

Merseyside & Cheshire Local Authority Profile Cheshire West and Chester

Injuries in Older People
April 2012 to March 2015

November 2015

Simon Russell, James Marrin and Mark Whitfield



Centre for Public Health,
Faculty of Education, Health and Community,
Liverpool John Moores University,
Henry Cotton Campus,
15-21 Webster Street,
Liverpool, L3 2ET

cph.org.uk

☎ 0151 231 4500

✉ tiig@ljmu.ac.uk

🌐 tiig.info

🐦 twitter.com/tiig_cph

ISBN: 978-1-910725-37-5 (web)

CPH | CENTRE FOR
PUBLIC HEALTH
LIVERPOOL JOHN MOORES UNIVERSITY



Key findings

- Between April 2012 and March 2015 there were 94,137 injury attendances made by Cheshire West and Chester residents to Emergency Departments (EDs) across Merseyside and Cheshire; of which 13,698 (15%) were made by people aged 65 years and over. People aged 65 and over represent 15% of total injury attendances to EDs while representing 20% of the total population.
- Of attendees aged 65 years or over, 62% were female and 38% were male; where ethnicity was known, 99% of attendees were white.
- Across all EDs combined, 88% of attendances were classified as other injuries, 7% were falls, 2% were road traffic collisions and 1% were assaults, bites and stings and deliberate self-harm, while less than 1% were sports injuries.
- Females were more likely than males to attend an ED for falls (7% of total injuries compared to 6%). People aged 85 years and over were also more likely to attend an ED for falls compared to people aged 65 to 74 and 75 to 84 (36% compared to 34% and 30% respectively).
- The time of day with the most attendances was between 10:00 and 11:59 (21%); the busiest day of the week was Monday (17% of attendances); and, the month with the highest average daily attendances was July (44 per day).
- People aged 65 years and over were more likely to arrive at the EDs by ambulance, be referred to an ED by the emergency services and be admitted into hospital than the average for all age groups combined. Older people were also more likely than other age groups to report their home as the injury location.
- Rates of injury attendances were found to correlate with deprivation, with increasing attendances found to be associated with increasing levels of deprivation.
- Rates of falls did not correlate with deprivation but inconsistent categorisation of falls between EDs prevented more robust analyses.

Older people in Cheshire West and Chester

Cheshire West and Chester is a metropolitan borough in Cheshire, in the North West of England. According to the mid-2013 census, Cheshire West and Chester has a population of 331,026, of which 65,877 are people aged 65 years and over (ONS, 2015). Of people aged 65 years and over, 55% (35,993) are female and 45% (29,884) are male, compared to all age groups combined where 51% (169,803) are female and 49% (161,223) are male. People aged 65 years and over in Cheshire West and Chester represent 20% of the total population which is higher than the average for Cheshire and Merseyside (19%), the North West region (18%) and England (17%). The higher proportion of people aged 65 years and over reflects the increasing size of this age group in Cheshire West and Chester and the UK generally. Owing to the post-war baby boom of 1946/47, the number of people who reached state retirement age in 2012 increased by 169,000 to 726,069 and the number of people turning or aged 65 is expected to continue increasing steadily (ONS, 2015).

Among older people, there are inequalities in life expectancy and general health, and it is often the poorest older adults who suffer the greatest disadvantage. Cheshire West and Chester is one of the least deprived Local Authorities (LAs) in England and the Index of Multiple Deprivation (IMD) ranks the Borough as the 122nd most deprived in the North West and the 195th most deprived in England (ONS, 2010).

Longer life expectancies do not always correlate with healthy life expectancy and it is important to understand the needs and risks for older people to ensure their later years of life are healthy and happy. A key aim of health and social care providers is to invest in local prevention services which offer advice, support and interventions which help healthy older people to live long and independent lives and help injured or unwell older people to regain independence and prevent or delay the onset of further health problems or injuries (DoH, 2009).

Falls comprise the majority of injuries among older people (DoH, 2001), can cause bone fractures and head traumas and can increase the risk of early death (NCIPC, 2014). Every five hours in England an older person dies as a result of a fall and fall-related injuries are the leading cause of death among older people (DoH, 2009). Cheshire West and Chester which has a population of just under 350,000, will have approximately 19,600 falls among older people each year; approximately 2,800 of those will attend an ED and 1,400 will sustain a fracture, of which just under one third will be a fracture of the hip (DoH, 2009).

This Trauma and Injury Intelligence Group (TIIG) Local Authority Profile presents injuries suffered by older people in Cheshire West and Chester using ED recorded data between April 2012 and March 2015. In the context of this report, older people are categorised as people aged 65 years and older, as agreed with local partners. This report will contextualise ED data by providing an overview of the population, highlighting who is at increased risk of injury and describing the specific level of need in Cheshire West and Chester. This report also provides recommendations for local government and commissioners in terms of the efficient use of resources, and to health and social care providers in terms of delivering improved outcomes, with the overarching aim of enabling older people to live happy, healthy and independent lives.

Injuries across Cheshire West and Chester, April 2012 to March 2015

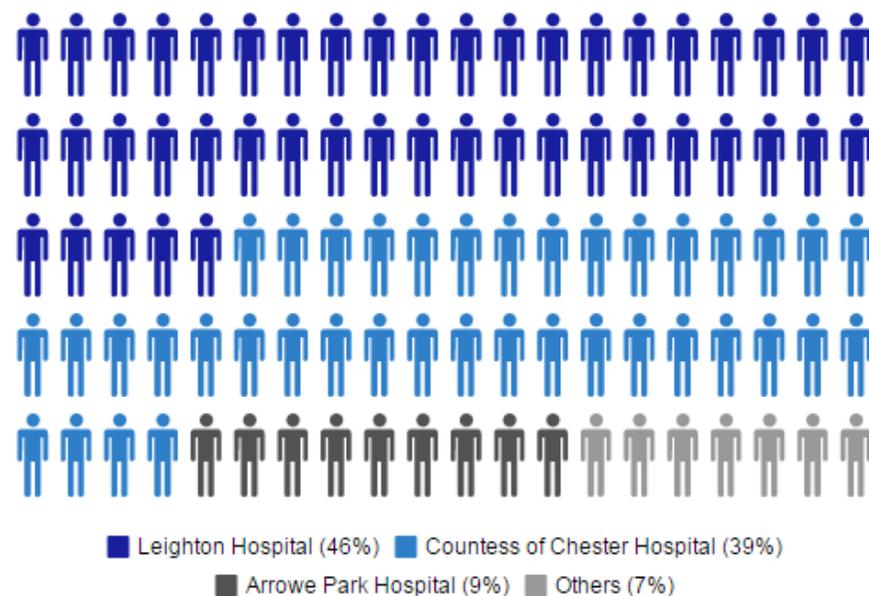
For all age groups, between April 2012 and March 2015 there were 94,137 injury attendances made by Cheshire West and Chester residents to Emergency Departments (EDs) across Merseyside and Cheshire; 13,698 of these were made by people aged 65 years and over. Attendances by people aged 65 years and over accounted for 15% of total injury attendances to EDs while representing 4% of the total population of Cheshire West and Chester. Of those, 6,247 (46%) attended Leighton Hospital ED, 5,275 (39%) attended Countess of Chester Hospital ED and 1,171 (9%) attended Arrowe Park Hospital ED. There

were 1,005 (7%) combined attendances to Aintree University Hospital ED, Macclesfield District General Hospital ED, Royal Liverpool University Hospital ED, Southport District General Hospital ED, Warrington Hospital ED and Whiston Hospital ED.

Table 1. All injury attendances by people aged 65 years and over by Local Authority

Local Authority	2012/13	2013/14	2014/15	Total
Halton	3014	2896	2333	8243
Warrington	2583	3042	2434	8059
Cheshire East	6497	6652	6678	19827
Cheshire West	4662	4707	4329	13698
Knowsley	6540	5317	5042	16899
Liverpool	13970	13019	12906	39895
Sefton	14907	12755	13400	41062
St Helens	4679	3753	3210	11642
Wirral	6111	6293	6538	18942
Total	62963	58434	56870	178267

Figure 1. Attendances by people aged 65 years and over by Emergency Department



In terms of gender, 62% (8,436) of attendees aged 65 years and over were female, 38% (5,262) were male. Of people aged 65 years or over, 5,316 (39%) were aged between 65 and 74 years, 4,818 (35%) were aged between 75 and 84 years, and 3,564 (26%) were aged 85 years or over. In terms of ethnicity,¹ 11,091 (81%) of injury attendees from Cheshire West and Chester were White, 619 (5%) were unknown, 25 (<1%) were from other ethnic groups and there were 87 combined attendances by patients of Asian, Bangladeshi, Black, Chinese, Indian, mixed and Pakistani ethnicity. Table 2 displays injury attendances of Cheshire West and Chester residents by financial year and injury group;² injuries overall decreased by 7% over this three year period.³

Table 2. Injury attendances by Cheshire West and Chester residents aged 65 years and over by financial year and injury group

Injury group	2012/13	2013/14	2014/15	Total	% ⁴
Assault	36	44	32	112	1
Bites and stings	43	36	38	117	1
Deliberate self-harm	30	37	30	97	1
Falls	296	310	314	920	7
Other ⁵	4131	4150	3800	12081	88
Road traffic collision	109	110	92	311	2
Sports injury	17	20	23	60	0
Total	4662	4707	4329	13698	100

¹ University Hospital Aintree, Arrowe Park Hospital, Southport District General Hospital and Warrington Hospital do not collect data on ethnicity. Unknown ethnicities from EDs who do collect this information have been included.

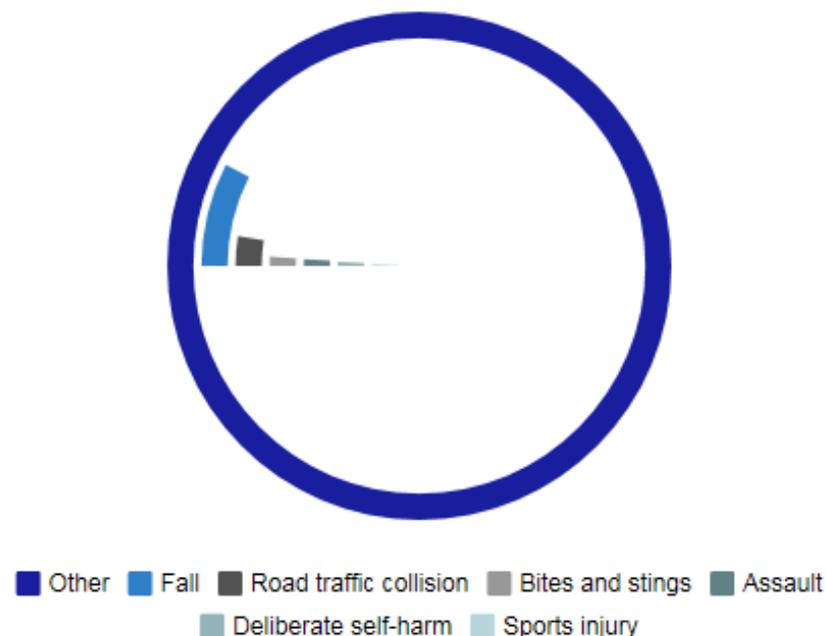
² Countess of Chester Hospital, Leighton Hospital, Macclesfield District General Hospital, Southport District General Hospital and Warrington Hospital do not categorise falls; these EDs accounted for 12,217 records.

³ While falls have increased by 6% over three years, it is likely that the categorisation of falls has varied over time and between EDs and that a proportion of other injuries include a substantial number of falls.

⁴ Due to rounding percentages may not add up to 100.

⁵ Other injury includes 22 records of Burns and scalds injuries, 10 records of injuries from ingestion, less than five records of firework injuries and less than five inhalation injuries.

Figure 2. Injury groups for people aged 65 years and over



“Among older people, there are inequalities in life expectancy and general health, and it is often the poorest older adults who suffer the greatest disadvantage.”

Table 3, displaying injury attendances by age group and gender, shows that females were more likely to present to an ED for falls compared to males, while males were more likely to present to an ED for sports injuries for most age groups.

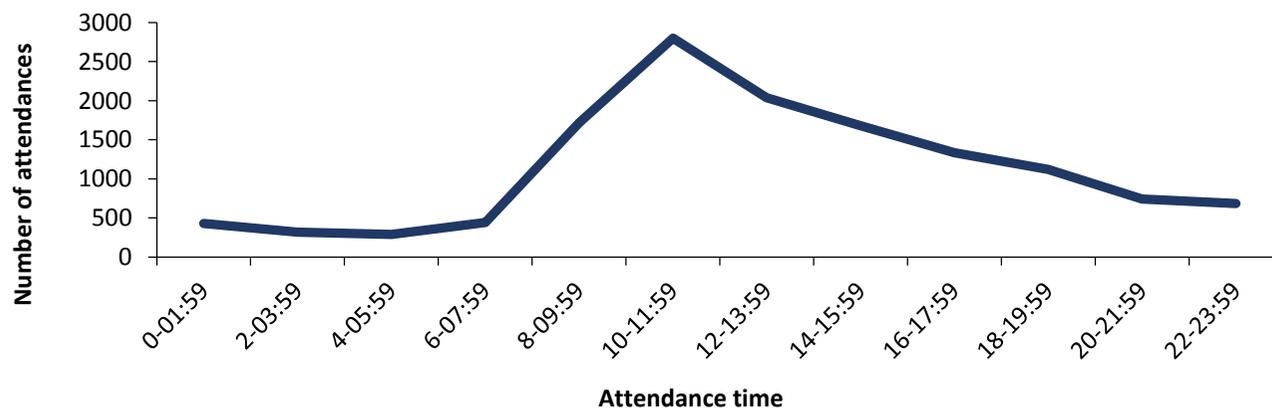
Table 3. Injury attendances by Cheshire West and Chester residents aged 65 years and over by injury group, age group and gender⁶

Age Gender Injury group	65-74				75-84				85+			
	Male		Female		Male		Female		Male		Female	
	N	% ⁴	N	% ⁴	N	%	N	% ⁴	N	%	N	% ⁴
Assault	37	2	23	1	13	1	20	1	7	1	12	0
Burns and scolds	27	1	54	2	<20	1	13	0	5	0	***	0
Deliberate self-harm	21	1	27	1	6	0	29	1	5	0	9	0
Falls	104	4	175	6	112	6	197	7	77	7	255	10
Other ⁵	2059	88	2595	88	1631	89	2653	89	950	88	2193	88
Road traffic collision	89	4	79	3	48	3	55	2	25	2	15	1
Sports injury	15	1	11	0	<20	1	15	1	5	0	***	0
Total	2352	100	2964	100	1836	100	2982	100	1074	100	2490	100

Time, day and month of attendance

Figure 3 displays attendances by people aged 65 years or over by time group. Where time groups were recorded (13,599), attendances peaked between 10:00 and 11:59 (2,799; 21%); attendances were lowest between 04:00 and 05:59 (292; 2%).

Figure 3. Injury attendances by Cheshire West and Chester residents aged 65 years and over by time group



⁶ Numbers less than five have been suppressed (***) in line with patient confidentiality. If there is only one number less than five in a category then two numbers will be suppressed at the next level to prevent back calculations from totals.

Monday had the most attendances overall for people aged 65 and over for all EDs combined with 17% (2,317) of total attendances; Sunday had the fewest attendances for EDs combined with 12% (1,710) of total attendances. July had the highest rate of attendances with an average of 44 attendances per day (1,377 in total), while January had the lowest rate with an average of 33 attendances per day (1,031 in total).

Arrival, referral and disposal

Table 4 displays the arrival mode to EDs for people aged 65 years and over compared to all age groups combined, and shows that a higher proportion of attendees aged 65 years and over arrived at EDs by ambulance compared to all age groups combined.

Table 4. Arrival mode by Cheshire West and Chester residents: 65 and over vs all age groups combined

Arrival mode	People aged 65 and over		All age groups combined	
	N	%	N	%
Ambulance	5279	39	14011	15
Foot	108	1	1396	1
Other	3118	23	31173	33
Police	<10	0	41	0
Private transport	5041	37	46181	49
Public transport	***	0	98	0
Taxi	6	0	26	0
Unknown	138	1	1211	1
Total	13698	100	94137	100

Table 5 displays the referral source to EDs for people aged 65 years and over compared to all age groups combined which shows that a higher proportion of attendees aged 65 years and over were referred by a GP and emergency services, and a lower proportion were referred by friends or relatives compared to all age groups combined.

Table 5. Referral source for Cheshire West and Chester residents aged 65 years and over compared to all age groups combined⁶

Referral source	People aged 65 and over		All age groups combined	
	N	% ⁴	N	% ⁴
Educational establishment	***	0	594	1
Emergency services	1521	11	4166	4
Friend/relative	***	0	100	0
GP	2088	15	5428	6
Health care professional	1987	15	16173	17
NHS direct	***	0	81	0
Other	1748	13	18652	20
Police	***	0	171	0
Self-referral	6304	46	47952	51
Social services	***	0	13	0
Unknown	25	0	236	0
Work	10	0	571	1
Total	13698	100	94137	100

Table 6 displays the disposal method for Cheshire West and Chester residents aged 65 years and over by injury

group and shows that approximately half of all attendances were discharged with no further treatment required, with the exception of attendances for deliberate self-harm, where a higher than average proportion were admitted to hospital or referred for follow up treatment (30% each); and falls, where a higher proportion were admitted to hospital (37%). For all injury groups, compared to all age groups combined, a substantially higher proportion of attendances for people aged 65 years and over were admitted to hospital (14% compared to 5%) and a lower proportion were discharged with no follow up treatment required (44% compared to 59%).

Table 6. Disposal of Cheshire West and Chester residents aged 65 years and over by injury group⁶

Injury group		Admitted	Discharged	Other ⁷	Referred	Total
Assault	N	<15	54	5	41	112
	% ⁴	11	48	4	37	100
Bites and stings	N	***	91	<5	23	117
	%	1	78	2	20	100
Deliberate self-harm	N	29	16	23	29	97
	% ⁴	30	16	24	30	100
Falls	N	344	250	29	297	920
	% ⁴	37	27	3	32	100
Other ⁵	N	1499	5492	691	4399	12081
	%	12	45	6	36	100
Road traffic collision	N	40	160	30	81	311
	% ⁴	13	51	10	26	100
Sports injury	N	16	19	9	16	60
	%	27	32	15	27	100
Total	N	1941	6082	789	4886	13698
	%	14	44	6	36	100

Location of injury

Table 7 displays incident location by injury group for people aged 65 years and over which shows that a substantially higher proportion of injuries among older people in Cheshire West and Chester occurred at home compared to all age groups combined.

⁷ 'Other' includes 17 records where disposal method was unknown.

Table 7. Incident location for Cheshire West and Chester residents aged 65 years and over compared to all age groups combined^{6, 8}

Location	People aged 65 and over		All age groups combined	
	N	% ⁴	N	%
Educational establishment	***	0	5341	6
Home	8445	62	34596	37
Other	1905	14	17554	19
Public place	1820	13	19730	21
Unknown	1379	10	10001	11
Work	<105	1	6573	7
Total	13656	100	93795	100

LSOA breakdown

Table 8 displays the number and rate of attendances for the top ten Lower Super Output Areas (LSOAs) for people aged 65 years and over.

Table 8. Top ten LSOAs in terms of all injury attendance rates per 100 population for Cheshire West and Chester residents aged 65 years and over

LSOA		65 and over population	Total attendances	Rate of attendances
Name	Code			
CWaC 001B	E01018535	378	137	36.2
CWaC 029C	E01018311	190	67	35.3
CWaC 029B	E01018310	184	60	32.6
CWaC 001A	E01018534	432	134	31.0
CWaC 007D	E01018563	320	90	28.1
CWaC 025A	E01018360	447	125	28.0
CWaC 033C	E01018343	293	81	27.6
CWaC 031E	E01018317	191	52	27.2
CWaC 008A	E01018523	231	62	26.8
CWaC 008C	E01018541	318	84	26.4

⁸ Whiston Hospital does not record incident location and all records from this ED have been omitted.

Figure 4 displays the rate of all injury attendances per 100 population by Cheshire West and Chester residents aged 65 years and over. As displayed, the majority of LSOAs with the highest rates of attendance are clustered in the north west of the Local Authority.

Figure 4. All injury attendance rates per 100 population for Cheshire West and Chester residents aged 65 years and over, April 2012 to March 2015

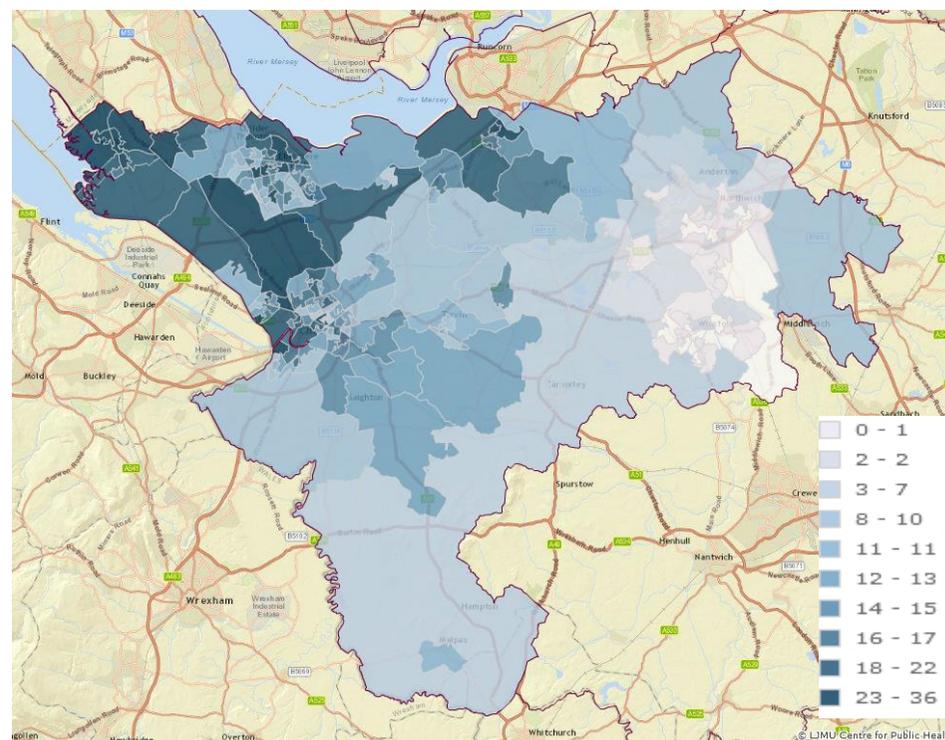
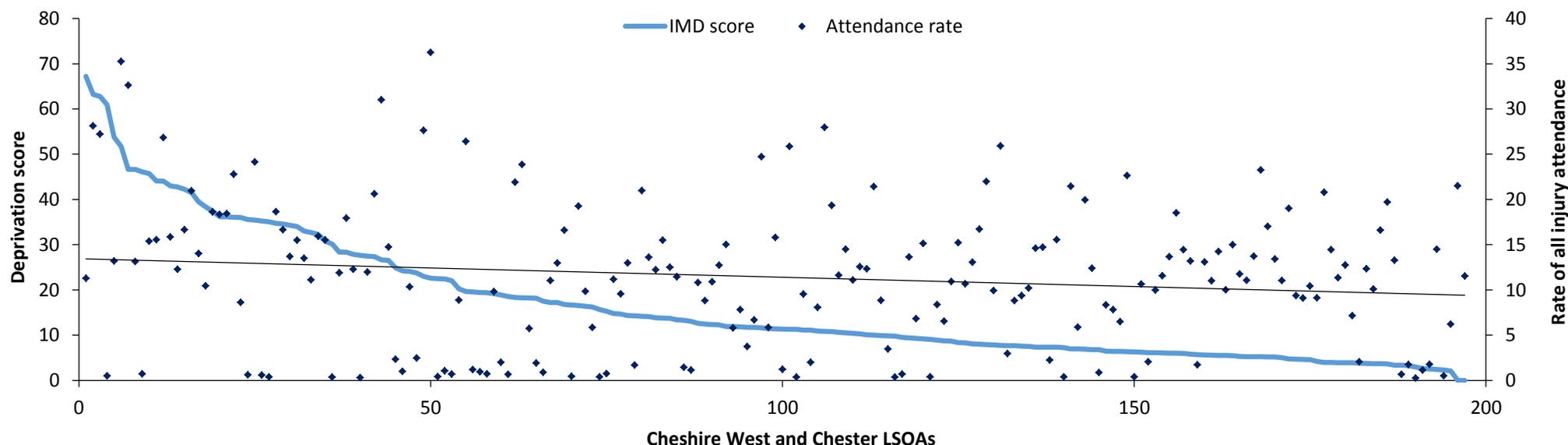


Figure 5 displays all injury attendance rates per 100 population for Cheshire West and Chester residents aged 65 years and over, with a linear trend line, plotted against deprivation scores, where higher scores represent higher levels of deprivation, for each LSOA. As shown, attendance rates generally declined with decreasing levels of deprivation.

Figure 5. All injury attendance rates per 100 population for Cheshire West and Chester residents aged 65 years and over for each LSOA by deprivation score, April 2012 to march 2015



Falls

Falls accounted for 7% (920) of all injury attendances for people aged 65 years and over in Cheshire West and Chester. However, Countess of Chester Hospital ED and Leighton Hospital ED (which account for 84% of injury attendances by Cheshire West and Chester residents) do not categorise falls.² Arrowse Park Hospital ED accounted for 9% of total injury attendances but accounted for 90% of recorded falls by Cheshire West and Chester residents.

Injury attendance rates for Cheshire West and Chester residents per 100 population generally increased with increasing level of deprivation but the effect was not as pronounced as in other Local Authorities.

Table 9 displays the number and rate of attendances for the top ten Lower Super Output Areas (LSOAs) for people aged 65 years and over.

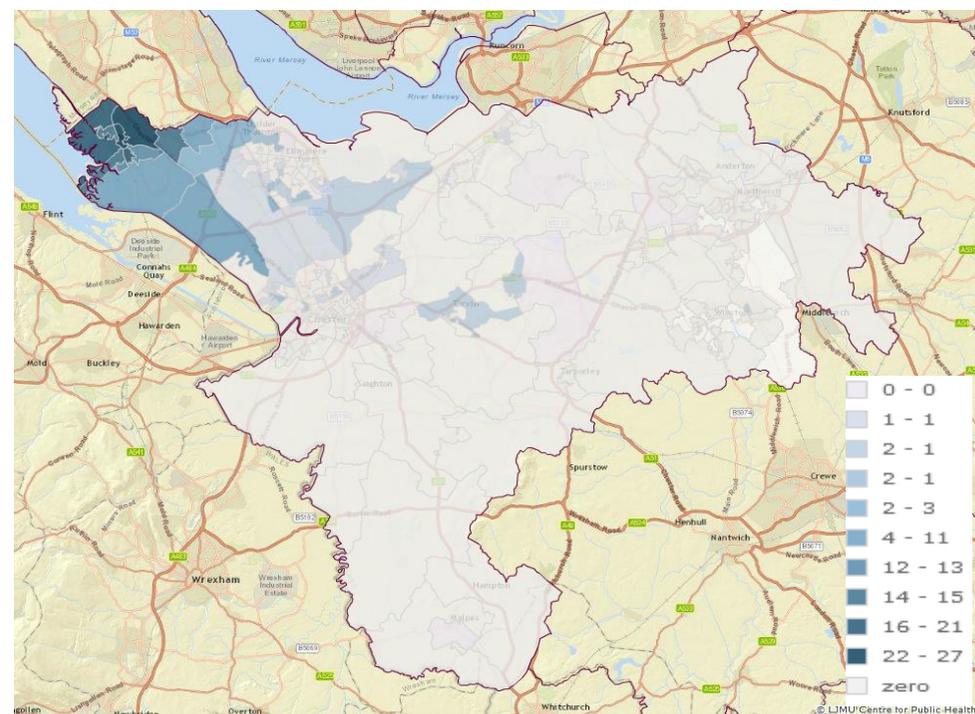
Table 9. Top ten LSOAs in terms of fall attendance rates per 100 population for Cheshire West and Chester residents aged 65 years and over

LSOA Name	LSOA Code	65 and over population	Total fall attendances	Rate of fall attendances per 100 population
Cheshire West and Chester 001B	E01018535	378	103	27.2
Cheshire West and Chester 001A	E01018534	432	95	22.0
Cheshire West and Chester 006A	E01018532	465	74	15.9
Cheshire West and Chester 001D	E01018537	715	111	15.5
Cheshire West and Chester 004D	E01018571	387	53	13.7
Cheshire West and Chester 001C	E01018536	446	61	13.7
Cheshire West and Chester 006D	E01018545	436	59	13.5
Cheshire West and Chester 006B	E01018533	442	58	13.1
Cheshire West and Chester 006C	E01018544	329	37	11.2
Cheshire West and Chester 004B	E01018569	391	43	11.0

Figure 6 displays the rate of fall attendances per 100 population by Cheshire West and Chester residents aged 65 years and over. As displayed the majority of LSOAs with the highest rates of attendance are clustered in the North West of the Local Authority.⁹

⁹ These LSOAs are geographically closer to Merseyside EDs, where falls are more comprehensively categorised.

Figure 6. Fall attendance rates per 100 population for Cheshire West and Chester residents aged 65 years and over, April 2012 to March 2015²



“Falls accounted for 70% of injuries among people aged 65 years and over in Arrowse Park Hospital, but only for 12% at Aintree Hospital, implying a large number of falls are being categorised as other injuries at Aintree ED.”

Recommendations

- Consider mechanisms to categorise falls at Countess of Chester Hospital, Leighton Hospital and Macclesfield District General Hospital EDs. This can be achieved through multi-agency working and meetings between the TIIG team, community stakeholders and the EDs.
- Consider mechanisms for Warrington Hospital ED to record falls, rather than specifying them as a reason for visit. The TIIG team can also consider mechanisms to retrospectively categorise falls for Warrington ED from the reason for visit but this will depend upon improved consistency of the field.
- Consider mechanisms to include the incident location data item to the IT system at Whiston Hospital ED. This can primarily be achieved through liaison between the TIIG team and the systems team within the ED.
- Conduct further analyses to understand the disproportionate gender split in terms of injury attendances. Information for community partners and preventative interventions could be improved by ascertaining whether the higher number of females presenting to EDs is due to higher incidence of injuries or unwillingness by males to seek medical services when injuries occur.
- Conduct further analyses to understand why a relatively high proportion of attendees aged 65 years and over were referred to EDs by emergency services. Such a trend could imply that older people are sustaining more serious injuries or that older people do not have the support networks available to younger people. If older people are lacking support, explore mechanisms to improve outreach and support services for older people.
- Consider ways that TIIG data can feed into strategies to reduce the risk of falls for older people. Older adults who have a history of falls are significantly more likely to fall again (WHO, 2004); therefore patients attending EDs for falls can be referred to various follow up treatments or preventative interventions. In

addition to medical treatment for injuries, patients may also require: mental health assessments to identify feelings of social isolation or depression; rehabilitation or counselling to reduce the fear of falling again; regular eye tests to maximize vision; and, enrolment on exercise programs to increase leg strength and improve balance.

- In addition to older people who have previously fallen, individuals at elevated risk of falling are patients: who suffer from neurological conditions or cognitive problems; who are visually impaired; who are recovering from infections; and, who have mobility issues or are suffering from bone or joint conditions such as arthritis (The Health Foundation, 2012). ED attendees, especially elderly patients, suffering from any of the above conditions may be appropriate for specific follow up treatments.
- Consider the high proportion of injuries for people aged 65 years and over that occur in the home. Community interventions may seek to make homes safer in a number of ways, including reducing tripping hazards, adding grab bars or railings at strategic points, and improving lighting within the home.
- Explore why rates of attendance for people aged 65 years and over are highest in the LSOA in the north of the Local Authority. Such exploration may include a further analysis of the relationship between deprivation and injury, and an assessment of extrinsic factors, or dangerous environments, which may include busy roads, hazards for pedestrians or risk factors in or around people's homes.

These recommendations are unlikely to be achieved without sustained working between cooperating agencies. However their implementation would be likely to initiate substantial positive change by preventing and reducing unintentional and intentional injuries among older populations in Cheshire West and Chester.

References

Department for Communities and Local Government. (2010) English indices of deprivation.. Available at: <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2010> [Accessed 15th April 2015].

Department of Health. (2001). National service framework: older people, March 2001. [online]. Available at: <https://www.gov.uk/government/publications/quality-standards-for-care-services-for-older-people> [Accessed 24th April 2015].

Department of Health. (2009). Falls and fractures. Exercise Training to Prevent Falls, 2009. [online]. Available at: http://webarchive.nationalarchives.gov.uk/+www.dh.gov.uk/en/Publicationsandstatistics/Publications/dh_103146 [Accessed 24th April 2015].

Office for National Statistics. (2015). Life Expectancy at Birth and at Age 65 by Local Areas in England and Wales, 2011–13.[online]. Available at: <http://www.ons.gov.uk/ons/rel/subnational-health4/life-expectancy-at-birth-and-at-age-65-by-localareas-in-england-and-wales/2011-13/stb-life-expectancy-at-birth-2011-13.html> [Accessed 24th April 2015].

The Health Foundation. (2012). Patient safety resource centre: Frail older people. Available at: <http://www.healthcommunities.com/healthy-aging/healthy-living-tips-50s.shtml> [Accessed 28th April 2015].

World Health Organisation. (2004). Health Evidence Network: What are the main risk factors for falls amongst older people and what are the most effective interventions to prevent these falls? Available at: www.euro.who.int [Accessed 19th April 2015].



This work was commissioned by the Cheshire and Merseyside Public Health Intelligence Network.

CPH | CENTRE FOR
PUBLIC HEALTH
LIVERPOOL JOHN MOORES UNIVERSITY

