



Cheshire West and Chester

Falls Joint Strategic Needs Assessment



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1. Key points arising from this JSNA

1. Fall related hospital admissions in Cheshire West and Chester are significantly higher than the England average and have been for several years.
2. Emergency admission rates for falls are higher for women than for men.
3. People aged 80 and over account for over two thirds of falls admissions in the 65 and over age group.
4. There were 1,945 emergency admissions for fall related injuries in 2021/22 for people aged 65 and over.
5. Early data for 2022/23 suggest that the number of fall related admissions in Cheshire West and Chester will reduce compared to 2021/22. Further data is required to better understand this.
6. Northwich and Winsford localities have a significantly higher admission rate than other localities in Cheshire West and Chester.
7. Admission rates from rural localities are low.
8. There is a variation in length of hospital stay across Mid Cheshire and the Countess of Chester sites.
9. Coding issues following hospital admission make in depth analysis difficult.
10. Population forecasts suggest that the number of older people in the Borough will increase significantly. This is likely to result in increased demand on falls services.
11. Two of the three falls prevention services currently commissioned by Cheshire West and Chester will cease in September 2023. The third is currently funded until March 2024. Similarly, a falls prevention service funded by the ICB will also cease in September 2023.

2. Recommendations arising from this JSNA

- a) Further work is undertaken to understand differences in hospital admission rates
- b) Further work is undertaken to better understand the reasons for lower rates of admissions in rural areas
- c) To help us better understand the places where people fall, the practise of coding should be reviewed
- d) Re-admission data should be investigated to determine why people are being readmitted
- e) The development of a Fracture Liaison Service should be explored
- f) Sustainable funding is required to ensure the delivery of evidence-based strength and balance classes across the borough
- g) Risk stratification should be undertaken to identify those at risk of falling
- h) Establish evidence-based strength and balance classes across the borough



- i) Investment in community equipment to support a timely falls response

3. Introduction

- 3.1. Having a fall, especially if you are an older person, can have a significant effect on your quality of life.
- 3.2. Every year older people in Cheshire West fall and injure themselves, sometimes severely. Often the fall results in the person needing to stay in hospital and can permanently reduce their physical and mental health and wellbeing. Sometimes these falls could have been prevented, or the repercussions of the fall reduced with timely intervention.
- 3.3. A fall is defined as an unintentional loss of balance resulting in coming to rest on the floor, the ground, or an object below knee level. A fall is distinguished from a collapse that occurs as a result of an acute medical problem such as acute arrhythmia, a transient ischaemic attack or vertigo (NICE Quality Standard 86,2015).
- 3.4. People aged 65 and older have the highest risk of falling; around a third of people aged 65 and over, and around half of people aged 80 and over, fall at least once a year.
- 3.5. Falls and fractures are both associated with new-onset disability and frailty. This means that an increase in falls and fractures could be a sign that there are now more people in England who are at an increased risk of disability, falls, and admission to hospital (ONS,2023).
- 3.6. Fear of falling can lead to general loss of confidence in an individual to participate in the community and to be independent. This can lead to social isolation and increased frailty as the result of decreased physical exercise, and loss of independence. Fear of falling is reported by approximately one in four people over the aged of 65 living in community settings. The fear of falling increases further for people who have already experienced a fall and older people living in care settings.
- 3.7. The number of older people living in Cheshire West and Chester is forecast to increase significantly. Not only is age a key risk factor for falling, but when people aged 60 and over fall, they are also more likely to sustain a moderate to serious injury (fractures, head trauma, hip fractures) and are at higher risk of death. Therefore, an increase in the number of older people is likely to see an increase in demand for falls related care.
- 3.8. In summary, preventing falls is an important challenge both for Local Authorities and the NHS. This Joint Strategic Needs Assessment (JSNA) aims to support this.

4. Rationale for the scope of this JSNA

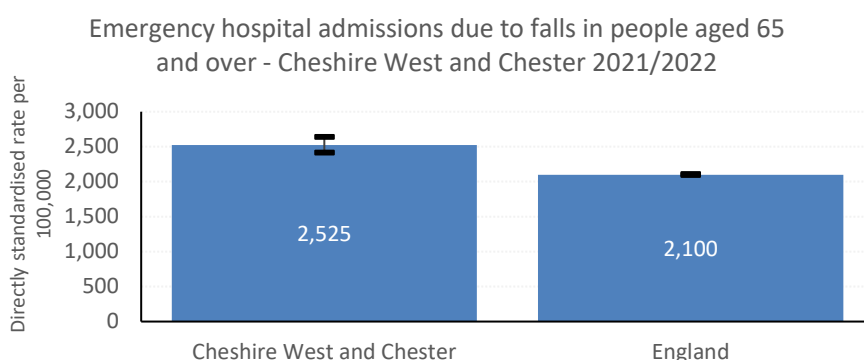
- 4.1. There is no accurate measure of the exact number of people who have fallen in Cheshire West and Chester. Data taken from the Projecting Older People Population



Information (POPPI) website estimates over 20,000 falls a year for our residents aged 65 and over (POPPI).

- 4.2. What we do know is that, when looking at the Public Health Outcomes Framework (PHOF) indicator, Cheshire West and Chester has had significantly high rates of emergency hospital admissions with a fall related injury for people aged 65 and over for several years. There were 1,945 emergency admissions for fall related injuries in 2021/22 for people aged 65 and over. This represents only a relatively small proportion of estimated falls but is an important indicator of outcomes for people who have fallen. The directly standardised rate of 2,525 per 100,000 people is statistically significantly worse than the England average of 2,100.

Chart 1: Public Health Outcomes Framework – falls with an injury

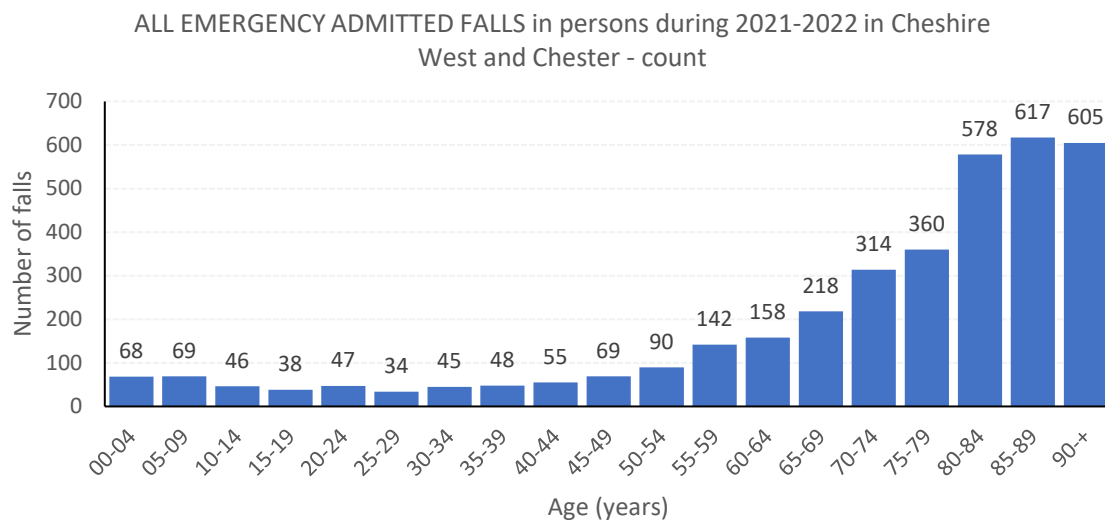


Source: Hospital Episode Statistics (HES), NHS England for the respective financial year, England. Hospital Episode Statistics (HES) © Copyright 2023, Reused with the permission of NHS England

- 4.3. The PHOF indicator discussed above excludes falls where the primary diagnosis was something other than an injury code. The scope of this JSNA was therefore widened to look at all fall related emergency admissions, not just those with an injury code.
- 4.4. Whilst acknowledging that falls affect all age groups, 75% of fall related emergency admissions in Cheshire West and Chester are people aged 65 and over (2021/22). For that reason, the focus of this JSNA is on people aged 65 and over.



Chart 2: All emergency admitted falls in persons during 2021-2022 in Cheshire West and Chester



Source: Hospital Episode Statistics (HES), NHS England for the respective financial year, England. Hospital Episode Statistics (HES) © Copyright 2023, Reused with the permission of NHS England

5. Fall related hospital admissions - people aged 65 and over

The following analysis is based on 2021/22 Hospital Episode Statistics (HES) Data

Who is being admitted to hospital following a fall?

5.1 Analysis shows the following groups have higher rates of admission:

- Women
- Older people
- People living in the east of the Borough
- People living in more deprived areas

5.2. Differences by gender

- 5.2.1. Admission rates are higher for women than for men and admission rates for both men and women in Cheshire West and Chester are significantly higher than the England average. Almost two thirds of admissions for people aged 65 and over were women.

Table 1: All emergency admitted falls aged 65years and over

	Admissions	CW&C Directly standardised rate	England Directly standardised rate	Comment
Persons	2692	3492.1	2974.9	High
Male	974	3057.1	2657.7	High
Female	1718	3851.8	3210.6	High

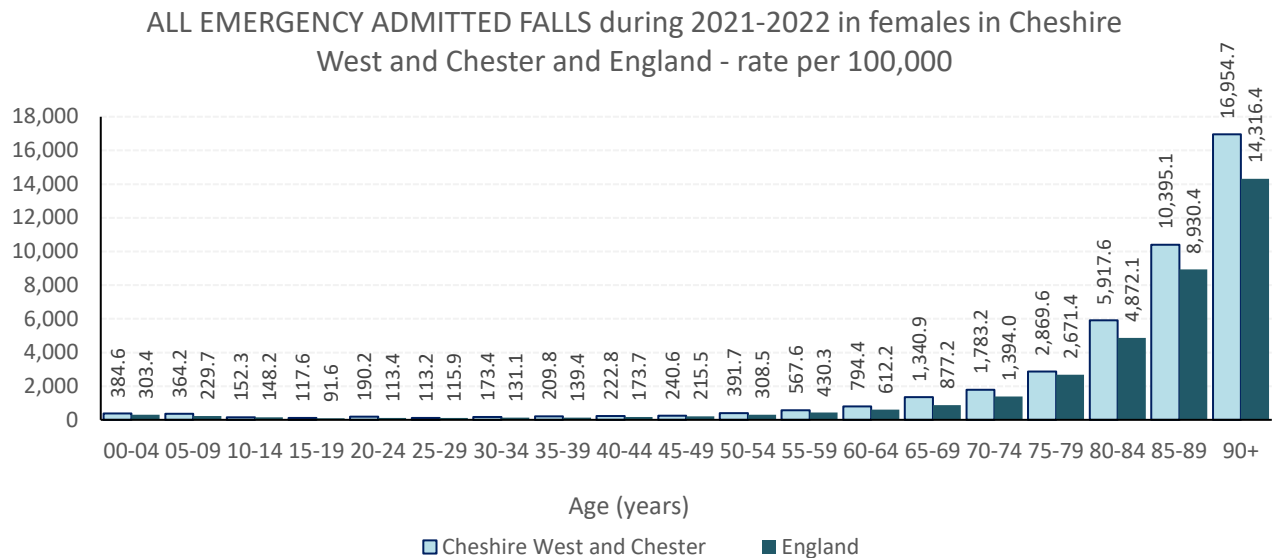
Note: Uses ONS 2021 mid year population estimates

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5.2.2. The chart below shows that female admission rates increase with age and that rates for older women in Cheshire West and Chester are higher than the England average for every age group over 65.

Chart 3: All emergency admitted falls in women – 2021-2022



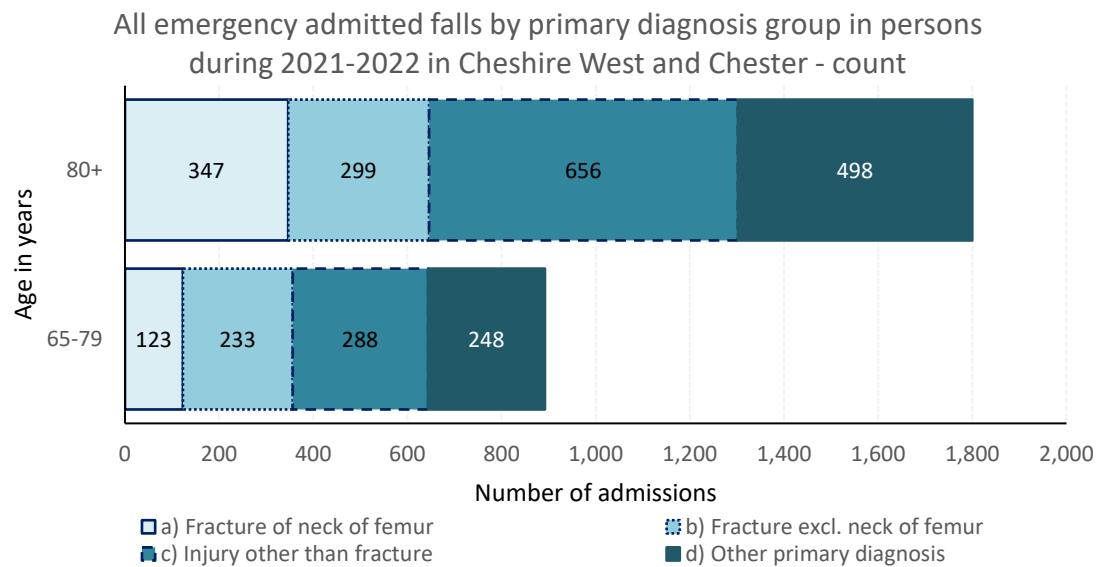
Note: Uses ONS 2021 mid year population estimates
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5.3 Breakdown by age group

5.3.1 As discussed earlier, rates of admission increase with age and people aged 80 and over account for a large proportion of fall related admissions. Within the 65 and over cohort, two thirds were aged 80 and over. The risk of serious injury is high in this age group with 19% of 80+ admissions being treated for a fractured neck of femur (hip fracture). However, almost a quarter (498 or 28%) were treated for a diagnosis other than an injury, suggesting more complex reasons for these admissions. The diagnoses included in this grouping are investigated later in the JSNA.



Chart 4: All emergency admitted falls by primary diagnosis group – 2021-2022



Source: Hospital Episode Statistics (HES), NHS England for the respective financial year, England. Hospital Episode Statistics (HES) © Copyright 2023, Reused with the permission of NHS England

Table 2: Table of all emergency admitted falls by primary diagnosis group – 2021-2022

	Admissions aged 65-79	Admissions aged 80+
a) Fracture of neck of femur	123	347
b) Fracture excl. neck of femur	233	299
c) Injury other than fracture	288	656
d) Other primary diagnosis	248	498
Total	892	1800

Source: Hospital Episode Statistics (HES), NHS England for the respective financial year, England. Hospital Episode Statistics (HES) © Copyright 2023, Reused with the permission of NHS England

5.4 Differences across geography

- 5.4.1 There is variation in admission rates across Cheshire West and Chester. Northwich and Winsford localities have a significantly higher admission rate than other localities in Cheshire West and Chester. Fall related admission rates are also high for both Northwich and Winsford Community partnership, as can be seen in chart 5 and table 3. The variation in admission rates between areas may be explained by differences in how patients are assessed and managed by the two main hospital trusts. Northwich and Winsford residents are more likely to attend Mid Cheshire Hospital, whilst residents in other localities will primarily attend the Countess of Chester Hospital.

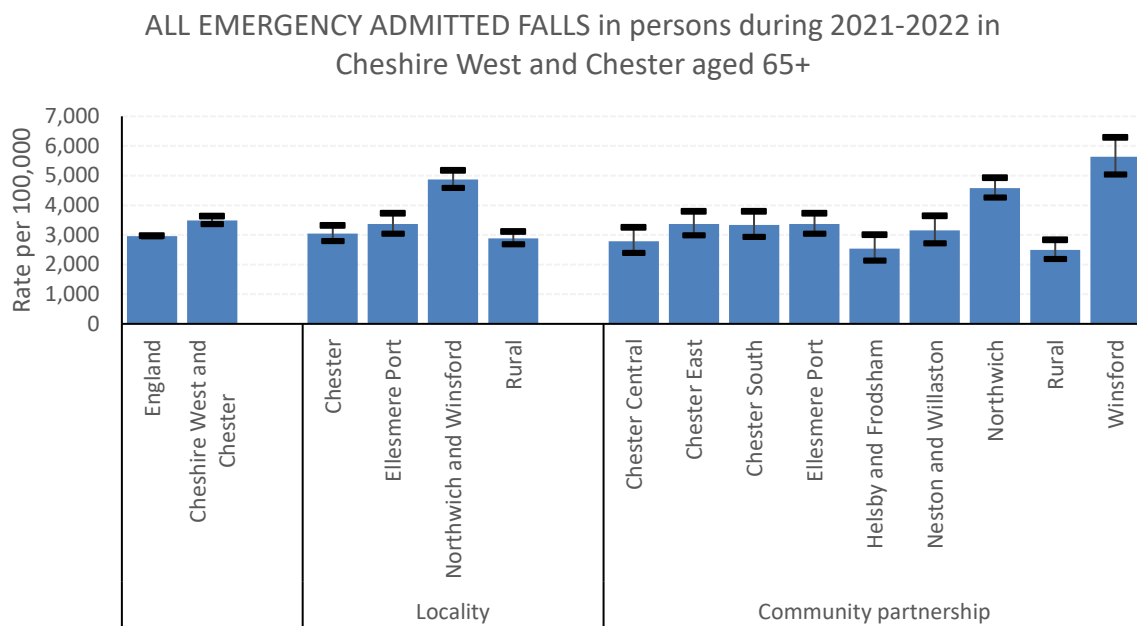
Recommendation: Further work is undertaken to understand differences in hospital admission rates.



5.4.2 The reasons for the Rural locality having the lowest rates of admissions for falls are more difficult to understand. Research suggests that those who live in urban areas have higher rates of emergency hospital admission than those in rural areas (Purdy, 2010). What is uncertain is whether these rates are lower due to better management in the community or because patients who live further from secondary care have more difficulty accessing services (O'Donnell, 2000).

Recommendation: Further work is undertaken to better understand the reasons for lower rates of admissions in rural areas.

Chart 5: All emergency admitted falls in persons aged 65 and over by geography – 2021-2022



Note: Due to comparison with sub local authority geographies, the chart above uses ONS 2020 mid year population estimates to calculate the admission rate
Source: Hospital Episode Statistics (HES), NHS England for the respective financial year, England. Hospital Episode Statistics (HES) © Copyright 2023, Reused with the permission of NHS England



Table 3: Table of all emergency admitted falls in persons aged 65 and over by geography – 2021-2022

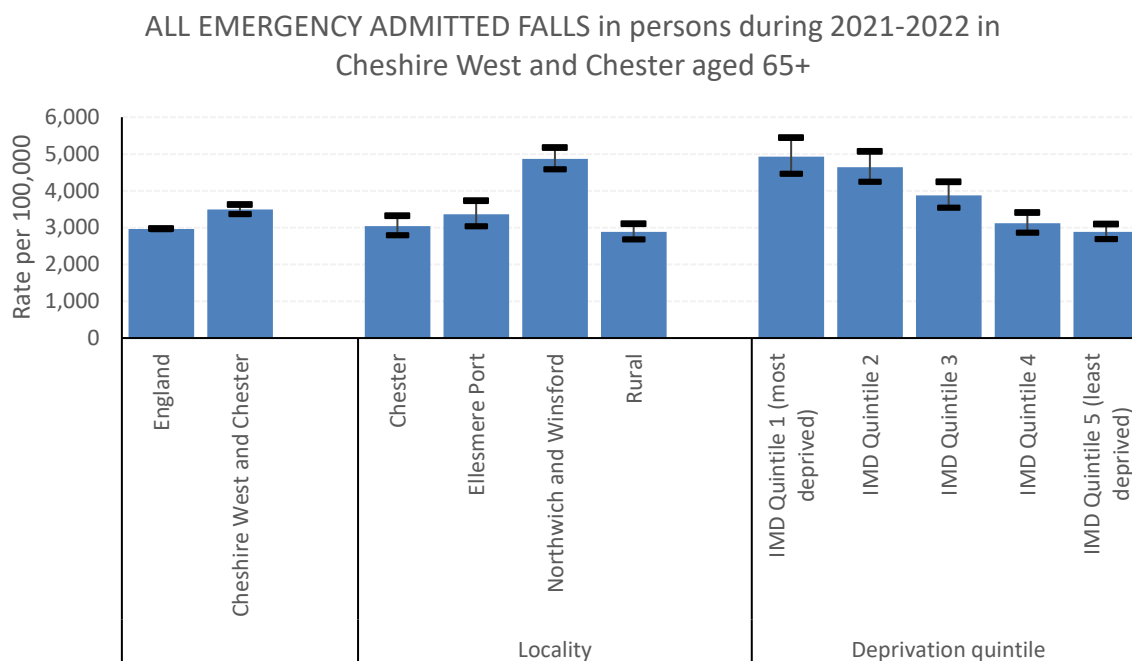
ALL EMERGENCY ADMITTED FALLS in persons during 2021-2022 in Cheshire West and Chester aged 65+						
		Admissions	Directly standardised rate	lower 95% confidence interval	upper 95% confidence interval	Comment
England		316,195	2,961.9	2,951.6	2,972.3	
Cheshire West and Chester		2,692	3,562.2	3,428.6	3,699.7	High
Locality						
Chester		534	3,044.2	2,789.9	3,315.3	Similar
Ellesmere Port		381	3,365.7	3,032.9	3,724.8	High
Northwich and Winsford		1,057	4,868.3	4,578.5	5,171.5	High
Rural		720	2,886.7	2,678.9	3,106.2	Similar
Community Partnership						
Chester Central		171	2,790.5	2,384.8	3,245.2	Similar
Chester East		283	3,368.7	2,982.1	3,790.9	High
Chester South		238	3,339.7	2,927.8	3,793.2	Similar
Ellesmere Port		381	3,365.7	3,032.9	3,724.8	High
Helsby and Frodsham		135	2,534.4	2,123.8	3,001.0	Similar
Neston and Willaston		187	3,151.2	2,712.5	3,640.2	Similar
Northwich		728	4,576.4	4,249.5	4,921.8	High
Rural		240	2,493.0	2,185.5	2,831.5	Low
Winsford		329	5,633.0	5,036.2	6,280.7	High

Note: Due to comparison with sub local authority geographies, the table above uses ONS 2020 mid year population estimates to calculate the admission rate
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5.4.3 There is also a clear social gradient affecting fall admission rates. People living in the more deprived areas of Cheshire West and Chester have significantly higher rates of fall related admissions than people living in less deprived areas. National evidence supports this finding highlighting that deprivation predicts an increased risk of fracture neck of femur (Bhimjiyani et al.,2018).



Chart 6: All emergency admitted falls in persons aged 65 and over by deprivation quintile – 2021-2022



Note: Due to comparison with sub local authority geographies, the chart above uses ONS 2020 mid year population estimates to calculate the admission rate
Source: Hospital Episode Statistics (HES), NHS England for the respective financial year, England. Hospital Episode Statistics (HES) © Copyright 2023, Reused with the permission of NHS England

Table 4: Table of all emergency admitted falls in persons aged 65 and over by deprivation quintile – 2021-2022

ALL EMERGENCY ADMITTED FALLS in persons during 2021-2022 in Cheshire West and Chester aged 65+						
		Admissions	Directly standardised rate	lower 95% confidence interval	upper 95% confidence interval	Comment
England		316,195	2,961.9	2,951.6	2,972.3	
Cheshire West and Chester		2,692	3,562.2	3,428.6	3,699.7	High
Chester		534	3,044.2	2,789.9	3,315.3	Similar
Ellesmere Port		381	3,365.7	3,032.9	3,724.8	High
Northwich and Winsford		1,057	4,868.3	4,578.5	5,171.5	High
Rural		720	2,886.7	2,678.9	3,106.2	Similar
IMD Quintile 1 (most deprived)		397	4,932.4	4,458.1	5,443.4	High
IMD Quintile 2		499	4,643.8	4,243.4	5,071.8	High
IMD Quintile 3		477	3,875.5	3,534.5	4,240.4	High
IMD Quintile 4		517	3,120.9	2,856.8	3,402.7	Similar
IMD Quintile 5 (least deprived)		802	2,882.5	2,685.9	3,089.8	Similar

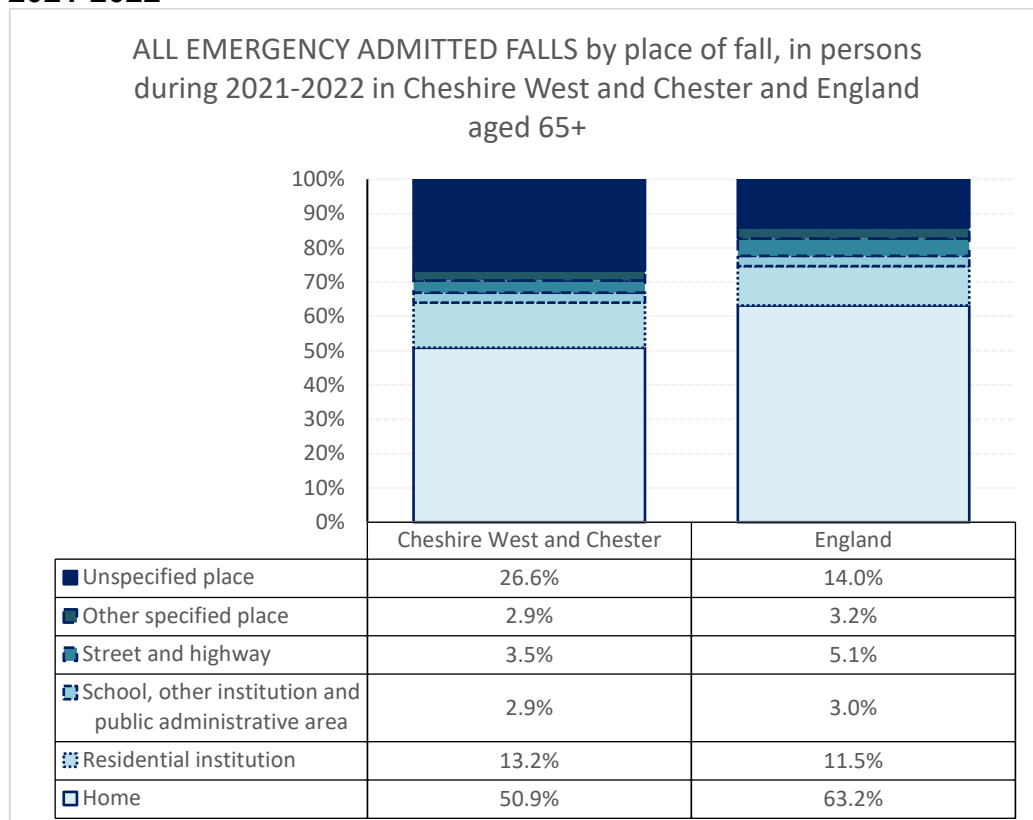
Source: Hospital Episode Statistics (HES), NHS England for the respective financial year, England. Hospital Episode Statistics (HES) © Copyright 2023, Reused with the permission of NHS England



6 Where are people falling?

- 6.1 The majority of falls occur either in the home or in a care home. In Cheshire West and Chester, 51% of fall admissions were coded as taking place in the home and 13% in residential institutions. It is difficult to assess whether this is similar to England as one in four (27%) local fall admissions were not coded with a place of fall, more than the England average (14%).

Chart 7: All emergency admitted falls in persons aged 65 and over by place of fall – 2021-2022



Source: Hospital Episode Statistics (HES), NHS England for the respective financial year, England. Hospital Episode Statistics (HES) © Copyright 2023, Reused with the permission of NHS England

- 6.2 Data using the postcode of residence to estimate admissions from care homes in Cheshire West and Chester suggests that 16% of admissions are for care home residents (sourced from SUS data on the ICB Qlik platform).
- 6.3 Both methods indicate that the majority of falls, resulting in a hospital admission, occur in the home.
- 6.4 Of those coded with the type of fall, the majority were slips, trips and stumbles on the same level. 8% involved a bed or chair or other furniture and a further 8% involved stairs or steps. As can be seen in table 5 below. Over 40% of all admissions however were not coded specifically in relation to how the fall happened. Again, better coding may highlight areas for improvement.



Table 5: All emergency admitted falls in persons aged 65 and over by cause of fall – 2021-2022

ALL EMERGENCY ADMITTED FALLS by cause of fall, in persons during 2021-2022 in Cheshire West and Chester and England aged 65+				
	Cheshire West and Chester	England	Cheshire West and Chester	England
	Admissions	Admissions	%	%
Unspecified fall	1,100	27,434	41%	40%
Fall on same level from slipping, tripping and stumbling (inc ice and snow)	594	9,945	22%	22%
Other fall on same level	513	2,520	19%	20%
Fall on and from stairs and steps	222	2,185	8%	7%
Fall involving bed, chair or other furniture	205	7,009	8%	9%
Fall on or from ladder or scaffolding	26	2,671	1%	1%
Fall involving wheelchair	15	1,346	1%	0%
Other fall from one level to another	8	1,581	0%	1%
Fall from cliff, tree, out of or through building	<5	522	0%	0%
Fall involving ice skates, skis, roller skates, skateboard or playground equipment	<5	142	0%	0%
Other fall on same level due to collision with or pushing by another person	<5	723	0%	0%
Fall while being carried or supported by another person	<5	91	0%	0%

Source: Hospital Episode Statistics (HES), NHS England for the respective financial year, England. Hospital Episode Statistics (HES) © Copyright 2023, Reused with the permission of NHS England

Recommendation: To help us better understand the places where people fall, the practise of coding should be reviewed.

7 Why are people falling?

7.1 Falls rarely start occurring without any underlying contributory factors. Falls are often the result of the interaction between a number of different factors, including, but not limited to:

- a history of falls



- muscle weakness, both due to lifestyle factors such as lack of movement or sedentariness and muscle deterioration which starts to occur during mid-life
- poor balance
- visual impairment (and to a lesser extent, hearing loss)
- polypharmacy (use of multiple medicines) and the use of psychotropic and anti-arrhythmic medicines
- psychological risk factors such as fear of falling, or loss of confidence and self-efficacy
- diet and nutrition, including low protein diets, malnutrition, and lack of Vitamin D
- dizziness or light-headedness
- black outs, fainting or loss of consciousness
- foot problems — including pain and deformities
- memory loss, confusion or difficulties with thinking or problem solving
- environmental hazards both inside the home (such as a wet floor or poor lighting) and outside in neighbourhoods
- a number of specific conditions. These include:
 - arthritis
 - cognitive impairment
 - depression
 - diabetes
 - high alcohol consumption
 - incontinence
 - Parkinson's disease
 - Stroke
 - syncope.

7.2 The more risks a person has, the greater their risk of falling (NICE, 2019).

7.3 There are differences between men and women in specific falls risk factors. For falls amongst women, incontinence and clinical frailty are key risk factors, whilst for men older age and depressive symptoms are important risk factors (Gale et al., 2016).

7.4 For some of the above risk factors, there is a good understanding of the local picture:

- By applying national dementia prevalence rates to the local population demographics, POPPI estimates that the dementia prevalence in Cheshire West was 5,266 in 2020.
- The latest Active Lives survey highlights that the proportion of adults who are physically active in the 55-74 age band is lower in Cheshire West and Chester than England, and slightly higher in the 75+ age group (Sport England Nov 21-22), although these differences are not necessarily statistically significant.

	Aged 55-74	Aged 75+
England	62.0%	41.2%
Cheshire West and Chester	58.4%	41.9%

(Active Lives Survey)



- According to RNIB analysis, where national prevalence was applied to local population demographics, in Cheshire West and Chester, 12,000 people are estimated to be living with sight loss, with 4,455 people registered blind or partially sighted.

7.5 Analysis was conducted to see how many times specific conditions were mentioned in fall admissions for people aged 65 and over. This found that in 2021-22:

- 47% of fallers had 'hypertensive disease' in Cheshire West and Chester compared to the England average of 57%.
- 6% of fallers had 'urinary tract infections' in Cheshire West and Chester; this compared with the England average of 8%.
- 'Ischaemic heart diseases' were mentioned in 15% of all emergency falls in Cheshire West and Chester, which is lower than the England average of 16%
- 4% of fallers had an alcohol specific diagnosis in Cheshire West and Chester compared to an average 3% in England.

Table 6: All emergency admitted falls in persons aged 65 and over with specific conditions mentioned – 2021-2022

All emergency falls in persons aged 65+ with a mention of a specific condition somewhere in the string in Cheshire West and Chester 2021-2022			
	Number of mentions	CWAC %	England %
Alcohol	106	4%	3%
Dementia	555	21%	20%
Urinary tract infection	171	6%	8%
Hypertensive diseases	1,273	47%	57%
Ischaemic heart disease	401	15%	16%
Osteoporosis	362	13%	14%

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7.6 The data suggest that the presence of these conditions in people attending hospital is not a reason for Cheshire West and Chester's poor performance in the PHOF indicator. However, it could also indicate that coding is not as detailed as in other areas of England.

7.7 Nevertheless:

- a) reducing incidence of these diseases may help to reduce the local prevalence of falls (although how much will be highly dependent on the disease)
- b) providing falls related advice and support for people with these conditions (relevant where the condition is long term) may also reduce falls prevalence.

7.8 What are those who have fallen being treated for?

7.9 Injuries resulting from a fall are often serious and can result in long hospital stays. By grouping the primary diagnosis of the fall admission episode, we can describe the types of injuries or conditions patients are being treated for in connection with a fall.



7.10 In 2021/22, there were 1,002 fall related admissions for people aged 65 and over, treated for a fracture. Of these, 470 were for a fractured neck of femur and 532 were for a different type of fracture. A further 944 admissions were for an injury other than a fracture. Most commonly these were head injuries. There were a further 746 admissions coded as fall related where the primary diagnosis was not an injury code. These last two groups make up 63% of all fall related admissions in 2021/22.

Table 7: All emergency admitted falls in persons aged 65 and over by primary diagnosis group – 2021-2022

	Admissions	% of all
a) Fracture of neck of femur	470	17.5%
b) Fracture excl. neck of femur	532	19.8%
c) Injury other than fracture	944	35.0%
d) Other primary diagnosis	746	27.7%
Total	2,692	100.0%

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7.11 Cheshire West and Chester has admission rates which are significantly higher than England for all groups of diagnoses with the exception of non-hip fractures (fractures excluding neck of femur).

Table 8: Table of all emergency admitted falls in persons aged 65 and over by primary diagnosis group – 2021-2022

All emergency admissions aged 65+, Persons, 2122					
	a) Fracture of neck of femur				
	OBS	DSR	LCI	UCI	Comment
England	57,115	536.5	532.1	541.0	
Cheshire West and Chester	470	607.5	553.7	665.2	High
	b) Fracture excl. neck of femur				
	OBS	DSR	LCI	UCI	Comment
England	69,149	652.3	647.4	657.2	
Cheshire West and Chester	532	688.5	631.1	749.7	Similar
	c) Injury other than fracture				
	OBS	DSR	LCI	UCI	Comment
England	96,837	911.1	905.4	916.9	
Cheshire West and Chester	944	1,228.7	1,151.4	1,309.8	High
	d) Other primary diagnosis				
	OBS	DSR	LCI	UCI	Comment
England	93,094	875.0	869.4	880.7	
Cheshire West and Chester	746	967.4	899.0	1,039.5	High

Note: Uses ONS 2021 mid year population estimates

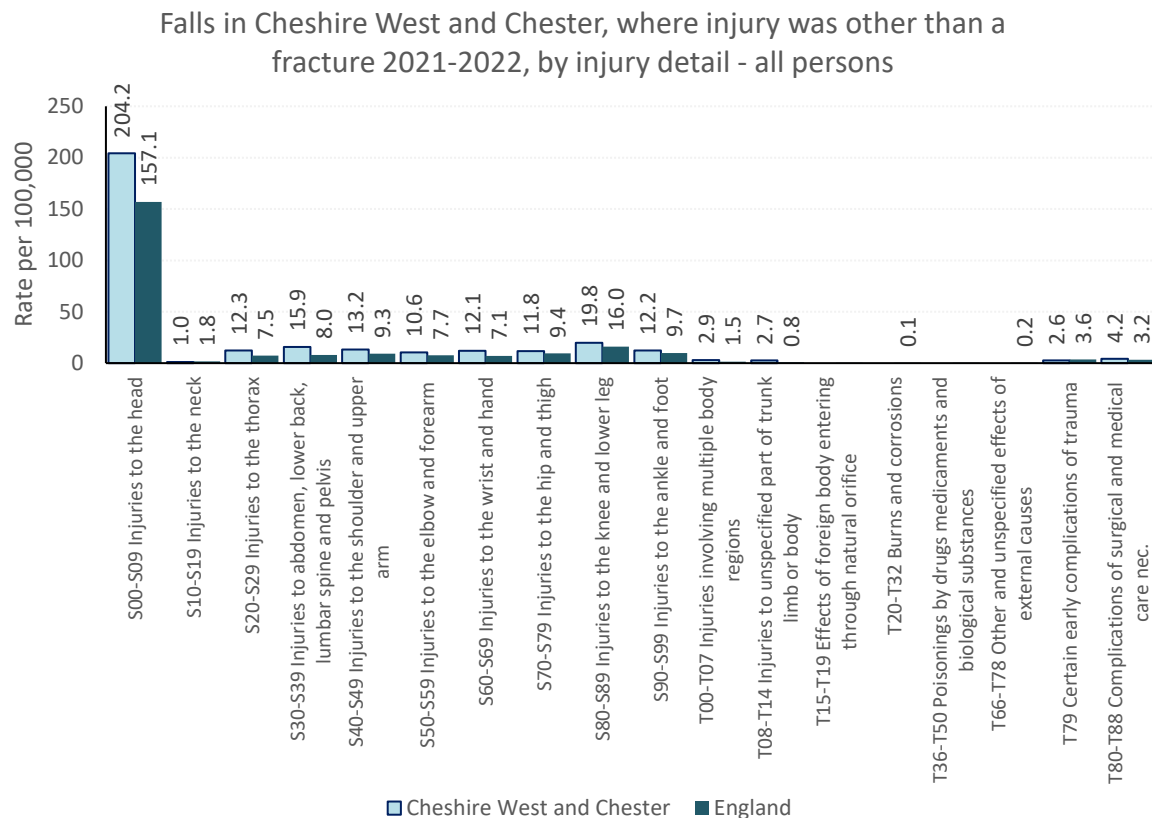
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7.12 Omitting 2020-2021 due to the impact of COVID-19 on the admission rate, fall admissions for a fracture of neck of femur have increased 12% in 2021-2022 compared to 2019-2020.

7.13 The chart below shows that head injuries account for a large proportion of admissions where the injury was other than a fracture. Rates are generally higher in all diagnoses for Cheshire West and Chester than the England average.

Chart 8: Falls where an injury was other than a fracture – 2021-2022



Note: Uses ONS 2021 mid year population estimates

Source: Hospital Episode Statistics (HES), NHS England for the respective financial year, England. Hospital Episode Statistics (HES) © Copyright 2023, Reused with the permission of NHS England



Table 9: Falls in Cheshire West and Chester where injury was other than a fracture 2021-2022, by injury details – all persons

Injury other than fracture	Cheshire West and Chester	England
2021-2022	DSR per 100,000	DSR per 100,000
Injuries to the head	204.2	158.1
Injuries to the knee and lower leg	19.8	16.1
Injuries to abdomen, lower back, lumbar spine and pelvis	15.9	8.0
Injuries to the shoulder and upper arm	13.2	9.3
Injuries to the thorax	12.3	7.4
Injuries to the ankle and foot	12.2	9.7
Injuries to the wrist and hand	12.1	7.1
Injuries to the hip and thigh	11.8	9.4
Injuries to the elbow and forearm	10.6	7.7
Complications of surgical and medical care not elsewhere classified	4.2	3.2
Injuries involving multiple body regions	2.9	1.5
Injuries to unspecified part of trunk limb or body	2.7	0.8
Certain early complications of trauma	2.6	3.6
Injuries to the neck	1.0	1.8

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- 7.14 In 2021/22 the number of fall admissions where the primary diagnosis was not an injury code in Cheshire West and Chester was 746. Around a quarter of these admissions were primarily treated for arthritic conditions and others link to a wide range of medical and physical conditions such as urinary tract infection (UTI) and hypertension.
- 7.15 The table below shows the top 10 diagnoses which accounted for 72% of the 746 admissions. The most common primary reason for admission in the Borough was 'Arthropathies' (disease of the joint) (18%); followed by 'General symptoms and signs', 'Dorsopathies' (spinal disease) and 'Certain bacterial diseases.'



Table 10: Falls in Cheshire West and Chester, where injury was other than a fracture 2021-2022, primary diagnosis detail – all persons

Primary diagnosis (top 10)	Number of admissions	%
M00-M25 Arthropathies	132	18%
R50-R68 General symptoms and signs	78	10%
M40-M54 Dorsopathies	75	10%
A20-A49 Certain bacterial diseases	44	6%
I30-I52 Other forms of heart disease	41	5%
J10-J18 Influenza and pneumonia	39	5%
N30-N39 Other diseases of the urinary system	36	5%
M60-M79 Soft tissue disorders	33	4%
F10-F19 Mental and behavioural disorders due to psychoactive subst.	32	4%
R00-R09 Symptoms and signs inv. the circulatory/respiratory system	30	4%

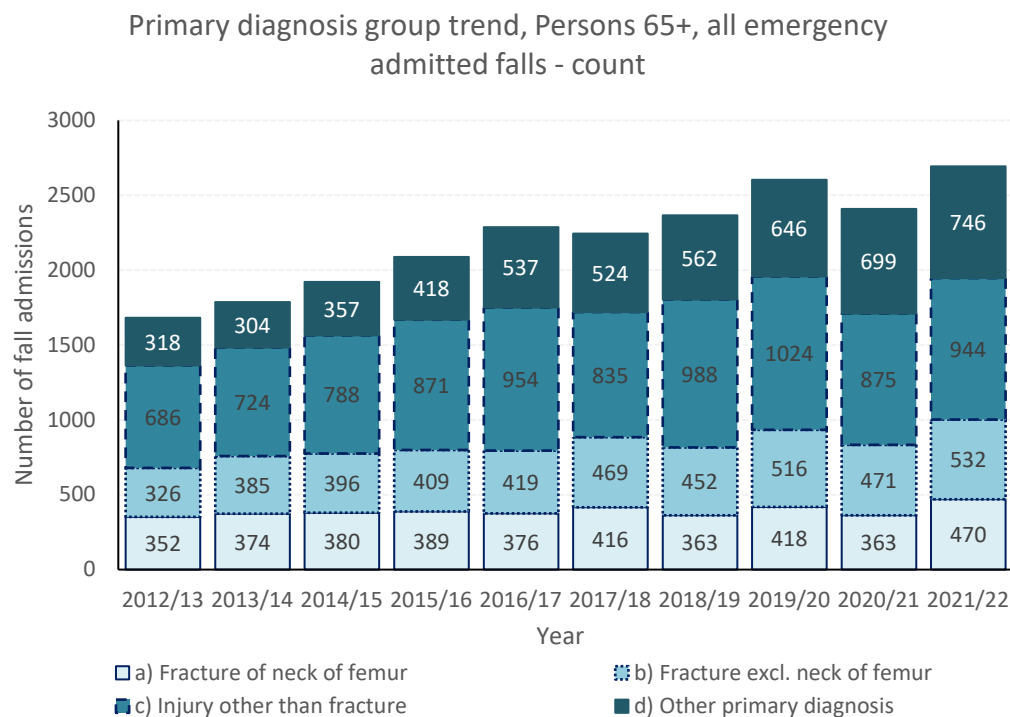
Source: Hospital Episode Statistics (HES), NHS England for the respective financial year, England. Hospital Episode Statistics (HES) © Copyright 2023, Reused with the permission of NHS England

8 Trends in falls admissions

- 8.1 As previously stated, omitting 2020-2021 due to the impact of COVID-19 on the admission rate, fall admissions for a fracture of neck of femur have increased 12% in 2021-2022 compared to 2019-2020. Modelling by the Office of National Statistics has highlighted that whilst nationally the post-lockdown increase in the number of falls and fracture episodes was only temporary for patients without frailty, this increase continued for patients with pre-morbid frailty (ONS, 2023). It is possible therefore that the increase in hip fractures locally could reflect deconditioning during the COVID-19 pandemic, whereby some older adults have experienced physical, psychological, and functional decline as a result of prolonged inactivity and associated loss of muscle strength during the pandemic.
- 8.2 Early data for 2022/23 suggest that the number of fall related admissions in Cheshire West and Chester will reduce compared to 2021/22 but we need to wait for the complete data to understand whether reductions are in specific areas.



Chart 9: All emergency admitted falls in persons aged 65 and over by primary diagnosis group trend – 2021-2022



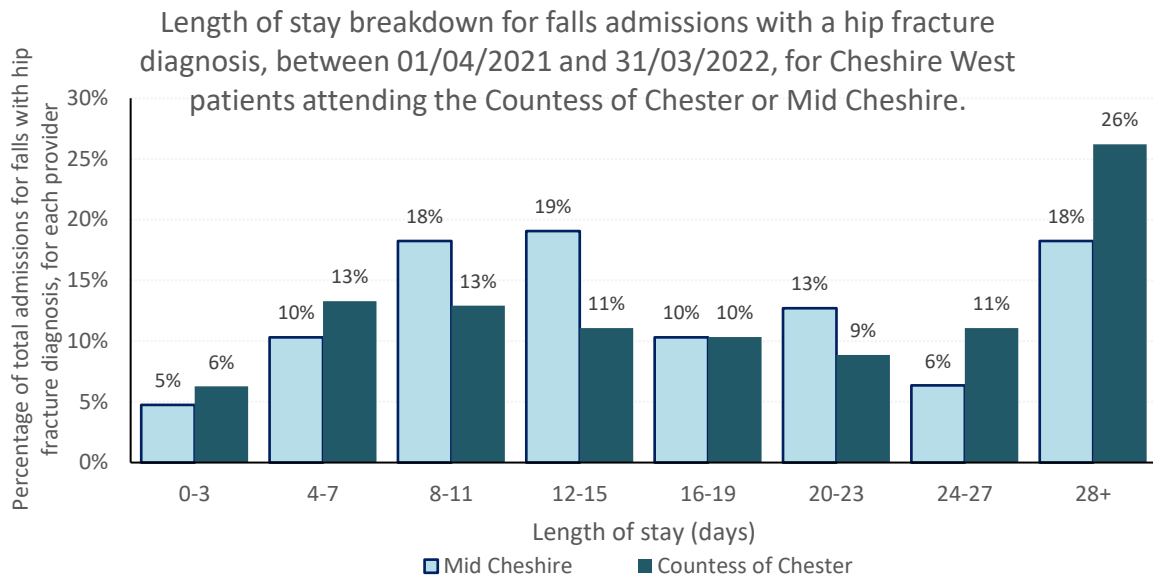
Source: Hospital Episode Statistics (HES), NHS England for the respective financial year, England. Hospital Episode Statistics (HES) © Copyright 2023, Reused with the permission of NHS England

9 How are people who have fallen being managed?

- 9.1 Data in this section uses Integrated Care Board data sources and HES data for 2021/22. Length of stay and re-admission data may indicate how patients are being managed.
- 9.2 The average length of stay for a person who has fallen and been admitted to hospital in Cheshire West and Chester was 11.6 days in 2021/22. Admissions with a hip fracture injury have a longer average length of stay at 19.1 days and those who have fallen with no fracture diagnosis have an average length of stay of 9.4 days.
- 9.3 Split by hospital trust, the range in length of stay for hip fractures looks slightly different across the Borough. Patients admitted to Mid Cheshire hospital are more likely to have a shorter stay of under 15 days, whilst 25% of patients admitted to the Countess of Chester hospital are staying for over 30 days following a hip fracture. A possible explanation for this is the inclusion of intermediate care provision in the total length of stay patients admitted at the Countess of Chester Hospital. In other areas intermediate care provision is not included in the acute hospital spell of care. Length of stay can also be impacted by interdependencies such as intermediate care capacity, the availability of packages of care for patients to enable them to go home safely as well as additional health conditions.



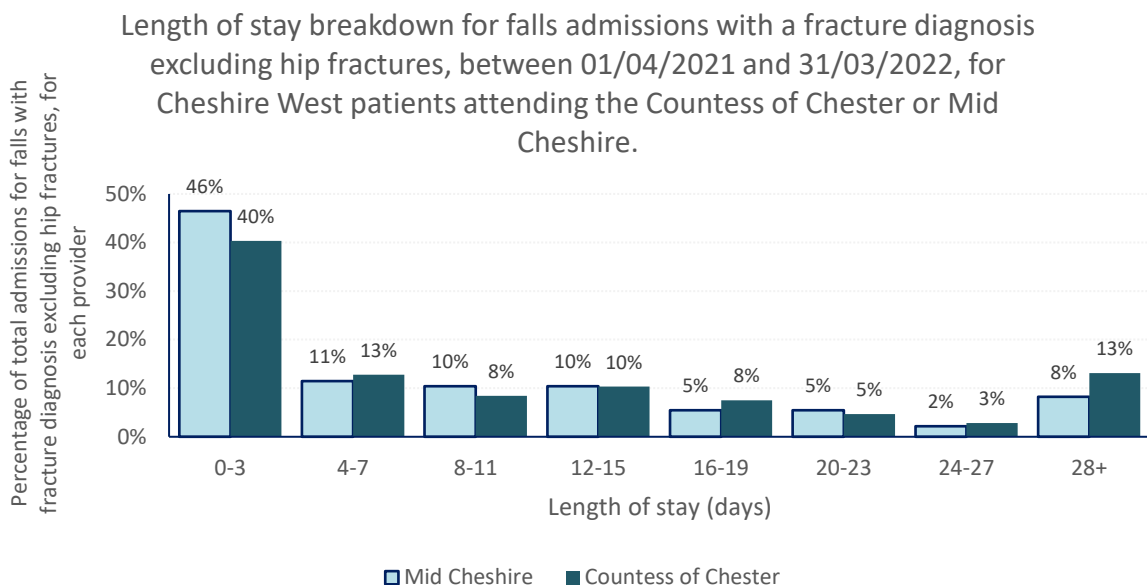
Chart 10: Falls admissions for hip fracture in Countess of Chester and Mid Cheshire hospitals by length of stay – 01/04/2021 to 31/03/2022



Source: Secondary Uses Services (SUS), NHS Digital, provided by Cheshire and Merseyside Integrated Care Board (ICB).

- 9.4 For all primary diagnoses other than a fractured neck of femur, the highest proportion of falls and fracture patients are discharged within 0-3 days as would be expected. The higher proportion of very short stays for Mid Cheshire hospital may indicate a difference in management of patients presenting with less severe problems. This would align with higher rates of fall admissions in residents living in the Northwich and Winsford areas of the borough.

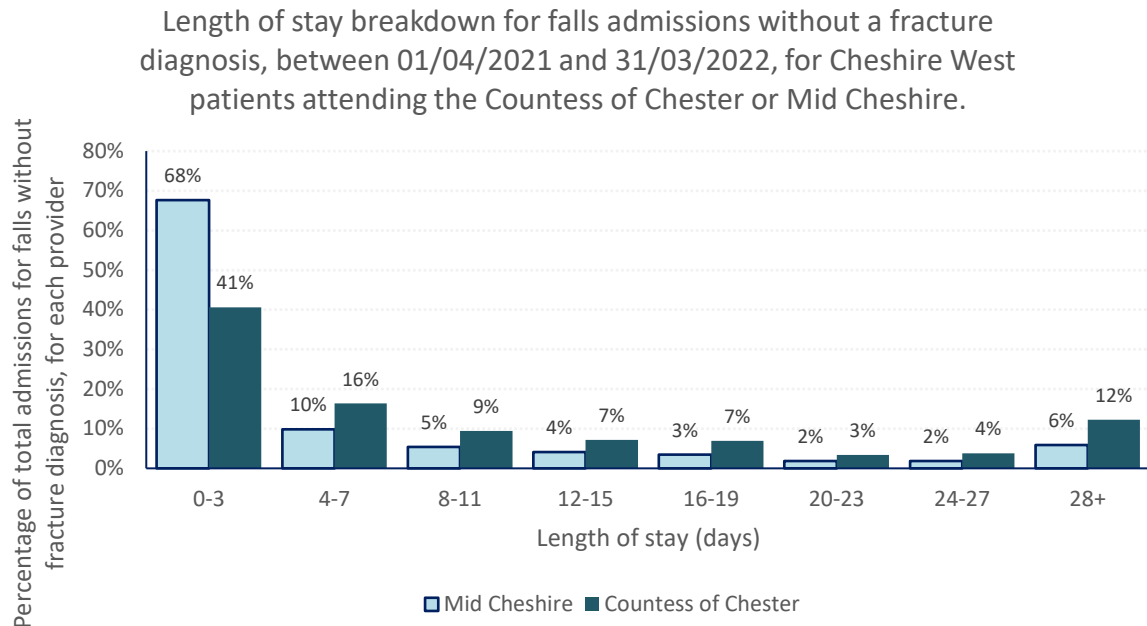
Chart 11: Falls admissions for fractures excluding hip fractures in Countess of Chester and Mid Cheshire hospitals by length of stay – 01/04/2021 to 31/03/2022



Source: Secondary Uses Services (SUS), NHS Digital, provided by Cheshire and Merseyside Integrated Care Board (ICB).

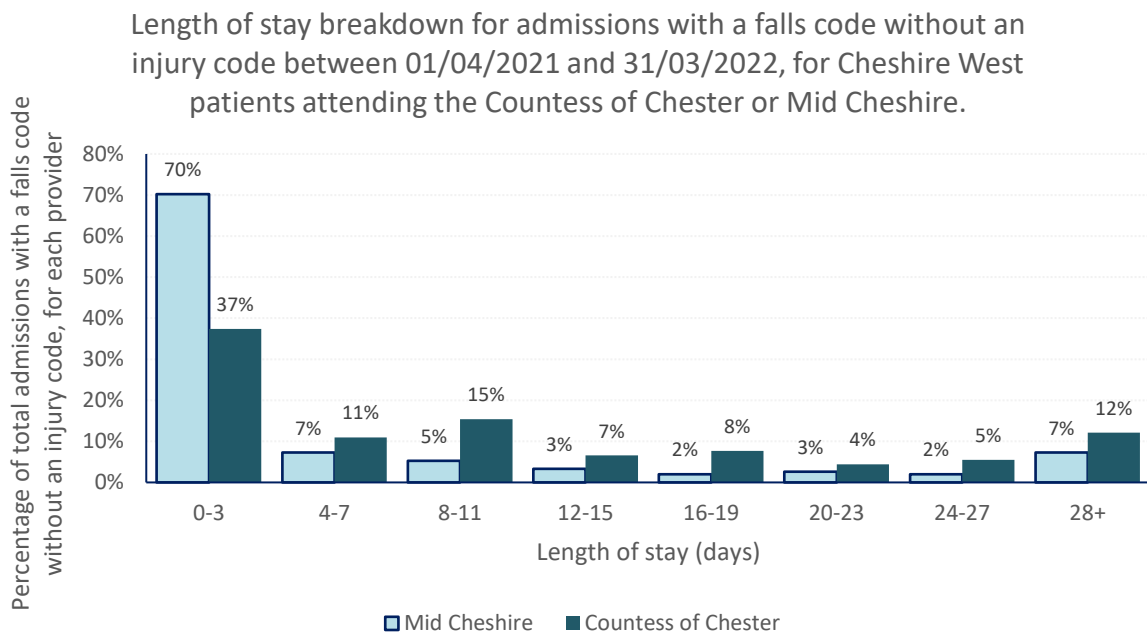


Chart 12: Falls admissions without a fracture diagnosis in Countess of Chester and Mid Cheshire hospitals by length of stay – 01/04/2021 to 31/03/2022



Source: Secondary Uses Services (SUS), NHS Digital, provided by Cheshire and Merseyside Integrated Care Board (ICB).

Chart 13: Falls admissions without an injury code diagnosis in Countess of Chester and Mid Cheshire hospitals by length of stay – 01/04/2021 to 31/03/2022

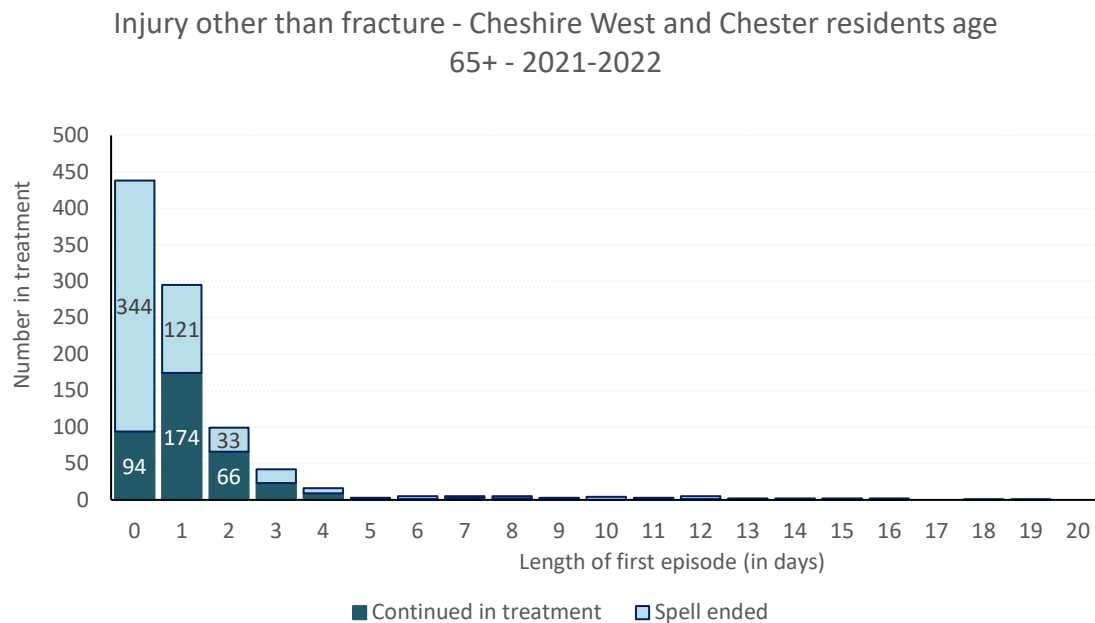


Source: Secondary Uses Services (SUS), NHS Digital, provided by Cheshire and Merseyside Integrated Care Board (ICB).



- 9.5 When looking at admissions for injuries other than a fracture in 2021/22, length of stay is particularly short. Of the 944 admissions, 344 people were admitted and discharged within 24 hours, or 36% of that cohort. A further 121 were admitted and discharged having stayed one night. In summary, 49% of people admitted with an injury other than a fracture (mostly head injuries) stayed just 0-1 day.

Chart 14: Falls admissions in persons aged 65 and over for injury other than a fracture by length of first episode – 2021-2022

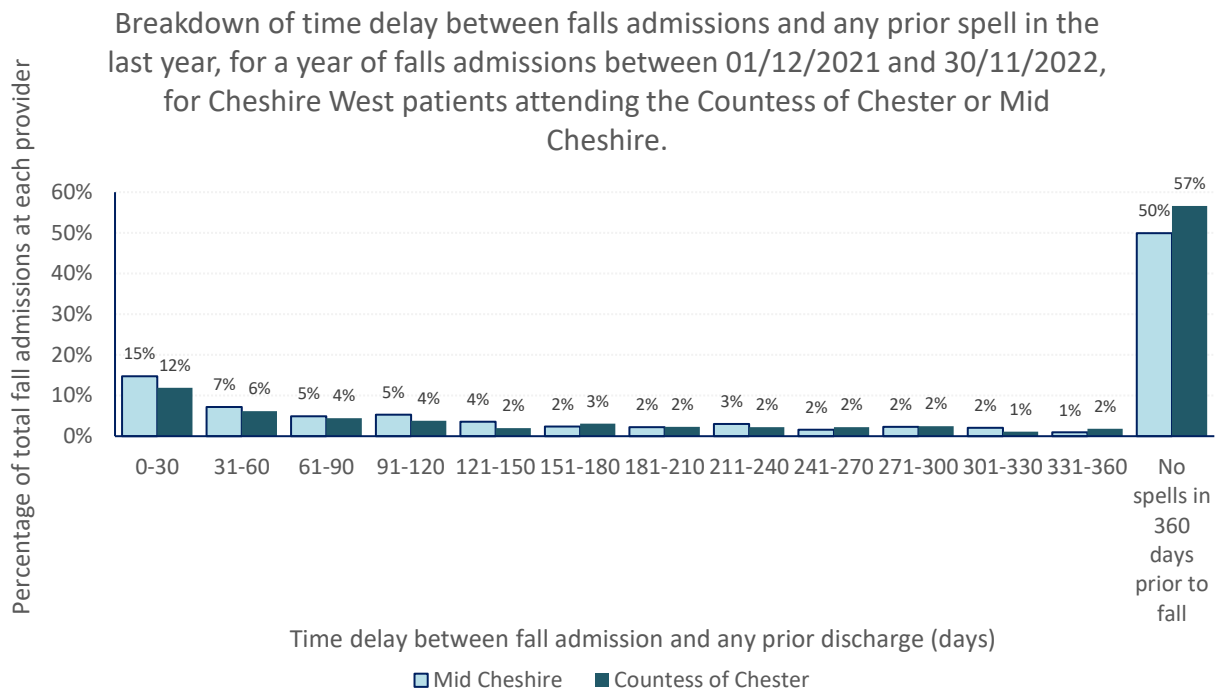


Source: Hospital Episode Statistics (HES), NHS England for the respective financial year, England. Hospital Episode Statistics (HES) © Copyright 2023, Reused with the permission of NHS England

- 9.6 Around half of fall admissions in Cheshire West and Chester in 2021/22 had been an inpatient at some point in the year prior to their fall related admission. For more than 10% of patients, their previous inpatient spell had been in the 30 days prior to their fall related admission. These previous inpatient spells were not necessarily fall related; however, it would be helpful to understand the causes of these previous admissions in order to determine whether there are any missed opportunities for prevention.



Chart 15: Time between falls admissions and any prior spell in the last year, for a year of falls admissions between 01/12/2021 to 31/11/2022 for patients of Countess of Chester and Mid Cheshire hospitals



Source: Secondary Uses Services (SUS), NHS Digital, provided by Cheshire and Merseyside Integrated Care Board (ICB).

Recommendation: To investigate the re-admission data to determine why people are being readmitted

10 Bone Health

- 10.1 A fragility fracture is a fracture that occurs in a bone weakened by osteoporosis. They are most common in bones of the spine, wrists, and hips. In particular, the risk of osteoporosis starts to increase in women after the menopause because their ovaries no longer produce oestrogen, which helps to protect the bones. People may also be at increased risk of osteoporosis because it runs in their family or because of the side effects of some medications such as steroid tablets or injections.
- 10.2 Half of women over the age of 50 will suffer a fracture due to osteoporosis, and one fifth of men.



- 10.3 After a fragility fracture, patients are five times more likely to experience a second fracture within the next 2 years. Half of all hip fractures are secondary fractures and approximately half of these can be prevented if the patient is identified and treated following an initial non-hip fracture. One in five women who have broken a bone, go on to break three bones before they are diagnosed with osteoporosis.
- 10.4 Patients presenting with a fragility fracture, related or unrelated to a fall, should be assessed for osteoporosis and receive effective management to improve their bone health and reduce their risk of future fractures.

Recommendation: The development of a Fracture Liaison Service should be explored.

11 Data Quality

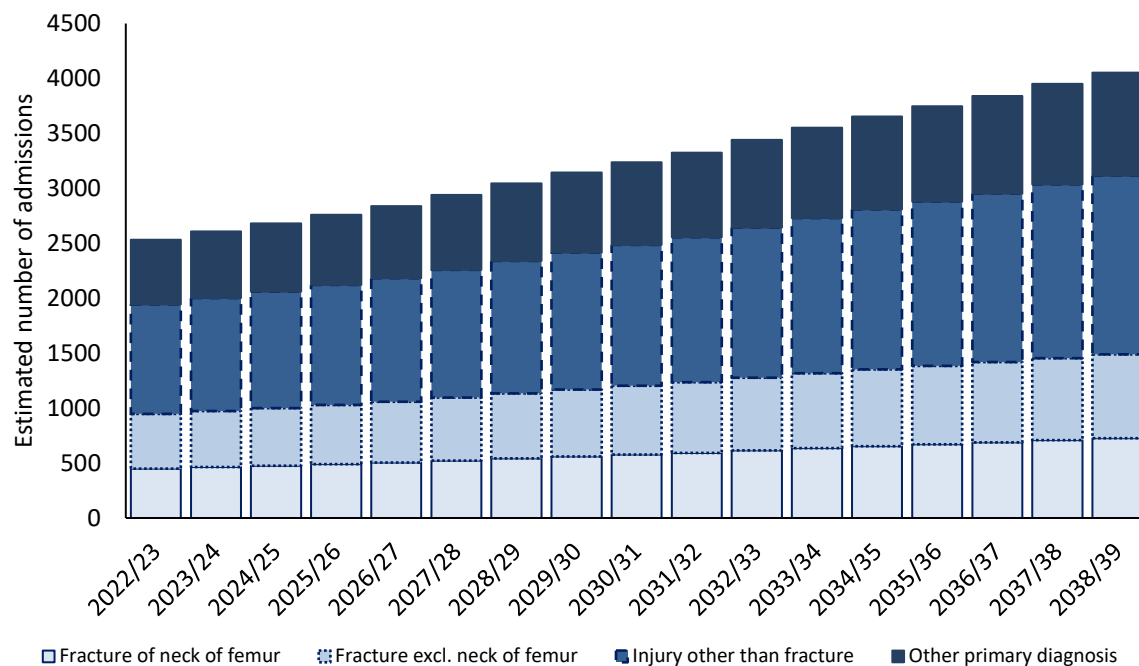
- 11.1 To understand falls we are reliant on the coding of data. However, Cheshire West and Chester has more incomplete coding when compared to England. Some improvements, for example, improved coding of the place of the fall, would help to clarify which interventions may need to take place. The differences between the hospital trusts explored earlier in this JSNA may also suggest differences in coding which could be investigated.

12 An ageing population and fall forecasts

- 12.1 Forecasts using 2018 mid-year estimates indicated the number of people aged 65 or above would increase by 44 per cent from 72,900 in 2018 to almost 105,000 in 2038. The number of people aged 85 or above would more than double, increasing from 9,400 in 2018 to around 19,400 in 2038. Applying these forecasts, the number of fall related emergency admissions would increase by one third in the next ten years.
- 12.2 Over the next 10 years, if the pattern of admission rates continues, there are forecast to be an additional 900 fall admissions by 2032.
- 12.3 The current average cost of a hospital stay for a fall admission is £4,088 (2021/22). The cost of an additional 900 fall related admissions would be £3.7million, not taking into account tariff changes for example. This is only taking account of hospital stays and does not take into account the wider costs to the health and social care system. Falls admissions forecasts in Cheshire West and Chester by primary diagnosis group



Chart 16: Forecast number of fall admissions based on recent rates and trend



Source: Hospital Episode Statistics (HES), NHS England for the respective financial year, England. Hospital Episode Statistics (HES) © Copyright 2023, Reused with the permission of NHS England. Population estimates (2012-2021), Office for National Statistics, contains public sector information licensed under the Open Govt license v3.1.

Table 11: Table forecast number of fall admissions based on recent rates and trend

Financial Year	a) Fracture of neck of femur	b) Fracture excl. neck of femur	c) Injury other than fracture	d) Other primary diagnosis
2022/23	450	500	1,000	600
2023/24	450	500	1,050	600
2024/25	500	550	1,050	600
2025/26	500	550	1,100	650
2026/27	500	550	1,100	650
2027/28	500	550	1,150	700
2028/29	550	600	1,200	700
2029/30	550	600	1,250	750
2030/31	600	650	1,300	750
2031/32	600	650	1,300	750
2032/33	600	650	1,350	800

Note: Forecasts rounded to nearest 50

Source: Hospital Episode Statistics (HES), NHS England for the respective financial year, England. Hospital Episode Statistics (HES) © Copyright 2023, Reused with the permission of NHS England. Population estimates (2012-2021), Office for National Statistics, contains public sector information licensed under the Open Govt license v3.1.

Caution:

Falls prevalence rates calculated using falls data for 2012/13 to 2021/22 and mid-year estimates (mid 2012 to mid-2021). Note the mid 2012 to mid-2020 are pre 2021 Census estimates. The mid 2021 estimate is based on 2021 Census. The previous



mid-year estimates for 65+ are very close to mid-2021 estimates suggesting they are fairly accurate.

The prevalence rates are applied to the 2018 based population forecasts to produce falls forecasts.

There are several caveats around the 2018 based population forecasts. They are based on mid-2018 population estimates which undercount the population (especially for people of younger working age) (we know this in light of 2021 Census results). They also factor in (pre 2021 Census) assumptions on a range of factors (from ONS projections) such as mortality, migration, household composition - which are all ultimately based at least in part on 2011 Census. They are therefore, out of date forecasts - but we cannot produce new forecasts until all the new assumptions can be built based on ONS population projections (due in 2024).

13 Evidence on Interventions for Falls

13.1 Falls and Fractures Consensus Statement

- 13.1.1 The Falls and Fractures Consensus Statement brings together recommendations for key interventions and approaches to commissioning for falls and fracture prevention. The accompanying resource pack provides summary evidence for a range of interventions and includes an implementation checklist for commissioners and strategic leads to inform action planning (PHE,2017).
- 13.1.2 The Consensus Statement was produced by Public Health England (now the Office of Health Improvement and Disparities) alongside the member organisations of the National Falls Prevention Coordination Group.
- 13.1.3 The Falls and Fractures Consensus Statement recommends a collaborative and whole-system approach to the prevention, response, and treatment of falls.
- 13.1.4 The recommended components of this collaborative approach are detailed in the following sections.

13.2 Risk factor reduction

- 13.2.1 Action to reduce exposure to falls and fracture risk factors needs to take place across all stages of the life course. This should include healthy lifestyles promotion targeted at people aged 40 and over.
- 13.2.2 Two key health-related behaviours for healthy ageing are maintaining adequate nutrition and maintaining physical activity (aerobic, strength and balance activities). Other modifiable risk factors are high alcohol consumption (falls and bone health) and smoking (bone health).
- 13.2.3 Raising awareness of falls as a public health issue, and that falls are not an inevitable part of ageing is an important component of risk factor reduction.

14 Case finding and risk assessment



- 14.1 The National Institute for Clinical Excellence (NICE) recommends that older people who are in contact with healthcare professionals should routinely be asked whether they have fallen within the last year and asked about the frequency, context, and characteristics of the falls.
- 14.2 NICE also recommend that older people who present for medical attention because of a fall, or report recurrent falls in the past year, or demonstrate abnormalities of gait (the way in which they walk) and/or balance should be offered a multifactorial falls risk assessment. This should be performed by an appropriate healthcare professional.

Although there is no standard approach to follow, the multifactorial assessment may include identification of falls history alongside assessment of:

- gait, balance and mobility, strength, and muscle weakness
- osteoporosis risk
- fracture risk
- perceived functional ability and fear relating to falling
- visual impairment
- cognitive impairment and neurological examination
- urinary incontinence
- home hazards
- cardiovascular examination
- medication review

15 Multifactorial Interventions

- 15.1 This multifactorial nature of falls' risk factors means that there is a complex set of potential causes for falls in mid to later life. As such, it is recommended by NICE that all older people with recurrent falls or assessed as being at increased risk of falling should be considered for an individualised multifactorial intervention. Multifactorial interventions need to be person centred and able to respond to an individual's unique circumstances and ability, and their individualised risk factors as identified in their multifactorial assessment.
- 15.2 Like multifactorial assessments, there is no common approach for multifactorial interventions. However, NICE do state that the following interventions are common to successful programmes:
- strength and balance training
 - home hazard assessment and intervention
 - vision assessment and referral
 - medication review with modification/withdrawal
- 15.3 Interventions that NICE do not recommend because of insufficient evidence include: low intensity exercise combined with incontinence programmes; untargeted group exercise, cognitive/behavioural interventions, referral for correction of visual impairment (as an intervention on its own), vitamin D, hip protectors.



16 Strength and Balance programmes

- 16.1 A Cochrane Review by Sherrington et al. (2019) reviewed exercise related falls prevention interventions for older people living in the community. The review looked at 108 studies encompassing 23,407 individuals and found high certainty evidence that exercise reduces the rate of falls and the number of people experiencing one of more falls. However, the evidence was less certain in relation to reduced fractures or medical attention.
- 16.2 Different types of exercise have different impacts on falls. There was high certainty evidence that balance and functional exercises reduce the rate of falls by 24%. Multiple types of exercise (balance and functional exercises plus resistance exercises) were found to probably have the most significant effect (34% reduction in falls). Tai Chi may also reduce the rate of falls (19% reduction) but the evidence was uncertain for exercises which primarily involved resistance, dance or walking programmes.
- 16.3 NICE recommend that older people coming into contact with healthcare professionals should be asked routinely about their history of falling and asked about the frequency, context and characteristics of fall/s (this includes when an older person is in a hospital setting). Those identified as at risk of falling should have their balance and gait observed and be considered for a strength and balance intervention (NICE 2013).
- 16.4 Strength and balance programmes have been shown to be effective for both primary and secondary prevention of falls and non-vertebral fractures in older people, but with greater efficacy in those who have a history of recurrent falls or who have a balance or gait deficit. (PHE Falls and Fractures Consensus Statement).
- 16.5 Strength and balance programmes aimed at preventing falls should consist of a minimum of 50 hours and should have a weekly dose of at least 2 to 3 hours. The weekly dose can include unsupervised homework exercise, but this needs to be encouraged and monitored. (PHE, 2019)
- 16.6 Local areas should also make efforts to remove barriers to participation in and adherence to falls prevention exercise programmes. This could include challenging negative beliefs about ageing, providing person centred goals to increase motivation, providing a choice of different exercise sessions, and addressing barriers relating to time, cost, transport, venue, instructor, and accessibility.
- 16.7 There are two evidence-based balance and functional training programmes which are regularly used in the UK as a primary prevention programme to prevent falls: Otago and the Falls Management Exercise Programme (FaME).

17 Otago

- 17.1 This is a programme which was developed in New Zealand at the Otago Medical School. It consists of strength and balance exercises focussing on major lower limb muscles with use of ankle weights. It also includes a walking plan to build physical



capability. The programme is home based with support provided to the individual via visits from an appropriately trained instructor.

- 17.2 Efficacy of the Otago programme is dependent on the fidelity of the intervention.

18 FaME

- 18.1 FaME (Falls Management Exercise) progresses the Otago Exercise Programme to include other fitness components and activities. It includes exercises aimed at improving upper and lower limb strength, gait training, improving eye-hand and foot coordination and vestibular balance. It is a group based postural stability programme which was developed in Canada and is delivered by Postural Stability Instructors (PSIs). FaME aims to bring about improvements to strength and balance and also bone health, mobility, cardiovascular fitness and depression.
- 18.2 A comparison of FaME and Otago showed that whilst FaME was more expensive (by about £141 per person), it was more clinically effective in terms of falls avoided.

19 Keep-On-Keep-Up (KOKU)

- 19.1 The KOKU Digital programme is based on FaME and Otago and supports older adults to engage with simple, tailored exercises that start with simple seated routines and progress with the user. These exercises have been tested in randomised controlled trials with older adults and shown to reduce falls by at least a third.
- 19.2 Behaviour change is a vital component of falls prevention interventions and is embedded in the KOKU digital programme. KOKU also includes health literacy modules, aiming to support older adults to maintain bone health, home safety and to stay hydrated.
- 19.3 Feasibility trials in Greater Manchester and Staffordshire have found that KOKU has high usability and that after 6 weeks independent use there are trends in improved outcomes (such as balance, health status and confidence).
- 19.4 Nevertheless, consultation across Greater Manchester has highlighted that 'digital by default' is not the most inclusive method of engagement and that face-to-face support and services can be important for ensuring fidelity in how exercises are replicated, for social support, and for understanding a person's history (assessment). Blended (face to face and digital) modes of delivery were seen as an opportunity.

20 Healthy homes

- 20.1 A Cochrane review published in 2012 identified that interventions to improve home safety appear to be effective, especially for older people at higher risk of falling and when carried out by occupational therapists (Gillespie et al., 2012).
- 20.2 NICE recommend that older people who have received treatment in hospital following a fall should be offered a home hazard and safety intervention/modifications, carried



out by a suitably trained healthcare professional. This should normally take place as part of discharge planning.

- 20.3 NICE note that home hazard assessment is shown to be effective only in conjunction with follow-up and intervention, and not in isolation.

21 High risk care environments

- 21.1 High-risk care environments for falls include hospitals, mental health and learning disability units and care and nursing homes (Falls and Fractures Consensus Statement).
- 21.2 A Cochrane systematic review published in 2018 suggests that, for older people within a care home setting, exercise, medication reviews, and multifactorial interventions may make little difference to the risk of falling, although the evidence is low quality (Cameron et al., 2018).
- 21.3 There is evidence that prescription of vitamin D probably reduces the rate but not the risk of falling in older adults in care facilities, although the population included in the studies within the review appeared to have low vitamin D levels (Cameron et al., 2018). A systematic review by Gillespie et al. (2012) had previously identified that whilst overall vitamin D supplementation does not appear to reduce falls, it may be effective in people who have lower vitamin D levels.
- 21.4 In a hospital setting, it is uncertain whether bed sensors or additional physiotherapy reduces the rate of falls or the risk of falling in older people. Evidence is stronger for multifactorial interventions, but this might apply mostly in a rehabilitation or older persons' ward.
- 21.5 While there are no single interventions which, when delivered on their own, are shown to reduce falls in high-risk care environments, there is evidence that multiple interventions performed by a multi-disciplinary team, and which are tailored to the individual patient can reduce falls (Falls and Fractures Consensus Statement).
- 21.6 NICE recommend that all patients aged 65 years or older and patients aged 50 to 64 years who are judged to be at higher risk of falling by a clinician should be regarded as at risk of falling whilst in hospital. Fall risk prediction tools are not recommended for predicting inpatients' risk of falling.
- 21.7 NICE also recommend that a multifactorial assessment and a multifactorial intervention should be considered for patients at risk of falling in hospital, in order to identify and address their individual risk factors for falling. This should include identifying and addressing aspects of the inpatient environment which could affect patients' risk of falling.
- 21.8 The Falls and Fractures Consensus Statement recommends that all hospital trusts should have a trust level inpatient falls steering group which regularly reviews falls data. It is also recommended that commissioners should monitor trust falls' data and review trust falls governance on a regular basis (Falls and Fractures Consensus



Statement).

22 Fracture liaison services

- 22.1 Fracture liaison services identify and assess patients aged 50 and over with a fragility fracture and ensure that evidence-based interventions for bone health and falls prevention are carried out. They are largely hospital-based services (Falls and Fractures Consensus Statement).
- 22.2 An international review found that best-practice fracture liaison services are cost effective and that they are associated with a reduction in re-fracture risk of between 82% and 33% over two to four years as well as a reduction of 35% in mortality over two years (Walters et al., 2017).

23 Gaps in service provision

- 23.1 When comparing service provision for falls prevention and fall related care in Cheshire West and Chester to the key interventions recommended in the evidence base, there are gaps in provision. For example, in Cheshire West and Chester, there is no Fracture Liaison Service. At the time of writing, two of the three falls prevention services currently commissioned by Cheshire West and Chester will cease in September 2023. The third is currently funded until March 2024. Similarly, a falls prevention service commissioned by Cheshire and Merseyside ICB will cease in September 2023.

24 Future Commissioning Arrangements

- 24.1 Whilst we recognise that there are currently many falls (prevention) services delivered within Cheshire West and Chester, these are often commissioned on a piecemeal basis. It is therefore our intention to use both the evidence and subsequent recommendations from this JSNA to inform our future integrated commissioning arrangements.

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