

Falls JSNA

A review of falls across Cheshire East
August 2023

Executive summary

Please see the full report for more details and references



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What is a fall?

A fall can be defined as:

“An event which causes a person to, unintentionally, rest on the ground or lower level, and is not a result of a major intrinsic event (such as a stroke) or overwhelming hazard.”¹

1. Office for Health Improvement and Disparities (OHID). (2022a). Falls: applying All Our Health. Retrieved 01 November, 2022, from <https://www.gov.uk/government/publications/falls-applying-all-our-health/falls-applying-all-our-health>

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Introduction

- The Cheshire East Joint Strategic Needs Assessment (JSNA) Steering Group has agreed for Falls to be a priority for a light touch review as part of the 2022/23 work programme. It builds upon an unpublished JSNA draft that was in progress prior to the Covid-19 pandemic.
- One in three people aged over 65, and over half of people aged 80+, experience at least one fall each year.¹ Falls have also been cited as the most common cause of death from injury in people aged 65+.²
- As such, preventing falls is an important challenge both for local authorities and the NHS.

1. Office for Health Improvement and Disparities (OHID). (2022). Falls: applying All Our Health. Retrieved 01 November, 2022, from <https://www.gov.uk/government/publications/falls-applying-all-our-health/falls-applying-all-our-health>.

2. Todd, C., & Skelton, DA. (2004). What are the main risk factors for falls amongst older people and what are the most effective interventions to prevent these falls? How should interventions to prevent falls be implemented? (WHO/HEN Report). World Health Organization.

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What were our recommendations following this review?

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Summary of gaps

This JSNA has highlighted a number of gaps in relation to falls. These include:

- Gaps in knowledge – due to not knowing the true number of falls that occur which often go unreported if no medical treatment is required.
- Gaps in evidence – There is currently not enough evidence to suggest that untargeted physical activity is effective in falls prevention with more research required. Similarly, more evidence is required on the effectiveness of exergames (which combine video games and exercise such as Wii Fit) on falls prevention.
- Lack of up to date data – Due to the Quality and Outcomes Framework (QOF) removing the Osteoporosis treatment indicator, the latest available data is from 2018/19. Therefore, in time this data will become less representative of the current picture.
- Service provision – There are a higher number of people falling than people accessing services.
- Geographic variation – There are areas in Cheshire East with higher hospital admissions for falls and higher hip fractures.

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Recommendations

Across Cheshire East we need to:

- To explore ways to engage communities around falls and to promote falls prevention activity – including both commissioned services and through other preventative routes.
- To optimise risk factor identification and management such as sight registration, excess alcohol and osteoporosis. This includes by increased use of multifactorial risk assessments (an assessment that aims to identify an individuals risk factors for falling).
- To explore how to reduce the stigma around falls.
- To strengthen the partnership working on falls prevention and management. For example, the multi-agency falls prevention group.
- To link with other Joint Strategic Needs Assessments where relevant such as Substance Misuse, which identified an unmet need in harmful alcohol consumption.
- To ensure that the new Cheshire East Falls Prevention Strategy takes account of these findings.
- To promote appropriate physical activity amongst older people as a means of reducing falls risk.

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Recommendations (continued)

- To conduct health promotion at a population wide level around active ageing and the benefits of addressing falls risk factors.
- To investigate effective risk profiling of those aged 65+ for falls, including via use of the frailty index.
- To investigate the cost effectiveness of increased detection and management of osteoporosis to improve bone health.
- Explore whether analysing local Hospital Episode Statistics data regarding falls admissions would add new insight.
- To include data from the Cheshire Fire Service 'Safe and Well' checks, home adaptations, and to update the North West Ambulance Service (NWS) data.
- To explore the trend in hospital admission in detail to identify what is causing falls admissions to be higher in Cheshire East.
- To evaluate the effects of the falls pilot which is conducting multifactorial assessments on community dwelling adults.

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It is important to note

It is **difficult to measure the true number of falls** that occur due to those that go unreported which have not required any medical treatment.

Whilst this review did not highlight any differences in experience in relation to marriage and civil partnership, gender reassignment, sexual orientation, pregnancy and maternity, race, and religion, the review did not specifically investigate these issues in detail. Local and national data in relation to these protected characteristics was not available to understand how falls are affected by the different protected characteristics.

Data **has been included for both age and gender.**

Further work may be required in the future if insights or new evidence emerges that suggests challenges relating to these characteristics.

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What were the findings that led to these recommendations?

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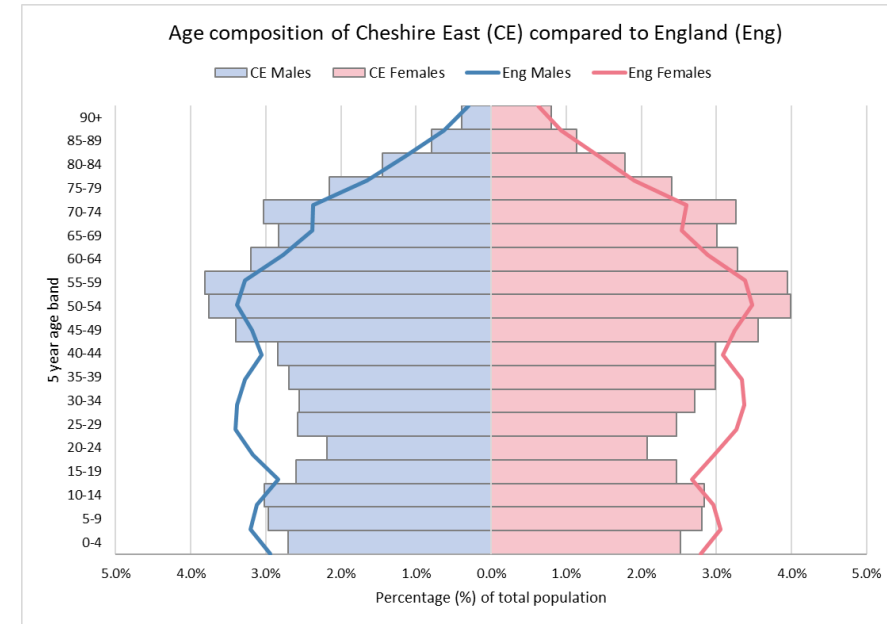
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Cheshire East has an older population and the number of falls are estimated to increase in the future

- **Cheshire East has an older population compared to England.**¹ Mid-2020 populations estimated that there are 89,148 (23.1%) people aged 65 and over in Cheshire East.
- It was estimated that in 2020 there were **24,050 falls in Cheshire East** (equating to approximately one fall for every four people aged 65 years and older) and the numbers could **increase to nearly 35,000 by 2040.**²
- People aged 85 and over are estimated to have the highest percentage increase from 2020 to 2040, with an increase of 81%, +4,300.²
- When data by gender is considered, males aged 80 and over are projected to increase the most at 80% in this same time period.²

Cheshire East Population Pyramid by 5-year age-band (ONS)



1. Office for National Statistics. Mid-2020 Population estimates. (Accessed 03 November 2022).
2. Institute of Public Care, Projecting Older People Population Information (POPPI) Service – 2020 Estimates. 2022. (Accessed 22 November 2022).

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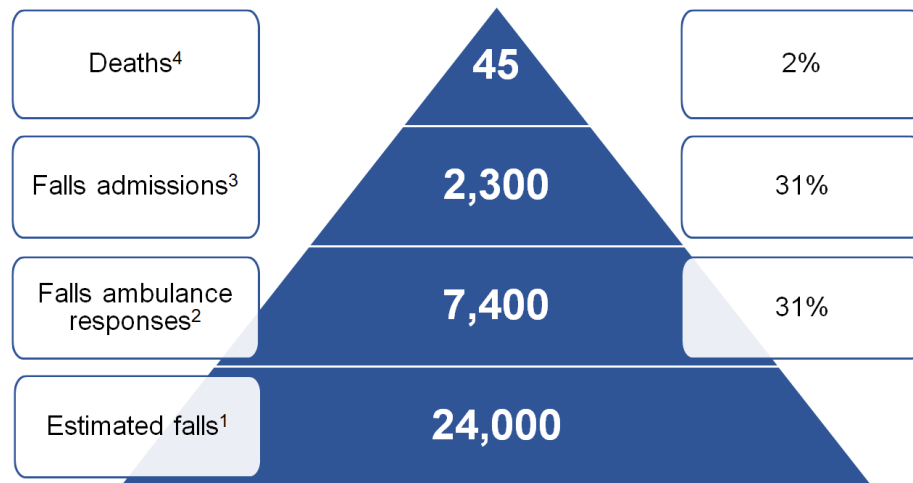
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The impacts of falling

Falls can have serious implications for continued health and wellbeing, with significant impacts on health and social care services (see figure to the right).

In addition, there is a higher risk of death following a fractured neck of femur, with sadly one in every three people dying within 12 months of the fracture⁵.



1. Institute of Public Care, Projecting Older People Population Information (POPPI) Service – 2020 Estimates. 2022. (Accessed 22 November 2022).
2. North West Ambulance Service – 2018/19 Data, sent to Senior Commissioning Manager, Cheshire East Council.
3. Office for Health Improvement and Disparities. Public health profiles. 2023 <https://fingertips.phe.org.uk> © Crown copyright 2022. Emergency hospital admissions due to falls – people aged 65 and over. (Accessed 19 April 2023).
4. Produced by Cheshire East Public Health Intelligence from Office for National Statistics: Annual Mortality Extracts 2016-2021.
5. National Institute for Health and Care Excellence (NICE). (2013). Falls in older people: assessing risk and prevention. CG161. <https://www.nice.org.uk/Guidance/CG161>. (Accessed 9 December 2022).

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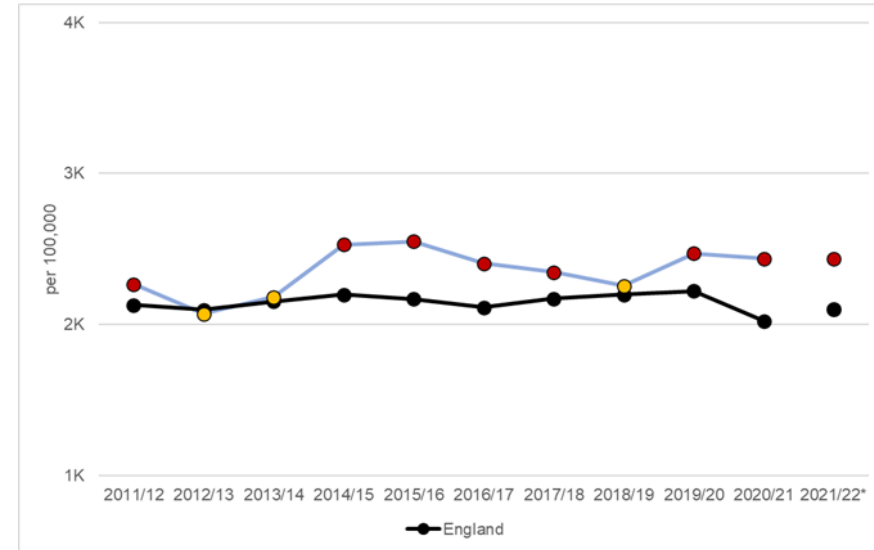
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Falls are associated with a significant number of hospital admissions across Cheshire East

Falls have major impacts on our health care services across Cheshire East:

- Overall, **Cheshire East has higher rates of hospital admissions for falls** in older people than the England average¹.
 - The number of hospital admissions for falls increased by nearly 600 between 2011/12 and 2021/22.
 - Around two-thirds (67%) of falls hospital admissions are in adults aged 80 and over.
 - Falls hospital admissions are higher in females than males. In 2021/22 there were 1,490 falls in females and 785 in males.
- This is a **persistent but not worsening trend**, however, the absolute number of falls admissions is expected to increase over the coming years in view of the ageing population².

Emergency hospital admissions for falls injuries in persons aged 65 and over, directly age standardised rate per 100,000



1. Office for Health Improvement and Disparities. Public health profiles. 2023 <https://fingertips.phe.org.uk> © Crown copyright 2022. Emergency hospital admissions due to falls in persons 65 years and over. (Accessed 19 April 2023).
2. Institute of Public Care, Projecting Older People Population Information (POPPI) Service – 2020 Estimates. 2022. (Accessed 13 May 2023).

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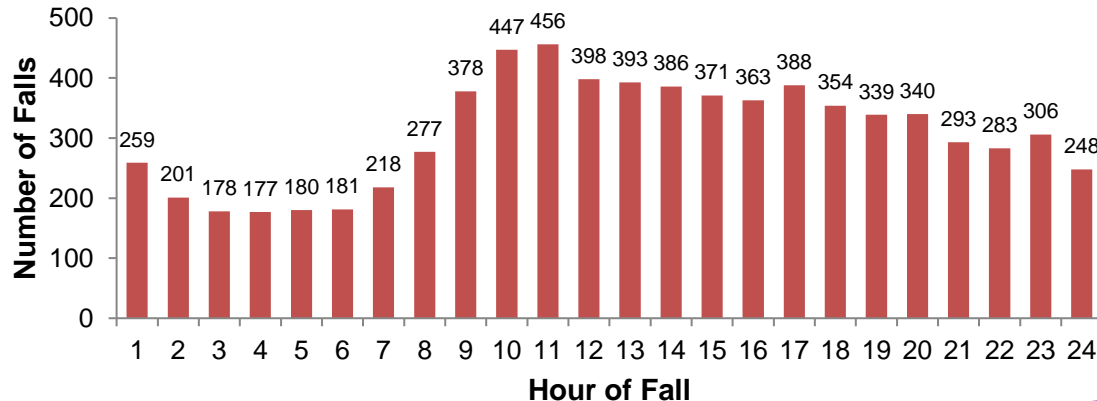
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Ambulance data suggests falls more likely in the morning and the summer

- North West Ambulance Service responded to 7,414 calls relating to falls in a 12 month period (from Oct 2018 to Sept 2019) in Cheshire East.
- There was no obvious trend for the days that falls occur on. Saturday is the most common day; Tuesday is the least common day.
- Over the course of a day, **the number of falls starts to rise from 8am and peaks between 10am and 12pm, before slowing declining up until 1am***.

*Note: a time lag applies to this data on when the falls are actually reported.

Time of Fall in Cheshire East (Oct 18-Sept 19)



1. North West Ambulance Service – Data extract. Provided to Senior Commissioning Manager, CEC.

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The average length of stay and cost admissions has been rising

- The **average length of stay for a falls related hospital admission is rising** and is currently **10.4 days**. The **highest** average length of stay was in the **over 80 year olds** (12.3 days) followed by probable care home residents* (11.3) and those who had been readmitted** (10.3).
- In 2021/22 the **cost of falls related admissions were around £24m, an increase of £3.5m from 2019/20**.
- Nantwich and Rural (10.5 per 100,000) followed by SMASH*** (10.0 per 100,000) had the highest all-age rates of falls related admissions in Cheshire East. However, it should be noted that these figures are not age-standardised.
- Unspecified head injuries (213), followed by hip fractures such as Petrochaneteric fracture (308) and a fractured neck of the femur are the three most common types of injuries recorded (559) recorded in 2021/22.

1. Cheshire place Business Intelligence teams 'Falls' application within the ICB. Data is hosted in an online Business Intelligence platform called QlikSense and data is taken through a transformation of hospital SUS data. People are identified as having a fall if they experience an emergency admission and there is a relevant diagnosis within the spell indicating a fall had taken place. This is a wider definition than used by the Office for Health Improvement and Disparities.

Notes: *Care home status is not explicitly identified within Hospital SUS submissions, however a care home proxy has been developed by Arden & Gem CSU via their DSCRO service that creates an indicative care home flag based on a persons postcode and age.

**Readmissions are identified where the spell concerning a fall is a readmission, i.e., the individual experienced an additional admission 30 days prior.

***SMASH – Sandbach, Middlewich, Alsager, Scholar Green, Haslington.

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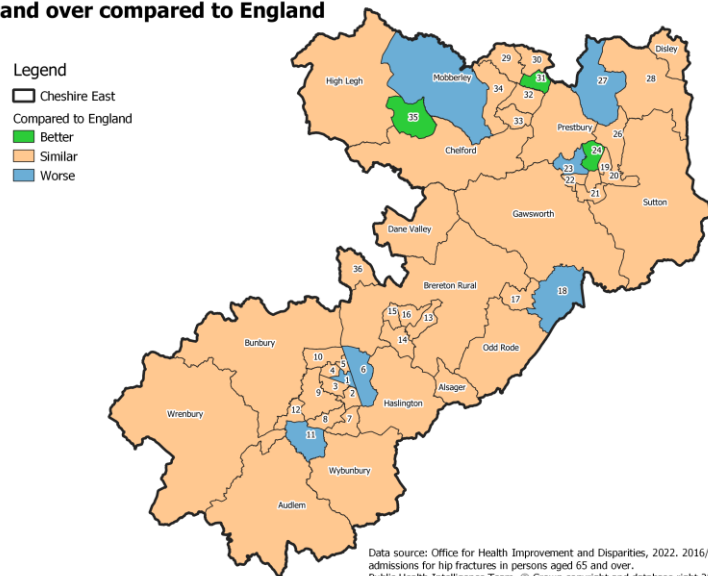
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Hip fractures are a severe consequence of a fall¹

- Cheshire East has a **similar rate of hip fractures compared** to England.
- In 2021/22, there were 555 hip fractures in adults aged 65 and over in Cheshire East. Overall numbers of hip fractures have increased from 446 in 2011/12 to 555 in 2021/22.
- Most hip fractures are in adults aged 80 and over (395) compared with the 65 to 79 year olds (155).
- There are seven wards in Cheshire East that have a statistically higher rate of emergency hospital admissions for hip fractures* (highlighted in blue on the corresponding map). These are: **Broken Cross and Upton; Congleton East; Crewe Central; Crewe East; Mobberley; Nantwich South and Stapeley; Poynton West and Adlington.**

Map of emergency hospital admissions for hip fracture by ward in people aged 65 and over compared to England



*This type of rate calculation measures the percentage difference between an area and England. Statistically comparisons between wards should not be made.

- Office for Health Improvement and Disparities. Public health profiles. 2023 <https://fingertips.phe.org.uk> © Crown copyright 2023. Emergency hospital admissions for hip fracture in persons 65 years and over, standardised admission ratio. Accessed 5th May 2023.

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Strength and balance classes are delivered by One You Cheshire East



- People **aged 65 and over are eligible for the 'Stand Strong' falls prevention class** if they answer yes to one of the following question:
 - Have you fallen in the last 12 months?
 - Do you feel unsteady when standing or walking?
 - Do you worry about falling?
- The programme runs for 26 weeks and follows the Otago programme developed in New Zealand delivered in group settings. Otago is an evidence-based strength and balance programme. Sessions last for 1 hour each week.
- Around **145 individuals start the programme each quarter** and approximately 93% of individuals who complete the programme have improved strength and balance.¹
- Attendees noted the positive impact on their strength and balance and are now less fearful of falling. They also found that the classes were helpful in reducing their social isolation.

1. One You Cheshire East Commissioning Data, Stand Strong - <https://oneyoucheshireeast.org/stand-strong/>. Accessed 23 May 2023.

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NICE guidance on assessing risk and prevention of falls and management of hip fractures¹

Strength and Balance

Older people coming into contact with healthcare professionals should be asked routinely about falling. Those identified as at risk of falling should have their balance and gait observed and considered for a strength and balance intervention (NICE, 2013).

Multifactorial Assessment

Older people who present for medical attention because of a fall or report recurrent falls or who have walking or balance issues should be offered a multifactorial risk assessment. This may include assessment of osteoporosis risk, visual impairment, or urinary incontinence (NICE, 2013).

Multifactorial Interventions

NICE (2013) 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**

Interventions not recommended 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 (NICE, 2013).

1. National Institute for Health and Care Excellence. (2013). Falls in older people: assessing risk and prevention. CG161. Available from: <https://www.nice.org.uk/Guidance/CG161> (Accessed 9 December 2022).

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Insights into older people's perceptions of falling

- One study which looked into the perception of falls in older adults found¹:
 - Falls as a threat to their personal identity
 - Falls as a threat to independence
 - Falls as a threat to their social interaction
 - They use carefulness as a protective strategy.
- This mirrored findings from local engagement² with six older people's groups in Cheshire East who stated that they:
 - Do not see themselves as being at risk of a fall until one has happened.
 - Do not want to be seen as a nuisance and that they do not like asking their children for help. For example, asking a son to change a light bulb.
 - Became more careful once they have had a fall.

1. Gardiner, S., Glogowska, M., Stoddart, C., Pendlebury, S., Lasserson, D., & Jackson, D. (2017). Older people's experiences of falling and perceived risk of falls in the community: A narrative synthesis of qualitative research. *International Journal of Older People Nursing*, 12(4), e12151. <https://doi.org/10.1111/ijn.12151>.

2. Public Health and Commissioning, local insights gathered via attending 6 older people groups within Cheshire East during early 2023.

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Findings from research

There are **some effective evidence-based interventions to prevent falls** – these include Otago and Falls Management Exercise (FaME). Evidence also suggests^{1,2}:

- Interventions that last between 6 to 12 months were found to be most effective.³
- The effect of a falls intervention last between 12 and 24 months.³
- Evidence on the links between sedentary behaviour and falls is limited - further research needed.⁴
- Exergames (which combine video games and exercise such as Wii Fit) were found to have no impact on the risk of falls – recommended further research needed.^{5,6}

1. National Institute for Health and Care Excellence. (2013). Falls in older people: assessing risk and prevention. CG161. <https://www.nice.org.uk/Guidance/CG161>. Accessed 9 December 2022.
2. Iliffe, S. et al (2014). Multicentre cluster randomised trial comparing a community group exercise programme and home-based exercise with usual care for people aged 65 years and over in primary care.
3. Finnegan, S., Seers, K., & Bruce, J. (2018). Long-term follow-up of exercise interventions aimed at preventing falls in older people living in the community: a systematic review and meta-analysis. *Physiotherapy*, 105(2). <https://doi.org/10.1016/j.physio.2018.09.002>.
4. Jiang, Y., et al. (2022). The association between sedentary behavior and falls in older adults: A systematic review and meta-analysis. *Frontiers in Public Health*, 10. <https://doi.org/10.3389/fpubh.2022.1019551>.
5. Alhasan Hammad. (2022). [Exergames as a rehabilitation modality to improve postural control and risk of falls in frail and pre-frail older adults.](#)
6. Alhasan, H., Alshehri, M., Fong, D., & Wheeler, P. (2020). The effect of exergames on balance and falls in frail older adult: a systematic review. *Physiotherapy*, 107, e132.

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There are a range of risk factors relating to falls (1)

- Individuals at risk from falling include those with:
 - **Fear of falling**^{1,2};
 - **Gait/muscle strength**^{3,4,7};
 - **Poor balance**⁷;
 - **Visual impairment**⁷;
 - **Long-term health conditions such as dementia or heart disease**⁸;
 - **Medication-use of specific medications, or multiple medications (polypharmacy)**^{7,9,2};
 - **History of falls**¹⁰.
- Osteoporosis is a health condition that weakens bones meaning that they are more likely to break. It develops slowly over a period of years and is not usually painful until a bone is broken (NHS, 2019).⁵ We see a higher prevalence of **osteoporosis** across most of Cheshire East, increasing the chance of fractures from falls.⁶

1. Kim, D., & Portillo, M. (2018). Fall Hazards Within Senior Independent Living: A Case-Control Study. *HERD: Health Environments Research & Design Journal*, 11(4), 65–81. <https://doi.org/10.1177/1937586717754185>.
2. World Health Organization. (2007). WHO global report on falls prevention in older age. <https://www.who.int/publications/i/item/9789241563536>.
3. Clynes et al., (2015). Definitions of Sarcopenia: Associations with Previous Falls and Fracture in a Population Sample. *Calcified Tissue International*, 97(5), 445–452. <https://doi.org/10.1007/s00223-015-0044-z>.
4. Callisaya et al., (2010). Ageing and gait variability--a population-based study of older people. *Age and Ageing*, 39(2), 191–197. <https://doi.org/10.1093/ageing/afp250>.
5. NHS. 2022. [Osteoporosis - Causes - NHS \(www.nhs.uk\)](https://www.nhs.uk) [Accessed 06/06/2023]
6. Office for Health Improvement & Disparities. QOF Prevalence -50yrs+ crude rate (2021/22) Public Health Profiles. [Accessed: 10 January 2023] <https://fingertips.phe.org.uk> © Crown copyright 2022.
7. Office for Health Improvement & Disparities. Public Health Profiles. [Accessed: 19 June 2023] <https://fingertips.phe.org.uk> © Crown copyright 2023
8. National Health Service. (2021). Falls. Retrieved 23 November, 2022, from <https://www.nhs.uk/conditions/falls/>.
9. Dhalwani et al., (2017). Association between polypharmacy and falls in older adults: a longitudinal study from England. *BMJ Open*, 7(10), e016358. <https://doi.org/10.1136/bmjopen-2017-016358>.
10. Deandrea et al., (2010). Risk Factors for Falls in Community-dwelling Older People. *Epidemiology*, 21(5), 658–668. <https://doi.org/10.1097/ede.0b013e3181e89905>.

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There are a range of risk factors relating to falls (2)

- Environmental hazards also have an impact, for example places with inadequate lighting and wet flooring¹.
- Walking aids² and footwear can also increase risks of fall³.
- **Smoking** is also an important risk factor for hip fracture - [please see findings of the Smoking JSNA](#).
- **Alcohol consumption** is a risk factor for falls and there are higher rates of admission episodes for alcohol-specific conditions in Cheshire East compared to the England average - [please see findings of the Substance Misuse JSNA](#).

1. National Health Service. (2021). Falls. Retrieved 23 November, 2022, from <https://www.nhs.uk/conditions/falls/>.
2. Roman de Mettelinge & Cambier, (2015). Understanding the relationship between walking aids and falls in older adults: a prospective cohort study. J Geriatr Phys Ther. 2015;38(3):127-32.
3. Menant et al., (2008) Optimizing footwear for older people at risk of falls. J Rehabil Res Dev. 2008;45(8):1167-81.

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Prevalence of risk factors

- Cheshire East (7%) has **similar levels of falls hazards in homes** compared to regionally (7%) and England (7%). Some **rural communities** and **Crewe Central, Crewe South and Macclesfield Central ward** have the highest percentage of private sector homes with falls hazards.¹
- The screenshot below shows the prevalence of various falls risk factors in Cheshire East. Cheshire East is **worse than the England average for admission episodes for alcohol-specific admissions**. Cheshire East also has a **higher prevalence of dementia** in people aged 65 years and older.²

Indicator	Period	Chesh East			England			
		Recent Trend	Count	Value	Value	Worst/ Lowest	Range	Best/ Highest
People aged 65-74 registered blind or partially sighted (Persons, 65-74 yrs)	2019/20	–	145	309	536	59		
People aged 75+ registered blind or partially sighted (Persons, 75+ yrs)	2019/20	–	1,115	2,694	3,429	393		
Dementia: Recorded prevalence (aged 65 years and over) (Persons, 65+ yrs)	2020	–	3,820	4.25%	3.97%*	2.91%		
Percentage of physically active adults (Persons, 19+ yrs)	2021/22	–	-	67.3%	67.3%	36.3%		
Percentage of physically inactive adults (Persons, 19+ yrs)	2020/21	–	-	19.4%	23.4%	43.4%		
Smoking Prevalence in adults (18+) - current smokers (APS) (Persons, 18+ yrs)	2021	–	-	13.5%	13.0%	22.0%		
Admission episodes for alcohol-specific conditions (Persons, All ages)	2021/22	–	2,745	668	626	2,514		
Osteoporosis: QOF prevalence (50+ yrs) (Persons, 50+ yrs)	2021/22	➔	2,214	1.2%	0.8%	0.1%		
Preventable sight loss: sight loss certifications (Persons, All ages)	2021/22	–	-	40.9	39.9	80.3		

- BRE Integrated Dwelling Level Housing Stock Modelling and Database for Cheshire East Council, April 2019.
- Office for Health Improvement & Disparities. Public Health Profiles. <https://fingertips.phe.org.uk> © Crown copyright 2022. Accessed 10 January 2023.

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Falls interventions

- Cheshire East Council contracts Millbrook to deliver an Assistive Technology service. As of March 2023, there were 2,295 monitored adult social care users with Assistive Technology. On average 80.4 mobile responses are made each month since the contract started with Millbrook.
- Community equipment can be obtained from the Local Authority via an Occupational Therapy (OT) Assessment. Alternatively, this also takes place via OTs based within Hospitals or Physios to facilitate discharge. In both cases, the service is delivered by Millbrook.
 - Equipment can be obtained privately via local mobility shops.
 - There is limited evidence on the effectiveness of equipment in reducing falls.
 - There were 28,593 separate equipment items issued in 2022/23.
- Physical activity is recommended for older adults and has a number of health benefits.
 - Physical activity has been shown to reduce hip fractures by up to 68% and reduce the risk of other long-term conditions.¹
 - There is currently no evidence that physical activity prevents falls.
 - Across England, physical activity reduces and inactivity increases substantially after the age of 74.²

1. Office for Health Improvement and Disparities. (2022). Physical activity: applying All Our Health. Guidance. Available from: [Physical activity: applying All Our Health - Gov.uk \(www.gov.uk\)](https://www.gov.uk). (Accessed: 16 May 2023).

2. Sport England. Active Lives Survey. Adult data. Available from: Active Lives | Adult Data (sportengland.org) (Accessed 12 January 2023). © Sport England 2023.

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How we went about this review?

- This review is one of our Joint Strategic Needs Assessment (JSNA) light touch reviews.
- The work was completed through a small working group including Public Health and Commissioning representatives.
- The working group used their experiences to agree:
 1. The scope of this JSNA.
 2. The information that should be gathered.
 3. And the key messages and recommendations that should be formed from having looked at the information gathered.

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What questions did this review aim to answer?

1. To provide comprehensive analysis on the issue of falls which will consider the wider determinants of health, demographics, deprivation, protected characteristics, and ill-health
2. Identify gaps in service provision
3. Look into present and future need associated with falls
4. Research best practice relating to falls interventions
5. Inform commissioning intentions

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What did this review cover?

To answer the review questions the working group agreed to review falls in relation to a variety of different issues including:

- Current and future estimates of the number of falls
- The current 65 and over population in Cheshire East and how it compares to England
- Ambulance responses for falls
- Emergency hospital admissions for falls and their types of injuries, cost and impact on hospital bed capacity
- Hip fracture admissions and Osteoporosis
- Deaths from the result of a fall
- Commissioned falls prevention services
- Researching the evidence base around falls
- Older adults' perceptions of falls
- Risk factors
- Falls hazards in homes
- Physical activity

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