidence of falls in nursing homes and hospitals is two to three times greater than in the community – complication rates are also considerably higher. This is unsurprising since those persons requiring residential, nursing or hospital care are likely to be those that are frail with physical health problems or with cognitive impairment.

Currently NHS Westminster does not request information from communal establishments on falls incidents or injuries, therefore, the only data available pertaining to falls occurring in such settings is from hospital admission data. As discussed previously, hospital admission data is likely to be a gross underestimate of the incidence of falls in communal establishment settings in Westminster.

Of the 793 hospital admissions where a fall was indicated, only 40 (5%) were persons resident in residential or nursing care homes in the borough; this is lower than expected given the evidence from the published literature.

The low hospital admission rate for persons in communal establishments is likely to be attributable to a number of factors; much falls prevention work has been conducted in communal establishment settings which has probably helped reduce the number of falls in this setting and has also reduced falls associated morbidity and, therefore, hospital admissions.

It is likely that a high proportion of falls that occur in communal establishments are managed in this setting and, therefore, do not require hospital care.

5.1.3 Hospital admissions attributable to falls

ICD-10 Other codes

Fractured proximal femur

A fractured proximal femur or hip fracture defines a partial or complete break in the upper portion of the thighbone (femur), the leg bone that forms part of the hip joint. Most hip fractures occur in the neck of the femur, while the rest occur in the intertrochanteric area (the outside portion of the upper femur).

The occurrence of fractured proximal femur, or hip fracture, is almost always the result of a fall. Therefore, hospital admission data for fractured proximal femur provides an estimate of the morbidity of falls related injury. Furthermore, it also been suggested that fractured proximal femur data can serve as proxy measure for hospital admission for falls, given that anecdotal evidence suggests not all persons admitted to hospital as the result of a fall are identified as so using the ICD-10 W code.

In 2008/09 there were 128 hospital admissions as a result of fractured proximal femur. The incidence of fracture was higher in females than males (714 admissions per 100,000 population in females compared to 243 admissions in males). The admission rates for fracture increase with age; persons aged 85+ are almost 8 times more likely to be admitted to hospital for this type of fracture than persons aged 65-69 (1,382 admissions compared to 174 admissions per 100,000 population).

Table 5.3: Rates of hospital admission for fractured neck of femur, by age.

Age Group	Rate per 100,000 population
65-69	174
70-74	143
75-79	404
80-84	1,026
85+	1,382

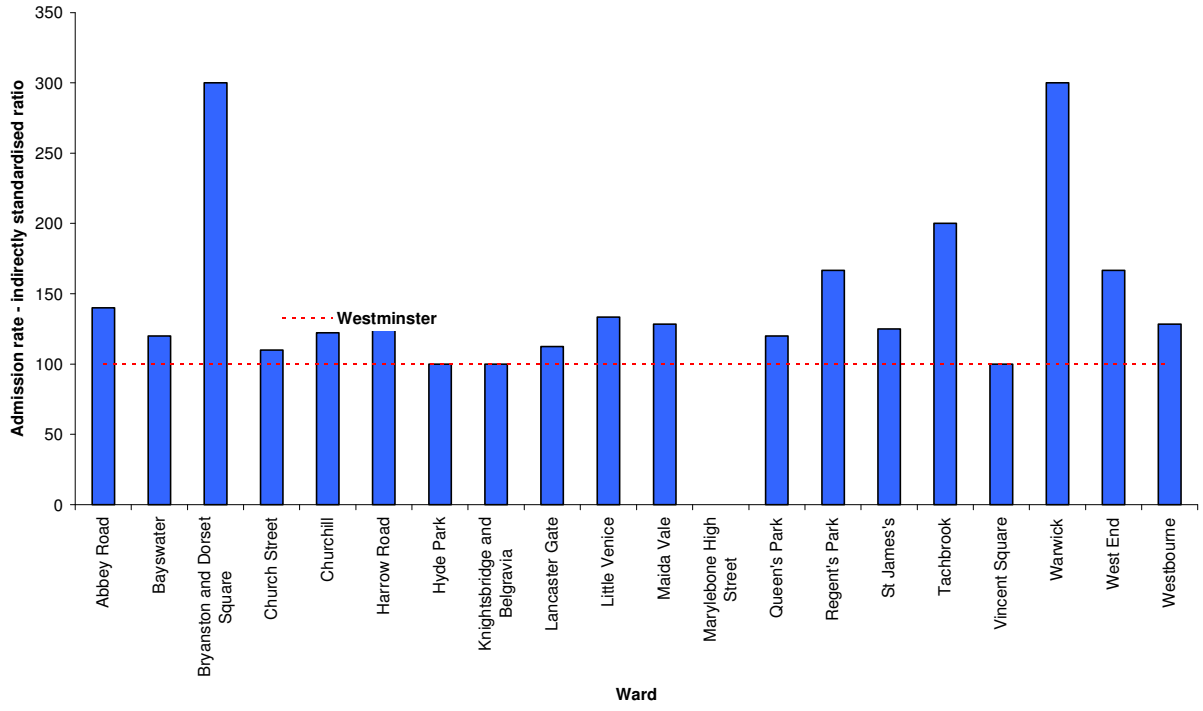
In terms of ethnicity, persons from the ethnic group described as 'Other' are more likely to be admitted to hospital as a result of fracture that any other ethnic group. Persons from Black ethnic groups have the lowest rate of admissions due to fractured neck of femur (67 admissions per 100,000 population).

Hospital admissions also vary by ward. Bryanston and Dorset Square, Warwick and Tachbrook wards have the highest rate of hospital admissions whilst Marylebone High Street ward has no admissions due to fractured neck of femur.

Table 5.4: Rates of hospital admission for fractured neck of femur, by ethnicity

Ethnic Group	Rate per 100,000 population
White	415
Black	67
Asian	118
Other	545

Figure 5.3: Rates of hospital admission for fractured neck of femur, by ward

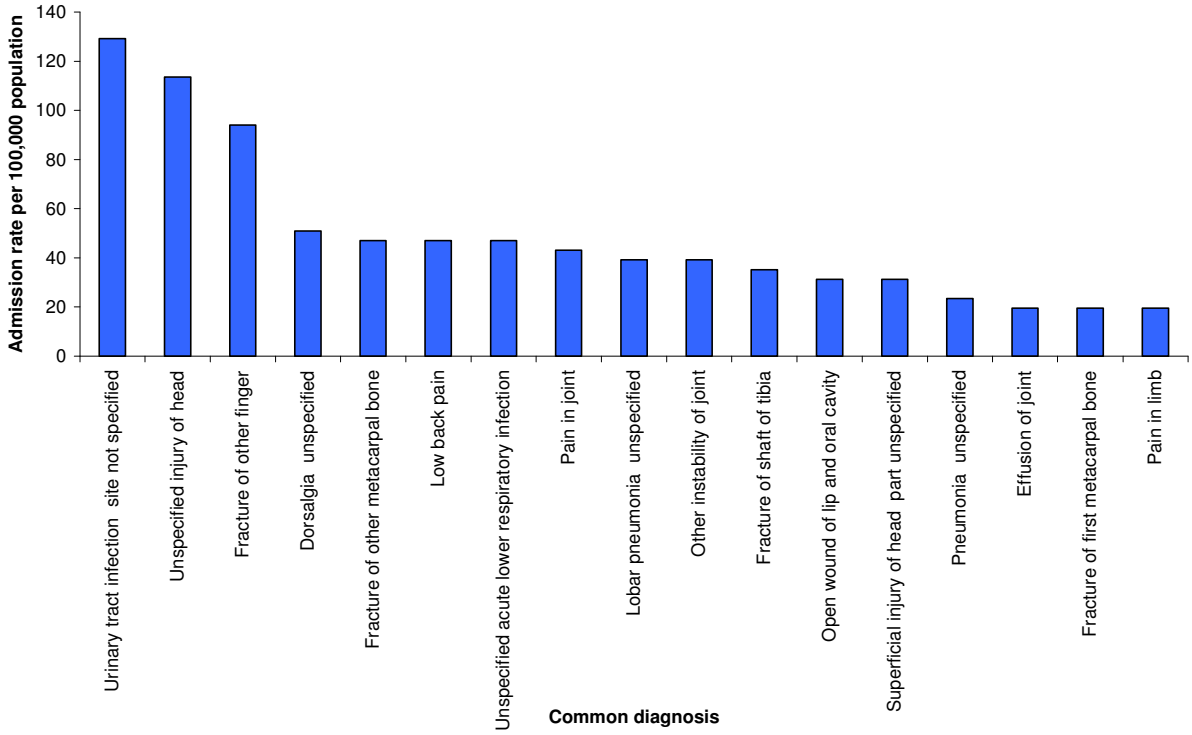


Other diagnoses

Whilst fractured proximal femur is the most common diagnosis recorded when someone aged 65 and over presents to hospital after a fall, the Department of Health has identified a number of diagnoses that are commonly associated with falls and therefore, may be recorded as such instead of being identified as fallers using the ICD-10 W code.

Data from 2008/09 shows that the most common diagnoses recorded upon hospital admission for a fall was urinary tract infection (admission rate of 130 per 100,000 population), followed by syncope and collapse and unspecified injury of the head. However, when syncope and collapse was removed from the analysis as these are not typically considered to be a direct result of a fall – unspecified injury of the head and fracture of the finger were the second and third most common diagnoses, respectively (admission rate of 110 and 90 per 100,000 population).

Figure 5.4: Rates of hospital admission for common diagnoses associated with fallers aged 65 and over, Westminster 2008/09



Males were more likely to be admitted for these conditions than females; the hospital admission rate for males was 1,609 per 100,000 population and 929 per 100,000 population for females. This is in contrast to admissions recorded as falls; males are more likely to present with conditions associated with a fall and suggests that women are potentially more likely to be identified and recorded as a faller.

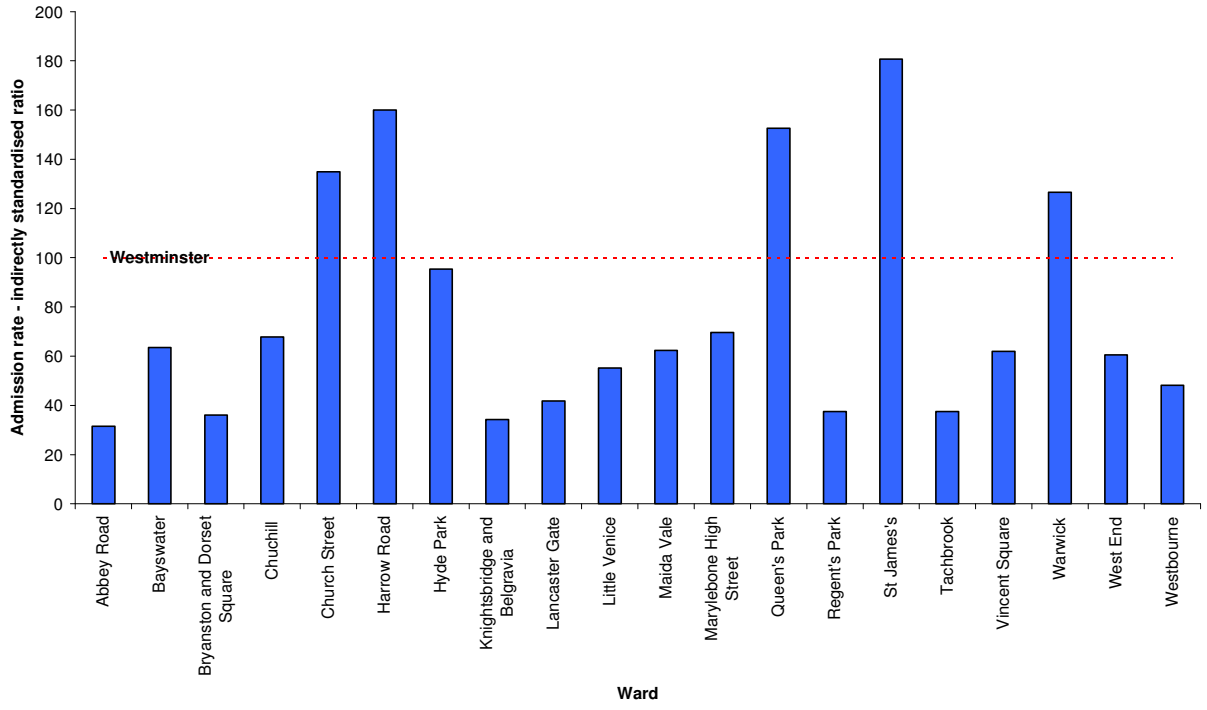
Persons from White ethnic groups are less likely to be admitted to hospital for conditions associated with a fall than persons from Asian ethnic groups (671 admissions per 100,000 compared to 1059 admissions per 100,000 for Asian ethnic groups). Hospital admissions for conditions associated with a fall were particularly

high in persons from Black ethnic groups and were highest in persons are from ethnic groups described as Other. This is consistent with the previous analysis of ICD-10 code W for a fall.

Table 5.4: Hospital admission rates for conditions associated with a fall by ethnicity

Ethnic Group	Rate per 100,000
White	671
Asian	1,059
Black	1,733
Other	5,364

Figure 5.5: Rates of hospital admission by ward (indirectly age standardised), Westminster 2008/09



Hospital admissions vary geographically in Westminster. High rates of admissions for common diagnoses associated with falls are found in St James's, Harrow Road and

Queen's Park wards and are lowest in Abbey Road, Tachbrook and Knightsbridge and Belgravia wards. Harrow Road and Queens Park both experience high levels of deprivation whilst Abbey Road and Knightsbridge and Belgravia both experience lower levels areas of deprivation. Again as suggested previously, the underlying reasons why people fall and require hospital admissions are complex.

Hospital admissions due to conditions associated with a fall unsurprisingly increase with age and are more likely to occur in persons aged 85+. Admissions in this age group are almost five times more likely than persons aged 75-79 and 80-84, and over ten times more likely to occur than persons aged 65-69. Again, this is consistent with previous findings.

Table 5.6: Rates of hospital admission for diagnoses commonly associated with falls by age (indirectly age standardised), Westminster 2008/09

Age Group	Rate per 100,000
65-69	406
70-74	794
75-79	904
80-84	974
85+	4,500

5.2 Where do falls occur?

Identifying where falls most commonly occur can inform falls prevention activity. Published literature suggests that people aged less than 75 are more likely to fall outdoors than those aged over 75 years. Falls occurring inside are often associated with frailty whereas outside falls are associated with compromised health status in active people. Falls within the community are more likely to occur during the day, with only 20% of falls occurring at night, most likely reflecting the time of day when people are most mobile. There is also some evidence to suggest that the incidence of falls increases in the winter months and colder days (Masud, 2001).

Locally an understanding of where falls amongst Westminster residents occur can be gleaned from hospital admission data. In 2008, data for all admissions as a result of falls showed that majority of falls amongst Westminster residents occurred at home (67%), followed by on streets or roads (14%).

Figure 5.6: Place of occurrence of falls resulting in admission to hospital, 2008

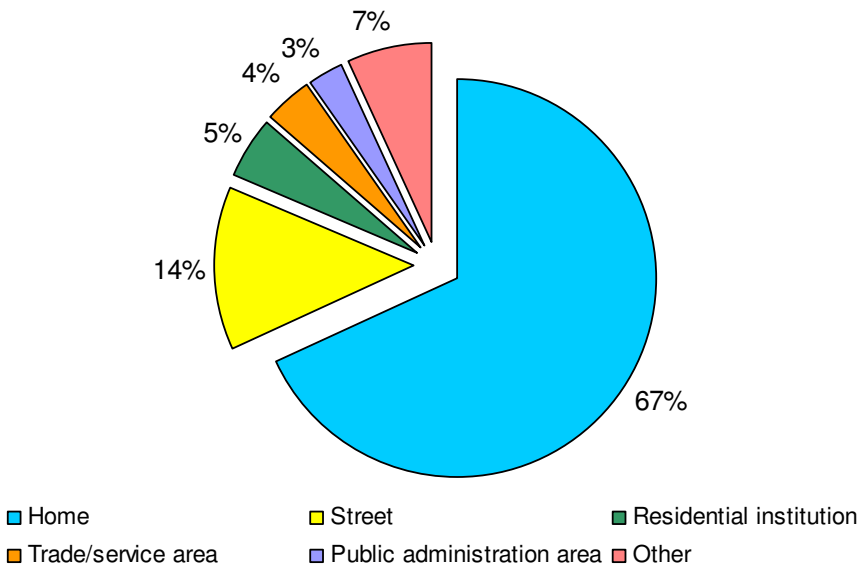
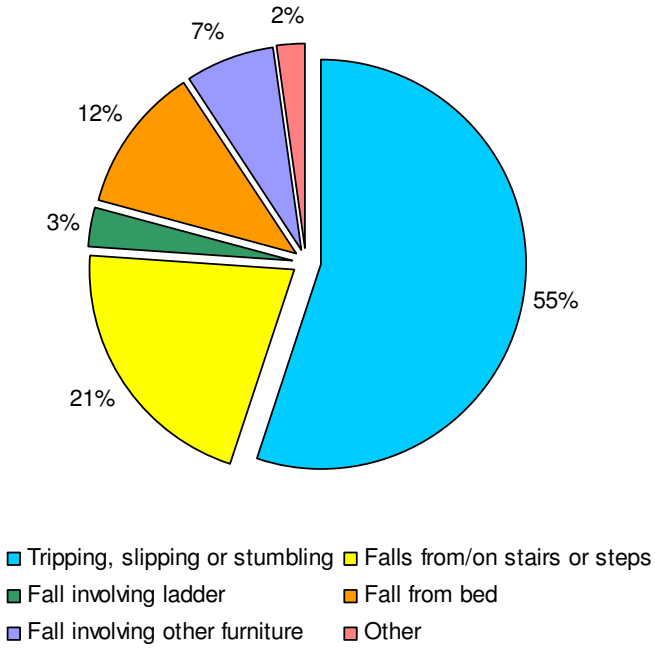


Figure 5.7: Type of falls resulting in admission to hospital, 2008



Further analysis of the type of fall indicates that in Westminster slipping, tripping and stumbling are the most common types of fall (55%) followed by falls involving stairs and steps (21%) and falls from beds and other furniture (12% and 7% respectively); this is unsurprising given that the majority of falls in the borough that lead to hospitalisation occur either in the home or on streets and roads and suggests that the most common extrinsic risk factors for falls in Westminster are environmental hazards both within and out with the home.

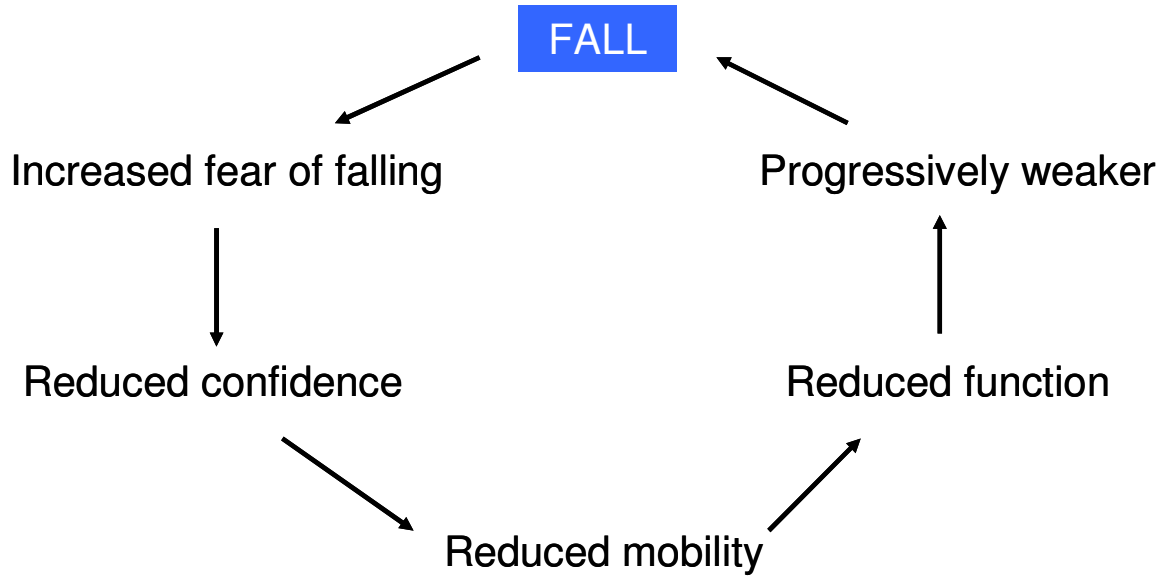
6: Consequences and long-term implications of falls

Successive Government initiatives have identified falls in older people as a major cause of morbidity and mortality. Not only do falls result in admission to hospital but they also have social, physical and psychological consequences. The consequences of falls can be significant – life changing, and in many cases life threatening for older people.

Fall can precipitate loss of confidence, the need for regular social care support at home, or even admission to a care home. Fractures of the hip may require major surgery and inpatient care in acute and often rehabilitation settings.

The diagram below shows some of the many consequences of a fall and the potential downward spiral in quality of life and ability to undertake activities of daily living.

Figure 6.1: Cycle of morbidity associated with falls



Older persons are often traumatised by a fall and as a result of a fall may develop a fear of falling. It is estimated that around a third of older people develop some fear after a fall and this in turn can increase the likelihood of future falls leading to reduced engagement in activities and impacts on a person's quality of life (Masud, 2001).

This fear of falling can itself lead to a progressive decline in mobility, together with associated complications (such as pressure sores, incontinence, constipation and infections), depression and social isolation. Many older fallers are unable to get up

again without assistance and any subsequent ‘long lie’ can lead to hypothermia, dehydration and bronchopneumonia.

Fear of falling is not only a problem amongst fallers but is also an issue amongst non-fallers. Some non-fallers may have an image of falls as catastrophic events involving fractures, hospitalisation, and nursing home admission (Cumming *et al*, 2001).

Falls are likely to result in older people losing confidence and a decrease in independence. Loss of confidence is a huge issue for older people. In a recent survey, 80% of older people s said they would rather be dead than experience the loss of independence and quality of life that results from a bad hip fracture and subsequent admission to a nursing home (Salkeld *et al,* 2000).

Reduced mobility and functional decline can result from fall injury, as well as from loss of confidence in their ability to perform the basic activities of daily living. Falls have been shown to result in a decline in function as a result both of physical injury and of a loss of confidence (Tinetti & Williams, 1997). Households may need to be adapted to better suit the needs of older people following a fall, for example installing hand rails in the bathroom or garden to keep older people steady on their feet and non-slip mats should be used in the bath and shower to ensure no falls occur in these areas.

It is important to note that not all falls result in a physical injury, however, as previously discussed the consequences of falling include social isolation, depression and helplessness.

Longer-term social and emotional support may be required to minimise any loss of independence that may have arisen by the effects of the fall. This may include provision of personal or domestic care services or introduction to social activities to prevent social isolation and depression.

7: Evidence of effectiveness

Falls

In 2004 NICE published it's guideline on the assessment and prevention of falls in older people. In this it presents recommendations for good practice based on the best available evidence of clinical and cost effectiveness. The text below summarises the NICE recommendations, highlighting best practice to prevent falls.

7.1 Case and risk identification

Older people who are in contact with healthcare professionals should be asked routinely whether they have fallen in the past year and asked about the frequency, context and characteristics of the fall/s. This presents an opportunity for case finding and risk identification. Older people who have reported a fall or are considered at risk from falling should be observed for balance and gait deficits and should be considered for interventions that will improve their strength and balance.

7.2 Multifactorial falls risk assessment

An older person should be offered a multifactorial falls risk assessment if they present for medical attention because of a fall, or have had recurrent falls in the past or demonstrate abnormalities of gait or balance. These risk assessments should be performed by healthcare professionals with appropriate skills and experience, normally in a specialist falls service. The assessment should form part of an individualised, multifactorial intervention.

The multifactorial assessment should include the following (among others):

- identification of falls history;
- assessment of gait, balance and mobility;
- assessment of osteoporosis risk;
- assessment of visual and cognitive impairment and neurological examination;
- assessment of urinary incontinence;
- assessment of home hazards.

7.3 Multifactorial interventions

Older persons with a history of fall, or assessed as being at increased risk of falling should be considered for a multifactorial intervention.

A successful multifactorial intervention will consist of the following:

- strength and balance training;
- home hazard assessment and intervention;
- vision assessment and referral;
- medication review with modification/withdrawal.

A multidisciplinary assessment should be given to an older person following an injurious fall. This assessment should address future risk of falls and develop an individualised intervention aimed at promoting independence and improving physical and psychological function.

Multifactorial interventions with an exercise component are recommended for older people in extended care settings at risk of falling.

Strength and balance training

Strength and balance training is beneficial for the older community-dwelling people with a history of recurrent falls and/or balance and gait deficit. A muscle-strengthening and balance programme should be offered – this should be individually prescribed and monitored by an appropriately trained professional.

Home hazard and safety information

Older people who have received treatment in hospital after a fall should be offered a home hazard assessment and safety interventions. This should be given by a suitably trained healthcare professional and should form part of the normal discharge planning. It should be carried out within a timescale agreed by the patient or carer and appropriate members of the healthcare team. Home hazard assessment is shown to be effective when combined with follow-up and intervention; it is usually not effective in isolation.

Psychotropic medications

Older people on psychotropic medications should have their medication reviewed and discontinued if needed to reduce their risk of falling.

7.4 Encouraging the participation of older people in falls prevention programmes

In order to promote the participation of older people in falls prevention programmes, the following should be considered:

- healthcare professionals should be involved in the assessment and prevention of falls should discuss which changes a person is willing to make in order to prevent further falls;
- information must be relevant and available in languages to suit the need of the patient;
- falls prevention programmes should also address potential barriers such as low self-efficacy and fear of falling.

Programmes must be flexible enough to accommodate participant's different needs and preferences.

For further information on the NICE Guideline on the assessment and prevention of falls in older people please see: http://www.nice.org.uk/CG21

Fragility hip fractures

In 2009 the Department of Health published guidance on falls and fracture care and prevention – four key objectives were identified.

The text below outlines the key objectives, highlighting best practice to manage fragility hip fractures (the final two objectives relate to falls prevention which has been previously discussed in more detail).

7.5 Improving patient outcomes and improving efficiency of care after hip fractures through compliance with core standards

There are a number of core standards that should be attained for patients who suffer hip fractures – these are outlined in The Care of Patients with Fragility Fracture (also known as the Blue Book). The standards are:

- All patients with hip fracture should be admitted to an acute orthopaedic ward within 4 hours of presentation;
- All patients with hip fracture who are medically fit should have surgery within 48 hours of admission and during normal working hours;
- All patients with hip fracture should be assessed and cared for with a view to minimising their risk of developing a pressure ulcer;
- All patients presenting with a fragility fracture should be managed on an orthopaedic ward with routine access to acute ortho-geriatric medical support from the time of admission;
- All patients presenting with fragility fracture should be assessed to determine their need for anti-resorptive therapy to prevent future osteoporotic fractures;
- All patients presenting with a fragility fracture following a fall should be offered multi-disciplinary assessment and intervention to prevent future falls.

The NHS Institute's Orthopaedic Rapid Improvement Programme highlights a marked variation in outcomes associated with hip fracture care and accordingly suggests the following:

- The care pathway should be co-ordinated and designed to reduce variations in length of stay, mortality and re-admissions;
- Hip fractures should be treated in a dedicated unit with a focus on rapid rehabilitation to ensure optimal health outcomes. A dedicated unit also helps to reduce the average length of stay by up to eight days per patient;
- Reducing the delay to surgery after the initial 48 hours results in better health outcomes and reduces post-operative stay;

- Patients should be mobilised within 12-18 hours post op and receive seven day therapy input;
- Patients are discharged back to their usual address using a criteria-based discharge process;
- Health and social care teams should be co-ordinated and integrated across the patient pathway. Both teams should work in partnership with an ortho-geriatrician.

7.6 Respond to first fracture and prevent the second – through fracture liaison services in acute and primary care settings

All patients aged 50 and over who have suffered a fragility fracture (and accessed a health service) should be referred to a fracture liaison service.

Primary care based fracture liaison programmes should be considered for a role in case-finding in order to find patients who have fractured in the past or at risk of osteoporotic fractures. Such programmes may use primary care records and the osteoporosis risk assessment tool (FRAX) to identify people who have not previously been assessed and other patients at high risk of primary fractures.

7.7 Early intervention to restore independence – through care pathways, linking acute and urgent care services to secondary prevention of further falls and injuries

Community interventions should be based on evidence of best practice and include:

- A falls care pathway;
- A falls service and a falls coordinator;
- Multifactorial targeted interventions;
- Community based therapeutic exercise.

7.8 Prevent frailty, promote bone health and reduce accidents – through encouraging physical activity and healthy lifestyles and reducing unnecessary environmental hazards

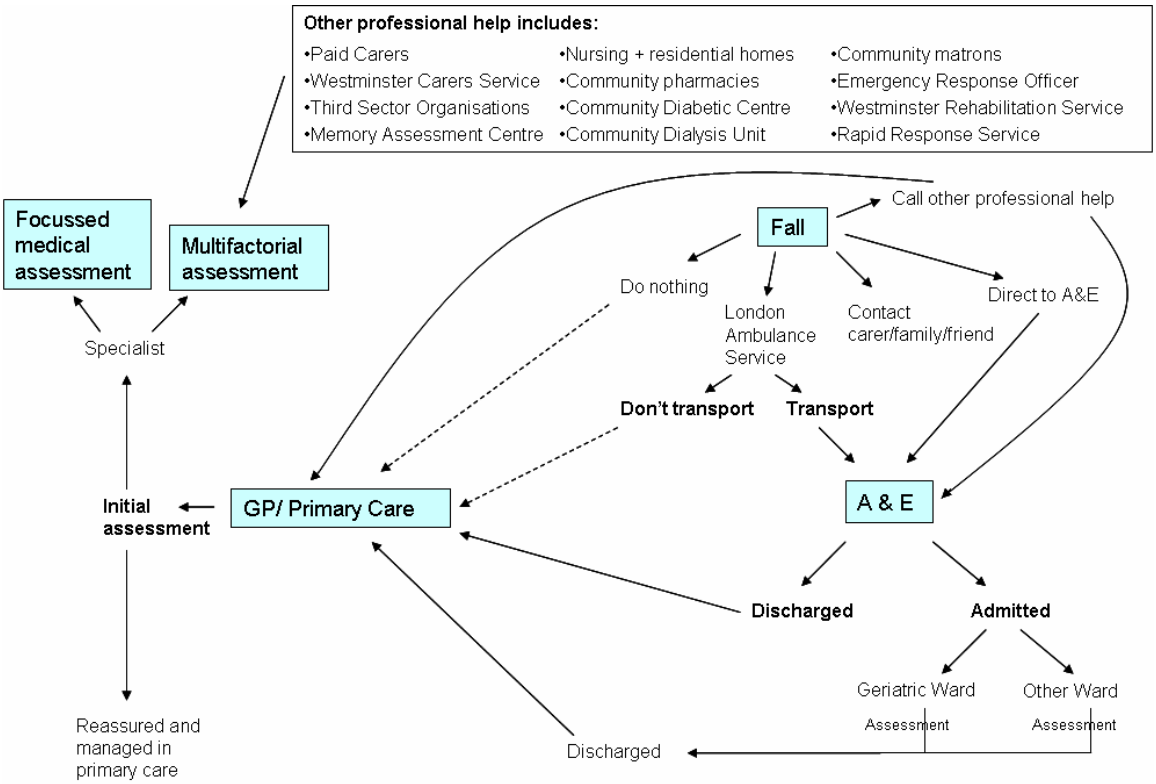
The Department of Health states that in order to prevent frailty, promote bone health and reduce accidents local joined up falls prevention strategies should be in place. Key elements of such strategies should include:

- The promotion of healthy lifestyles in older people, particularly physical activity; this is key to enabling older people regain independence after a fall;
- The physical causes of falls including the external environment and home hazards – this includes consideration of handyperson services, town planners etc.;
- Working with ambulance services;
- Falls prevention policies in hospitals.

8: Current service provision in Westminster of falls prevention services

In examining current service provision, it is useful to examine the current pathway of what happens to individuals who fall.

Figure 8.1: Current falls pathway in Westminster



When a person falls, there are various pathways a person may undertake. The situations surrounding a fall are unique to the individual and, therefore, a number of different options following a fall have been mapped in order to best understand which pathway a person may take. Immediately after a fall a person may do nothing, phone a family member, friend or carer, go directly to A&E, call the London Ambulance Service or call other professional help. These 'contacts' present an ideal opportunity for case finding and risk identification. Any person presenting with a fall to health services can be flagged and further referrals to services can be made where appropriate.

For the purpose of this needs assessment and ease of understanding of the current falls pathway in Westminster, current services in Westminster will be considered with regards to case finding, assessment and prevention.

8.1 Case finding

Persons who have a falls history are particularly at risk of experiencing another fall in the future. Therefore, identifying persons who have fallen and conducting either a

multifactorial or focused medical assessment will enable effective interventions to be delivered to help prevent future falls.

The NICE guideline recommends that ‘older people in contact with health care professionals should be asked routinely whether they have fallen in the past year and asked about the frequency, context and characteristics of the fall/s. Older people reporting a fall or considered at risk of falling should be observed for balance and gait deficits and considered for their ability to benefit from interventions to improve strength and balance’ (NICE, 2004)

After a fall, individuals may follow many courses of action, including:

- doing nothing;
- calling an ambulance (which may of may not transfer them to A&E);
- contacting family, friends or a carer;
- going directly to A&E;
- calling other professional help.

Where individuals do nothing it is unlikely that they will be identified as a faller at this time, unless they contact their GP and disclose their falls history. However, where fallers engage with health services or third sector organisations, they should be identified and flagged as fallers. Evidence, however, suggests that this is rarely occurring.

8.1.1 Role of carers/family/friends

Whilst individuals may not engage with health services when they fall (most likely because they do not have a physical injury) they may notify their family, friends or their carer. Therefore, it is important to raise awareness of falls in the community and also amongst carers to encourage family, friends and carers of persons with a falls history to contact their GP where an initial assessment can take place, followed by referral or signposting to appropriate services.

Links should be made with local carers services including Westminster Carers Service and Carers Network Westminster to raise awareness of falls amongst persons caring for older people.

8.1.2 Professional help

Because of links with other health professionals or third sector organisations, some individuals may disclose a fall to other organisations or contact them at the time of the fall. Such organisations include the Rapid Response Service, paid carers, Westminster Carers Service, the Memory Assessment Service, nursing and residential homes, community diabetic centres, community dialysis units, community matrons, Westminster Rehabilitation Service, community pharmacies and early response officers. Accordingly, such services have an important role to play in case finding and signposting fallers to the Falls Prevention Service or their GP for further assessment.

In particular, the new memory assessment service has an important role to play with regards to education, training and case finding of fallers. The Memory Assessment Service that is being commissioned in Westminster will provide a responsive service to aid the early identification of dementia and will include a range of assessment, diagnostic, therapeutic and rehabilitation services. Given that dementia and cognitive impairment are significant risk factors for falling, the Memory Assessment Service is a likely point of contact with fallers (or persons at high risk of falling) and, therefore, an awareness of falls and the ability to identify and signpost fallers to appropriate services is important in this setting.

Raising awareness of falls amongst health professionals and third sector organisations who are likely to engage with older people in Westminster is, therefore, essential to identify fallers in community settings. Furthermore, education and training should be provided to ensure that fallers or persons at high risk of falling are signposted to appropriate services for a falls assessment.

8.1.3 London Ambulance Service

The London Ambulance Service (LAS) is a key stakeholder managing falls in the community. 55% of patients presenting to St Mary's A&E as a result of a fall were brought to hospital by the London Ambulance Service. LAS may treat individuals at

the point of call out without a need for the individual to be taken to hospital or take individuals to hospital for further treatment.

As a point of contact with health services, this part of the falls pathway represents a point at which falls prevention interventions could be delivered. Although the Westminster Falls Prevention Service has established some links with the LAS, further work is needed to explore how the LAS can more effectively help promote the proactive preventative management of fallers.

8.1.4 A&E

NICE recommends that there should be efficient case finding and referral systems for fallers presenting to A&E departments. Falls audits have also identified this as a local need.

It is estimated that 2,000 older people per year present to St Mary's A&E as a result of a fall (Dodzo & Jacobs, 2008). However, the overall figure for Westminster residents is likely to be considerably higher as a number of residents are likely to access A&E care at other hospitals.

In accordance with NICE guidelines (NICE, 2004), older people should be asked about their falls history to identify persons at risk of or who have fallen so that they can receive an appropriate assessment and preventative action can be taken. However, data from St Mary's A&E suggests that this happens infrequently and accordingly, older people are discharged without further planned follow up.

Regular audits of the management of falls in older persons presenting to St Mary's A&E have been conducted in recent years; these audits contribute to the evaluation of the management of fallers presenting to St Mary's Hospital.

Approximately 2,000 people present to St Mary's Hospital each year as a result of a fall, however, in the 2008 audit, only 37% of presentations were recognised to be directly as a result of a fall; this compares to 38% in 2006 (Dodzo & Jacobs, 2008). Of those not recorded as falling, limb problems were the most common presenting complaint. This suggests that a large number of fallers presenting to A&E are not being recognised as fallers and are, therefore, potentially not benefiting from preventative advice and onward referral if necessary.

The low number of fallers actually recognised as fallers on presentation to A&E is surprising as a question is asked on the standard A&E assessment form about falls; audits, however, found that this section was rarely completed.

NICE recommends that older people in contact with healthcare professionals should be asked routinely whether they have fallen in the past year and asked about the frequency, context and characteristics of falls. Furthermore, older people who present to A&E because of a fall should be offered a multifactorial falls risk assessment (NICE, 2004).

The 2008 audit of the management of falls at St Mary's A&E examined the risk assessment processes that patients attending A&E as the result of a fall undergo. Only 29% of patients presenting as a result of a fall were asked about whether they had previously had a fall in the last 12 months. Although this is low, it does demonstrate an improvement on previous audits; in 2006 only 11% of fallers were asked about previous falls in the last 12 months (Dodzo & Jacobs, 2008).

63% of patients were asked about their medication history whilst only 59% of patients were asked if they were taking four of more medications (this compares to 56% in 2006).

Although the number of fallers presenting to A&E undergoing risk assessment for falls is increasing, further work is needed to make sure that all fallers are identified at A&E and undergo a multifactorial falls needs assessment as recommended by NICE.

As part of the assessment of osteoporosis risk, patients should be asked whether they are prescribed calcium/vitamin D/bisphosphonates; only 9% of patients were asked about calcium/vitamin D,/bisphosphonate prescriptions (this compares to 6% in 2006). This suggests that very few fallers presenting to A&E undergo risk assessment for osteoporosis.

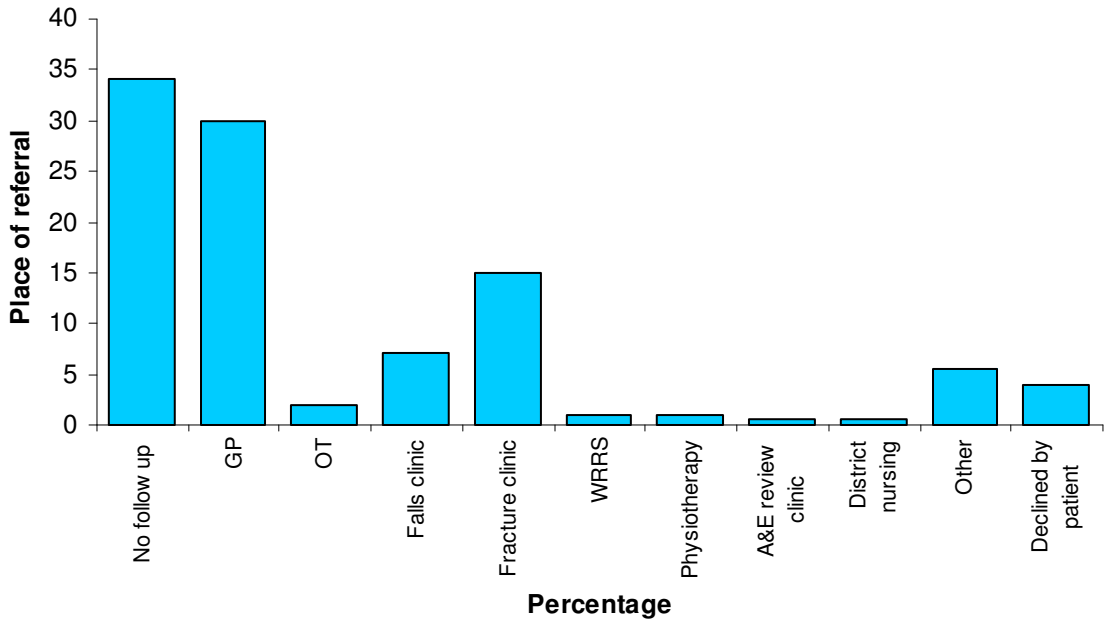
National guidelines recommend that all women aged 65 and over should be prescribed calcium/vitamin D/bisphosphonates to protect against osteoporosis; therefore, presentation at A&E provides an opportunity to assess whether patients aged 65 and over have been prescribed calcium/vitamin D/bisphosphonates. If this is not the case then further actions should be taken, for example writing to the GP to

inform them that the patient has had a fall and advise of the need to prescribe calcium/vitamin D/bisphosphonates.

31% of patients presenting to A&E who were not admitted to hospital were referred onwards to A&E occupational therapists; this however, was thought to be an underestimation as many occupational therapists attend ward rounds on a daily basis (Dodzo & Jacobs, 2008).

The number of people who present to A&E as a result of falling who are discharged without a specific care pathway is high. 34% of patients presenting to St Mary's who were not admitted did not receive any formal follow up; this compares to 55% in 2006. 7% were referred to a falls clinic- this compares to less than 1% of patient in 2006 being referred to the falls clinic (Dodzo & Jacobs, 2008).

Figure 8.1: Follow up after A&E discharge, St Mary's 2008



Although the number of patients being referred for further follow up after presentation to A&E increased between 2006 and 2008, a significant proportion of patients are still not offered further follow up after discharge from A&E and are, therefore, potentially not benefiting from preventative advice and management that could prevent future falls.

A&E departments play a key role in the management of fallers; as a frontline organisation A&E departments are in a position to deliver many aspects of falls prevention, for example, medication reviews, prescribing mobility and vitamin D/calcium/bisphosphonate supplements as well as referring individuals to appropriate services.

Although audits have shown that the management of falls in older persons presenting to St Mary's A&E is improving, not all fallers are identified as fallers and case finding is not as efficient as it should be. Most clinicians focus on the injury when patients present to A&E and there is limited systematic assessment of the underlying cause of the injury (i.e. falls). This is most likely a result of the priorities and pressures that A&E clinicians experience, for example, stabilising the patient medically and meeting the four hour waiting time target.

The proportion of patients receiving a multifactorial falls risk assessment is relatively low and there is appears to be variation in terms of the questions asked as part of this assessment, for example, 29% of patients were asked about previous falls whereas 63% were asked about their medication history (Dodzo & Jacobs, 2008).

The proportion of patients discharged without clear follow up also remains high and, therefore, a significant number of patients are not benefiting from falls prevention advice.

Currently little is known about A&E falls assessment from the patient's perspective. For example are they happy with the care they receive, do they think they would benefit from onward referral and further management? From clinical audits it is also difficult to examine what education and information is provided informally about falls prevention. This could potentially be gleaned from patient surveys as well as helping understand how aware older people are of the risks of falling and what they can do to prevent falls.

Recently as part of the integrated falls service, NHS Westminster has commissioned an occupational therapist based at St Mary's A&E to provide education and training to A&E staff to increase the number of fallers identified presenting to A&E.

It is essential that the outcomes of this case finding initiative are monitored (i.e. are more fallers identified in A&E and receive appropriate onward referral and

management?) If successful NHS Westminster should consider working with other acute hospital trusts which manage Westminster patients.

8.1.5 Hospital admission

As a result of their injuries, a small proportion of fallers are admitted to hospital for treatment. In 2008/09, there were 793 admissions as a result of a fall in Westminster, although this is likely to be an underestimate as the number of fallers identified as such (and appropriately coded for on hospital records systems) is thought to be low. Westminster residents may be admitted to a number of hospitals within and on the outskirts of Westminster including St Mary's Hospital, St Thomas' Hospital, University College London Hospital and Chelsea & Westminster Hospital.

In accordance with NICE guidelines (2004), older people should be asked about their falls history to identify persons at risk of or who have fallen so that they can receive an appropriate assessment and preventative action can be taken. However, anecdotal evidence suggests that this is not routinely happening when older people in Westminster are admitted to hospital.

Upon admission to a geriatric ward at St Mary's Hospital, fallers are identified and undergo an initial assessment. Whilst this is the case for persons admitted to St Mary's Hospital, it is not currently clear if this is the case for older persons admitted to other hospitals such as St Thomas' and Chelsea & Westminster Hospital. Accordingly, further information is needed to clarify what happens to Westminster residents who fall and are admitted to hospitals other than St Mary's.

Furthermore, not all older people that are admitted to hospital are admitted to geriatric wards and may be admitted to other wards including general medicine. Anecdotal evidence suggests that the number of older people who are admitted to wards other than geriatric wards who undergo a falls assessment is variable, meaning that manly fallers who are admitted are not identified as so.

Requiring all older people who are admitted to 'other wards' to undergo an initial assessment to determine a history of falls is unrealistic and is likely to be difficult to implement. Therefore, at best, initially all older people admitted for a hip or fragility fracture should undergo an initial assessment to identify a history of falls.

In Portsmouth and East Hampshire, where a falls strategy group has been in existence since 2001, falls champions have been identified in all hospital wards and key areas of intermediate, primary and social care as well as residential and nursing care homes – these champions receive additional, specific falls related training and have responsibility for driving the falls agenda in their area. A similar initiative for St Mary's Hospital is being developed through 'link' nurses, however, the other hospitals which Westminster residents may be admitted to should also be considered.

St Mary's Falls Prevention Policy

St Mary's Hospital is also implementing a new trust wide falls prevention policy across all wards and departments. This policy emphasizes the importance of taking a falls history on admission, starting a multifactorial risk assessment and communicating risks and management advice to community services upon discharge. Implementation of this strategy is supported by a multidisciplinary strategy group, a falls education group, a falls specialist nurse and a network of 'link' nurses on the ward.

8.2 Assessment

8.2.1 Initial assessment - primary care

Some identification and assessment of fallers occurs when an individual is admitted to hospital as a result of a fall (as previously discussed), however, for the majority of individuals, hospital admission is not necessary and initial assessment should occur in general practice. Evidence, however, suggests that this rarely happens. There are many likely reasons for this including, poor awareness of falls in the community resulting in individuals not reporting their falls history to anyone and the low level of case-finding in both community settings and on presentation to hospital. Furthermore, feedback from older people in Westminster suggests that awareness of falls amongst GPs in Westminster is low (NHS Westminster, 2008).

Accordingly, more engagement is needed with general practices to raise awareness of falls and falls prevention to both help fallers or persons with risk factors for falling to be identified and undergo an initial assessment in general practice and to manage and appropriately refer fallers who have been identified for further assessment, for example, those identified on admission to hospital, upon presentation to A&E or upon contact with the London Ambulance Service.

Currently because of the multiple read codes for falls on primary care data systems it is not possible to estimate how many fallers present to primary care each year, or indeed what follow up they receive. Accordingly, standard read codes for recording falls on primary care data systems need to be developed.

Once an individual has undergone an initial assessment in primary care they may be reassured and managed in primary care, be referred to a hospital based falls clinic for a focused medical assessment or be referred to a community based clinic for a multifactorial assessment.

Once standard read codes have been developed for identifying fallers in general practice, a falls register can be established to keep a record of all persons who have fallen (and are, therefore, at high risk of experiencing a future fall), including information on individual follow up. Establishment of such a register will provide a more accurate picture of falls in Westminster and, for example, identify particular population groups who are at increased risk of falls and allow the follow up of patients to be monitored to ensure that all older people who have fallen receive appropriate assessment and follow up.

8.2.2 Focused medical assessment

A consultant led, multifactorial falls risk assessment clinic is held at St Mary's Hospital which has the capacity to see five new and six follow up patients each week. The clinic was established to see patients who had had a fall in the previous 12 months and access to the clinic is via GP referral.

The service is led by a Consultant in Medicine for the Elderly and is supported by a registrar, a fall/osteoporosis nurse, a falls specialist therapist from Westminster Rehabilitation Service and administrative support. The clinic involves attendance by the patient for half a day where they are medically assessed, assessed for their mobility and balance and environmental and other risk factors for falls are discussed.

Attendances at the clinic have been rising year on year from 70 in 2007/08 to 206 in 2008/09; by the end of 2009/10 the number of attendances is expected to have risen to approximately 300. This increase is most likely attributable to local falls prevention work to raise awareness of falls and promotion of the clinic to Westminster GPs.

However, current evidence suggests that not everyone who should be referred for a focussed medical assessment is being referred.

A recent audit of the falls clinic found it to be an essential and successful service with positive patient feedback, with particular reference to patient choice (the clinic is available on the Choose and Book system) and being able to see all health care professionals in a single visit.

GP only referral was found to be restrictive and the audit recommended that the range of health professionals who could refer into the service be expanded.

Anecdotal evidence suggests that not everyone who should be referred for a focused medical assessment is being referred. Accordingly, improved case finding and clearer pathways and protocols for referral and management of fallers is required to increase the number of fallers benefiting from a focused medical assessment.

If more fallers are identified in the community and hospital settings and the referral restrictions to the falls clinic are relaxed, there is likely to be an increasing number of patients referred to the St Mary's falls clinic; accordingly, the capacity of the falls clinic should increase to reflect this.

9.2.3 Multifactorial assessment

Westminster Falls Prevention Service

Westminster Falls Prevention Service is part of an integrated specialist falls service and currently provides the multifactorial falls assessment in the community, receiving referrals from GPs and primary care, St Mary's A&E and other professionals such as early response officers.

The Falls Prevention Service is a multidisciplinary team led by the Falls Coordinator (a physiotherapist) and includes physiotherapy, occupational therapy, rehabilitation, podiatry and dietetics input.

The service is comprehensive and meets the elements outlined in the NICE guidelines (NICE, 2004), however, because there is no medical input, currently the medical examination and medical review needs to be carried out by the patient's GP. This is not ideal given that older people in Westminster have told us that they like being able to see all healthcare professionals in a single visit.

Some falls prevention services commissioned by other PCTs include social care input, however, the Westminster Falls Prevention Service does not. Such input should be considered for Westminster to enable assessment of social care needs and assess the need for telecare or telehealth which may contribute to falls prevention.

It should be noted that because of the referral routes into the Falls Prevention Service, accessing the service is dependent on a faller being identified in the first instance. Therefore, in order to increase the number of people benefiting from falls interventions, case finding of fallers needs to improve, as previously discussed.

St Mary's orthopaedic and fracture service

The orthopaedic and fracture service at St Mary's also offers a multidisciplinary falls assessment and a bone health assessment to inpatients. Furthermore, the Older Adults Inpatient Assessment Service (OASIS) screens all older persons admitted to hospital – this includes taking a falls history which enables patients to be signposted to acute and community services. The Medicine for the Elderly wards also receive support from the falls/osteoporosis nurse to review fallers and to provide input into the multifactorial risk assessment and management plans.

8.3 Prevention

8.3.1 Westminster Falls Prevention Service

In accordance with the National Service Framework for Older People (2001), Westminster provides an integrated specialist falls service provided by Westminster Rehabilitation and Rapid Response Service (WRRS) that is delivered in both community and hospital settings. There are a number of elements to the Falls Prevention Service including the community based Falls Prevention Service and the Inpatient Falls Prevention Group at St Mary's.

The community based falls service is led by the Falls Coordinator, a physiotherapist who provides both assessment and tailored home exercise programmes in addition to coordinating group exercise programmes.

Current interventions include:

- home assessment by a therapist;

- provision of equipment;
- minor adaptations;
- practice of functional activities of daily living and outdoor mobility;
- referral to GP for medical assessment and medication review;
- referral to falls clinic via GP;
- evidence based exercise programmes in a group setting which includes an education programme and home exercise programme.

Six exercise groups are provided at five sites across Westminster, with capacity to see 57 patients per week. In total, in 2008/09, 223 patients attended the group exercise sessions.

Latest available data suggests that the service is popular with those that use it, with the service reporting receiving self-referrals from people who felt that they had physically deteriorated. There is, however, unsurprisingly a degree of non-attendance after referral. The main reasons for non attendance were medical reasons, followed by the 16 week treatment programme considered to be too long and the venue not being close enough.

The Fall Prevention Service also leads on health promotion for falls and provides falls awareness information to a range of organisations in Westminster including Imperial College Healthcare and Transport for London. Furthermore, the Falls Prevention Services works with GPs, pharmacies and community groups to support the development of suitable community exercise classes and improve awareness of falls and falls prevention. Although much good work has been done by the service to raise awareness, this needs to continue.

Feedback from GPs after training sessions suggests that the training provided was effective at raising awareness of falls – 94% of Westminster GPs who attended the training sessions reported that the training would change their practice i.e. help them to identify, screen and treat fallers or those at risk of falling and be able to offer and appropriate referral (Dodzo, 2009).

8.3.2 Physical activity for older people

Westminster City Council and NHS Westminster currently commission a range of activities/services across the borough to provide physical activity opportunities for older people in Westminster. Although these activities are not promoted as initiatives to prevent falls, these services have an important role to play in falls prevention by helping older people be more active. Such activities include tai chi, yoga, dancing, swimming, walking, bowling, aerobics and chair based exercises amongst many others (for a complete list of physical activities please see the physical activity database available at

http://www.westminsterpct.nhs.uk/pdfs/Physical_activity_Sep_2008.pdf).

Professionals managing/advising older people with a history of, or at risk of falls should be aware of the range of physical activities available for Westminster residents and should signpost where appropriate. Furthermore, awareness of such activities amongst older people in general should be increased, for example, at older people's hubs.

8.3.3 Well at Home

In March 2009 NHS Westminster commissioned the Well at Home Project. Through the employment of residential environmental health officers, the project aims to assess privately rented (including registered social landlords) and owner occupied homes to identify hazards to health including excess cold, damp and mould, fire safety risks for falls and crowding and space amongst others.

8.3.4 Memory Assessment Service

Persons with cognitive impairment or dementia are at high risk of experiencing a fall, therefore, it is important that Falls Prevention Services link in with services to identify persons with cognitive impairment or dementia before they fall to delivery interventions to prevent falls.

The Westminster Memory Assessment Service is a responsive service to aid the early identification of dementia. Given that persons with dementia are at high risk of experiencing a fall, falls prevention should form part of this service. Accordingly, the Westminster Falls Prevention Service should develop links with the Memory

Assessment Service to develop falls prevention interventions to persons with dementia at as early a stage as possible.

8.3.5 Bone Health Services

In addition to the services described, St Mary's also provides a fracture liaison service. Male patients aged 55 and over and female patients aged 45 and over who have attended the fracture clinic who may have suffered a fragility fracture are screened for falls. Furthermore, some patients attending orthopaedic services for spinal surgery are also reviewed. Patients are sent for a DEXA scan and are referred back to the GP with advice on further therapy including medication information and referral on to local falls services.

8.4 Fragility fracture

Outcomes associated with fragility fractures are published in the National Hip Fracture Database National Report; this report presents details on how each hospital's service performs against the standards for hip fracture care and prevention as outline in the Blue Book. At the time of writing, hospital level data was not identifiable from the publically available report and so it is not possible to say how local providers are performing. Hospital level data will, however, be identifiable from June 2010. Accordingly, this data should be regularly monitored by commissioners.

9: Older people's perspectives on falls and falls services

As well as being afraid of falling, older people are most concerned about the loss of mobility and independence associated with a fall. A study by Salkeld *et al* (2000) found that 80% of older women said they would rather be dead then deal with the consequences of a bad hip fracture such as the loss of independence and quality of life and subsequent admission to a nursing home.

Lifestyle advice linked to falls is often met with resistance as the word has connotations for many older people of getting frail, and losing pride of being independent. A better response to lifestyle advice is often found when the term 'improving strength and balance' is used alongside advice about staying active. Research commissioned by Help the Aged (2005) also found that encouraging people to personally choose advice and activities that suit them and avoiding physical restrictions such as hip protectors – the appearance of which is viewed as detrimental and unacceptable to most older women.

A recent review commissioned by the Healthcare Commission, the Healthcare Quality Improvement Partnership and Help the Aged recent examined patient's views, experiences and perspectives of current falls services in England (Royal College of Physicians, 2009).

Overall participants were unaware of what falls services were available, how to be referred to services and how they related to other primary and community services. On questioning, participants did not feel that their GPs were particularly aware of falls services.

Of those persons who had had a falls assessment, most were not aware of the outcomes of this or of their right to ask for the results. Whilst many viewed their experience on assessment as positive to their overall health and well-being, most participants were unclear how the assessment outcomes would be used to develop individualised management plans or how interventions might reduce their own falls risk.

At the Westminster Ask Your Patients Week, older people reported being happy with falls services in the borough. Some service users reported a lack of information associated with their care, including post visit letters and indeed a desire for

information was something that was seen key to maintaining independence and having choice and control by older people in general in Westminster.

10. How do falls prevention and bone health services in Westminster compare regionally and nationally?

In March 2009 The Healthcare Commission published its audit on Falls Prevention and Bone Health Services, evaluating how well the latest Department of Health guidance has been implemented at a local level. This report facilitates benchmarking of Westminster to other PCTs across the country in delivering falls prevention and bone health services in accordance with national policy and guidance.

Overall, Westminster compares well to other PCTs in England according to the six domains audited. However, a number of gaps for Westminster were identified.

- lack of a bone health strategy – 22% of primary care organisations have a written bone health strategy, NHS Westminster does not;
- consideration of falls in the annual public health report or JSNA of falls – 83% of primary care organisations have included public health analysis of falls and bone health in their falls commissioning strategies, NHS Westminster has not previously;
- agreed process/pathway to access syncope services for patients who have 'unexplained falls'/blackouts – 72% of primary care organisations have an agreed pathway, NHS Westminster does not.
- need to collate information on falls from care homes – 20% of primary care organisations do not collate this information including NHS Westminster.

For further information on how Westminster compares to specific domains of the audit please refer to the National Audit of the Organisation of Services for Falls and Bone Health of Older People Report for Westminster Primary Care Trust, March 2009.

11. Conclusions and Recommendations

Falls are a major cause of disability and a leading cause of mortality in older persons in England. It is clear that preventing falls in older people and preventing associated morbidity is a key challenge for Westminster.

Although this has been an area of national policy and guidance in recent years, there is still a clear need to do more to prevent falls in Westminster. The 2004 NICE Guideline highlights five key priorities for falls prevention and these should form the basis of the Westminster Falls Prevention and Bone Health Strategy. The five NICE key priorities for implementation are:

- case/risk identification;
- multifactorial falls risk assessment;
- multifactorial interventions;
- encouraging participation of older people in falls prevention programmes including education and information giving;
- professional education.

More specifically, in order to effectively implement the NICE priorities in Westminster, this needs assessment makes the following recommendations:

- awareness of falls in the community should be raised. Such awareness raising activity should be culturally sensitive and delivered in a range of settings;
- links should be made with local carers services including Westminster Carers Service and Carers Network Westminster to raise awareness of falls amongst persons caring for older people;
- links should be made with the Memory Assessment Service to raise awareness of falls amongst persons with cognitive impairment and dementia;
- awareness of falls should be raised amongst health professionals and third sector organisations who are likely to engage with older people in Westminster. Education and training should be provided;

- further work is needed to explore how the London Ambulance Service can help promote the proactive preventative management of fallers;
- all persons presenting to A&E should be asked about falls as per the standard A&E assessment form;
- all women aged 65 and over presenting to A&E should be asked whether they are prescribed calcium/vitamin D/bisphosphonates and if not followed up as per national guidelines;
- clear management and referral protocols and care pathways are needed on discharge from A&E to ensure appropriate follow up for fallers in accordance with NICE guidance;
- further work is needed to better understand the patient experience of fallers presenting to A&E;
- information and education should be given orally and in writing to patients presenting to A&E as a result of a fall, informing them of the measures they can take to prevent further falls;
- the impact on the identification of fallers of the occupational therapist post based at St Mary's A&E should be evaluated;
- further information is needed to clarify what happens to Westminster residents who fall and are admitted to hospitals other than St Mary's;
- all people who are admitted to hospital as a result of a hip or fragility fracture should undergo a falls assessment. The outcomes of this assessment and recommendations for further action should be relayed to GPs for follow up;
- the establishment of falls champions or similar roles should be considered to raise awareness of falls across acute hospital trusts;
- more engagement with primary care is needed to raise awareness of falls to ensure that fallers are identified in general practice and consequently undergo initial assessment and receive appropriate follow up. This may be delivered through better information and training for GPs and other primary care professionals;

- specific read codes for recording falls presenting to primary care need to be developed and implemented;
- a falls register should be established to monitor the number of fallers and follow up of fallers in Westminster;
- clear management and referral protocols and care pathways are needed upon hospital discharge to ensure appropriate follow up for fallers in accordance with NICE guidance;
- capacity at hospital based falls clinics such as that as St Mary's should be able to respond to the increased demand for the service as a result of case finding initiatives;
- medical and social care input into the Falls Prevention Service should be provided to enable a multifactorial falls assessment to be completed in a single visit to the Falls Prevention Service without individuals being directed back to their GP for medical examination and a medication review;
- professionals managing/advising older people with a history of or at risk of falls should be aware of the range of physical activities available for Westminster residents and should signpost where appropriate;
- the Falls Prevention Service should develop links with the Memory Assessment Service to deliver falls prevention interventions to persons with dementia or cognitive impairment in a timely manner;
- the Falls Prevention Service should develop links with the Well at Home Project to deliver assessment of hazards in the home and potentially identify and refer persons with a falls history;
- case finding, assessment and falls prevention initiatives should be monitored by regular local audit in accordance with the findings of the national audit;
- the Falls Prevention Service should continue to work with pharmacies, GPs and other organisations to raise awareness of falls.

Fragility fractures

Further work is needed to understand care pathways regarding fragility fractures. Furthermore, performance against the core standards set out in the Blue Book need to be regularly monitored by Westminster – this may be done by either liaising directly with providers of via the National Hip Fracture Database.

12. References

Alzheimer's Society (2007). Dementia UK: The Full Report. London: The Alzheimer's Society.

Brown M (2005). Emergency care for people with learning disabilities: what all nurses and midwives need to know. *Accident and Emergency Nursing* 13 224-231.

Connell BR (1996). Role of environment in falls prevention. *Clinical Geriatric Medicine* 12 859-880.

Cumming RG, Salkeld G, Thomas M & Szonyi G (2000). Prospective study of the impact of the fear of falling on activities of daily living, SF-36 scores and nursing home admission. *Journal of Gerontology* 55 M299-M305.

Cryer (2001). What works to prevent accidental injury amongst older people. London: Health Development Agency,

Department of Health (2001). The National Service Framework for Older People. London: Department of Health.

Dodzo W & Jacobs R (2008). Audit of St Mary's Hospital A&E Department: management of falls in the elderly (unpublished)

Dodzo (2009). Falls Prevention Project (unpublished).

Eastern Region Public Health Observatory (2008). Modelled estimates and projections of stroke for PCTs in England [Online] http://www.erpho.org.uk/viewResource.aspx?id=18052 [Accessed 09/02/2009].

Emerson E & Hatton C (2004). Estimating Future Need/ Demand for Supports for Adults with Learning Disabilities in England. UK: Institute for Health Research, Lancaster University.

Greater London Authority (2008). Round Population Projections, PLP low.

Help the Aged (2005). Don't mention the f-word [Online]. Available at: www.helptheaged.org.uk [accessed 12/10/2009].

Information Centre (2007). Health Survey for England 2005: Health of Older People. Available at http://www.ic.nhs.uk/statistics-and-data-collections/health-and-lifestyles-

related-surveys/health-survey-for-england/health-survey-for-england-2005:-health-of-older-people-[ns] [Accessed 01/02/2009]

Kellogg International Work Group on the Prevention of Falls in the Elderly (1987). The prevention of falls in later life. *Danish Medical Bulletin* 34 1-24.

Liu-Ambrose (2003). Older women with osteoporosis have increased postural sway and weaker quadriceps strength than counterparts with normal bone mass: overlooked determinants of fracture risk? *Journals of Gerontology* 58 862.

Masud T (2001). Epidemiology of falls. *Age and ageing* 30-34 3-7

NHS Health Scotland (2004). People with learning disabilities in Scotland. Glasgow: NHS Health Scotland.

NHS Westminster (2010). Joint Strategic Needs Assessment: Older Persons [Online}. Available at http://westminstercitypartnership.org.uk/Partnerships/Health%20and%20Wellbeing/Pages/JSNA.aspx [accessed 07/08/2009].

National Institute for Health and Clinical Excellence (2004). Clinical practice guideline for the assessment and prevention of falls in older people. London: Royal College of Nursing.

Office of National Statistics (2008). Mid year population Estimates [Online]. Available at: http://www.statistics.gov.uk/statbase/product.asp?vlnk=601 [accessed 06/06/2009].

Royal College of Physicians (2009). National Audit of the Organisation of Services for falls and bone health of older people. London: Healthcare Improvement Partnership.

Scuffham P & Chaplin (2002). The incidence and costs of accidental falls in the UK – final report. York: York Health Economic Forum Consortium. The University of York.

Tinetti ME, Speechley M & Ginter SF (1988). Risk factors for falls among elderly persons living in the community. *The New England Journal of Medicine* 319 1701-1707.

Tinetti ME & Williams CS (1997). Falls, injuries due to falls and the risk of admission to a nursing home. *The New England Medical Journal* 337 1279-1284.