

Merseyside & Cheshire Local Authority Profile Knowsley

Injuries in Older People
April 2012 to March 2015

November 2015

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Key findings

- Between April 2012 and March 2015 there were 88,082 injury attendances made by Knowsley residents to Emergency Departments (EDs) across Merseyside and Cheshire; of which 16,899 (19%) were made by people aged 65 years and over. This represents 19% of total injury attendances to EDs while representing 16% of the total population.
- Of attendees aged 65 years or over, 58% were female and 42% were male; where ethnicity was known, 99% of attendees were white.
- Across all Emergency Departments (EDs) combined, 72% of attendances were classified as other injuries, 24% were falls, 2% were road traffic collisions and 1% were assaults, burns and scalds, deliberate self-harm and sports injuries.
- Females were more likely than males to attend an ED for falls (27% of total injuries compared to 20%). 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 (35% compared to 26% and 16% respectively).
- The time of day with the most attendances was between 10:00 and 11:59 (18%); the busiest day of the week was Monday (16% of attendances; and, the month with the highest average daily attendances was April (52 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 were also correlated with deprivation but inconsistent categorisation of falls between EDs prevented more robust analyses.

Older people in Knowsley

Knowsley is a metropolitan borough in Merseyside, in the North West of England. According to the mid-2013 census, Knowsley has a population of 146,086, of which 24,037 are people aged 65 years and over (ONS, 2015). Of people aged 65 years and over, 57% (13,598) are female and 43% (10,439) are male, compared to all age groups combined where 53% (76,640) are female and 48% (69,446) are male. People aged 65 and over in Knowsley represent 17% of the total population which is less than the average for Cheshire and Merseyside (19%), the North West region (18%) and England (17%). Despite having a lower proportion than other areas, the number of people aged 65 years and over is increasing in Knowsley 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. Knowsley is one of the most deprived Local Authorities (LAs) in England and the Index of Multiple Deprivation (IMD) ranks the Borough as the fourth most deprived in the North West and the 12th 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). Knowsley which has a population of just under 150,000, will have approximately 8,400 falls among older people each year; approximately 1,200 of those will attend an ED and 600 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 Knowsley 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 Knowsley. 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 Knowsley, April 2012 to March 2015

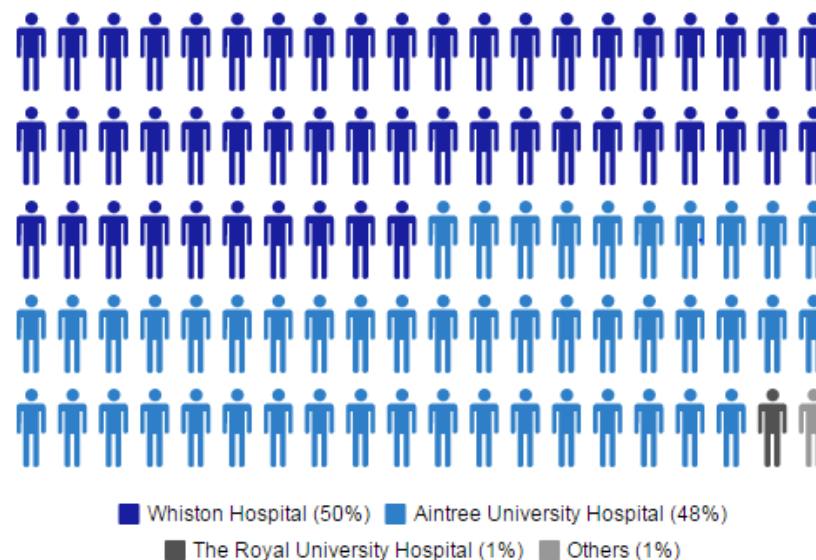
For all age groups, between April 2012 and March 2015 there were 88,082 injury attendances made by Knowsley residents to Emergency Departments (EDs) across Merseyside and Cheshire; 16,899 of these were made by people aged 65 years and over. Attendances by people aged 65 years and over accounted for 19% of total injury attendances to EDs while representing 16% of the total population of Knowsley. Of those, 8,441 (50%) attended Whiston Hospital ED, 8,182 (48%) attended Aintree University Hospital ED and 217 (1%) attended the Royal Liverpool University Hospital ED. There were 59 (<1%) combined attendances to Arrowe Park Hospital ED, Countess of Chester Hospital

ED, Leighton Hospital ED, Macclesfield District General Hospital ED, Southport District General Hospital ED and Warrington 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, 58% (9,871) of attendees aged 65 years and over were female, 42% (7,028) were male. Of people aged 65 years or over, 6,371 (38%) were aged between 65 and 74 years, 6,938 (41%) were aged between 75 and 84 years, and 3,590 (21%) were aged 85 years or over. In terms of ethnicity,¹ 6,320 (73%) of injury attendees from Knowsley were White, 2,264 (26%) were unknown, 61 (1%) were Black and there were 21 combined attendances by patients of Bangladeshi, Chinese, Indian and other ethnic groups. Table 2 displays injury attendances of Knowsley residents by financial year and injury group;² injuries overall decreased by 23% over this three year period.³

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

Injury group	2012/13	2013/14	2014/15	Total	% ⁴
Assault	67	32	11	110	1
Burns and scalds	40	22	12	74	1
Deliberate self-harm ⁵	27	14	11	52	1
Falls	1057	1221	1806	4084	24
Other ⁶	5059	3887	3139	12085	72
Road traffic collision	236	106	56	398	2
Sports injury	54	35	7	96	1
Total	6540	5317	5042	16899	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 43 records.

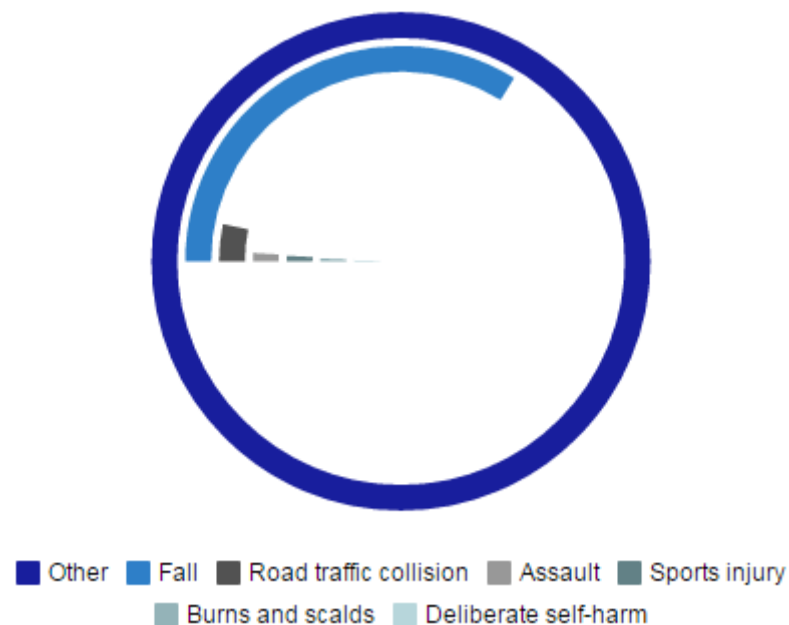
³ While falls have increased by 71% over three years, it is likely that the categorisation of falls has varied over time and between EDs and that a proportion of other injuries include a substantial number of falls.

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

⁵ Deliberate self-harm includes less than five records of overdose.

⁶ Other injury includes 16 records of firework injuries, less than five unknown injuries and 77 records of injuries from ingestion.

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 other injuries, across all age groups.

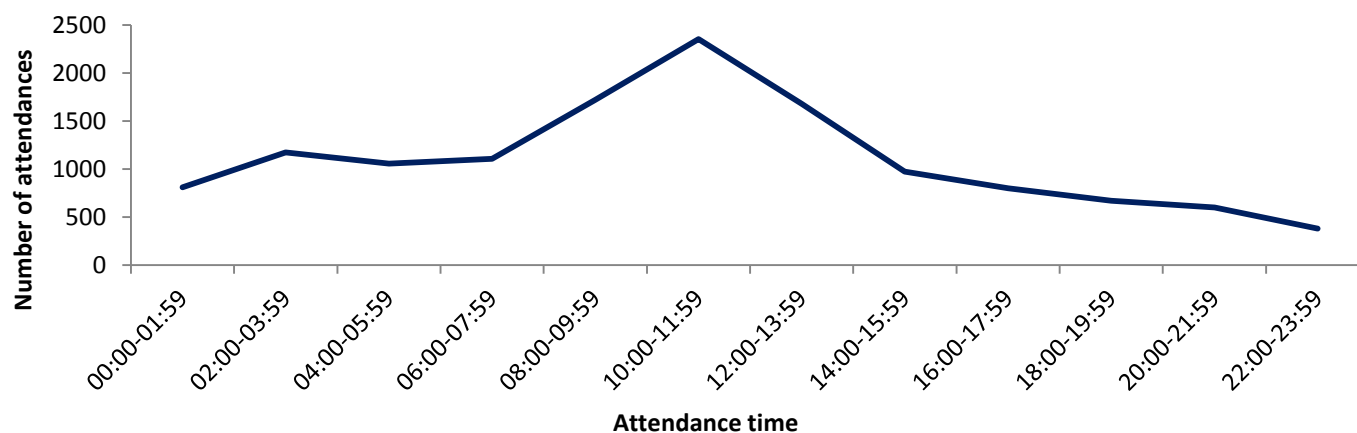
Table 3. Injury attendances by Knowsley residents aged 65 years and over by injury group, age group and gender

Age Gender	65-74				75-84				85+			
	Male		Female		Male		Female		Male		Female	
Injury group	N	% ⁴	N	% ⁴	N	%	N	% ⁴	N	%	N	% ⁴
Assault	20	1	19	1	25	1	21	1	8	1	17	1
Burns and scalds	15	1	16	0	21	0	11	1	7	1	4	0
Deliberate self-harm ⁵	18	1	15	0	10	0	9	0	0	0	0	0
Falls	426	14	600	18	640	23	1167	28	338	28	913	38
Other ⁶	2395	80	2619	78	2027	72	2806	68	838	69	1400	59
Road traffic collision	108	4	79	2	72	3	88	2	18	1	33	1
Sports injury	26	1	15	0	20	1	21	1	6	0	8	0
Total	3008	100	3363	100	2805	100	4133	100	1215	100	2375	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 (13,327), attendances peaked between 10:00 and 11:59 (2,352; 18%); attendances were lowest between 22:00 and 23:59 (381; 3%).

Figure 3. Injury attendances by Knowsley residents aged 65 years and over by time group



Monday had the most attendances overall for people aged 65 and over for all EDs combined with 16% (2,639) of total attendances; Sunday had the fewest attendances for EDs combined with 13% (2,167) of total attendances. April had the highest rate of attendances with an average of 52 attendances per day (1,569 in total), while November had the lowest rate with an average of 41 attendances per day (1,242 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 Knowsley residents aged 65 years and over compared to all age groups combined

Arrival mode	People aged 65 and over		All age groups combined	
	N	%	N	%
Ambulance	9598	57	22909	26
Foot	169	1	2561	3
Other	1466	9	10806	12
Police	11	0	440	1
Private transport	4767	28	44234	50
Public transport	518	3	4053	5
Taxi	355	2	3013	3
Unknown	15	0	66	0
Total	16899	100	88082	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 emergency services and a lower proportion were referred by friends or relatives compared to all age groups combined.

Table 5. Referral source for Knowsley residents aged 65 years and over compared to all age groups combined

Referral source	People aged 65 and over		All age groups combined	
	N	% ⁴	N	% ⁴
Carer	274	2	466	1
Educational establishment	24	0	301	0
Emergency services	2732	16	7730	9
Friend/relative	689	4	11544	13
GP	1895	11	6129	7
Health professional	906	5	5812	7
Other ⁷	801	5	2969	3
Police	36	0	535	1
Self-referral	9522	56	52085	59
Work	20	0	511	1
Total	16899	100	88082	100

Table 6 displays the disposal method for Knowsley residents aged 65 years and over by injury group and shows that over half of all attendances resulted in an admission to hospital for people aged 65 years and over,

⁷ For people aged 65 years and over, 'Other' includes less than five records referred from NHS direct, social services and unknown sources.

with the exception of attendances for road traffic collisions, where a higher than average proportion were discharged with no further treatment required. A lower than average proportion of attendees aged 65 years or over were admitted or referred for deliberate self-harm (46% and 14% respectively). 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 (53% compared to 25%) and a lower proportion were discharged with no follow up treatment required (29% compared to 47%).

Table 6. Disposal of Knowsley residents aged 65 years and over by injury group⁸

Injury group		Admitted	Discharged	Other	Referred	Total
Assault	N	57	39	3	11	110
	% ⁴	52	36	3	10	100
Burns and scalds	N	41	19	<5	<15	74
	%	55	26	5	14	100
Deliberate self-harm ⁵	N	24	16	5	7	52
	% ⁴	46	31	10	14	100
Falls	N	2155	1176	41	712	4084
	% ⁴	53	29	1	17	100
Other ⁹	N	6427	3440	269	1949	12085
	%	53	29	2	16	100
Road traffic collision	N	153	159	13	73	398
	% ⁴	38	40	3	18	100
Sports injury	N	54	23	***	<20	96
	%	56	24	1	19	100
Total	N	8911	4872	336	2780	16899
	%	53	29	2	16	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 Knowsley occurred at home compared to all age groups combined.

⁸ 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.

⁹ 'Other' includes 20 records where disposal method was unknown.

Table 7. Incident location for Knowsley residents aged 65 years and over compared to all age groups combined^{8,10}

Location	People aged 65 and over		All age groups combined	
	N	% ⁴	N	%
Educational establishment	***	0	1340	3
Home	7262	86	31692	68
Other	707	8	6308	14
Public place	439	5	5122	11
Unknown	<10	0	86	0
Work	42	0	1848	4
Total	8458	100	46396	100

LSOA breakdown¹¹

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 Knowsley residents aged 65 years and over

Name	LSOA Code	65 and over population	Total attendances	Rate of attendances per 100 population
Knowsley 004A	E01006455	252	573	227.4
Knowsley 003E	E01006447	200	399	199.5
Knowsley 001A	E01006448	223	376	168.6
Knowsley 001D	E01006494	119	192	161.3
Knowsley 004C	E01006507	201	322	160.2
Knowsley 005A	E01006416	205	320	156.1
Knowsley 003C	E01006436	165	255	154.5
Knowsley 004E	E01006509	241	369	153.1
Knowsley 005B	E01006418	183	278	151.9
Knowsley 003A	E01006415	250	379	151.6

¹⁰ Whiston Hospital does not record incident location and all records from this ED have been omitted.

¹¹ Data were missing for Knowsley 008F; it is likely that ED data extraction systems were not updated beyond 2011.

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

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

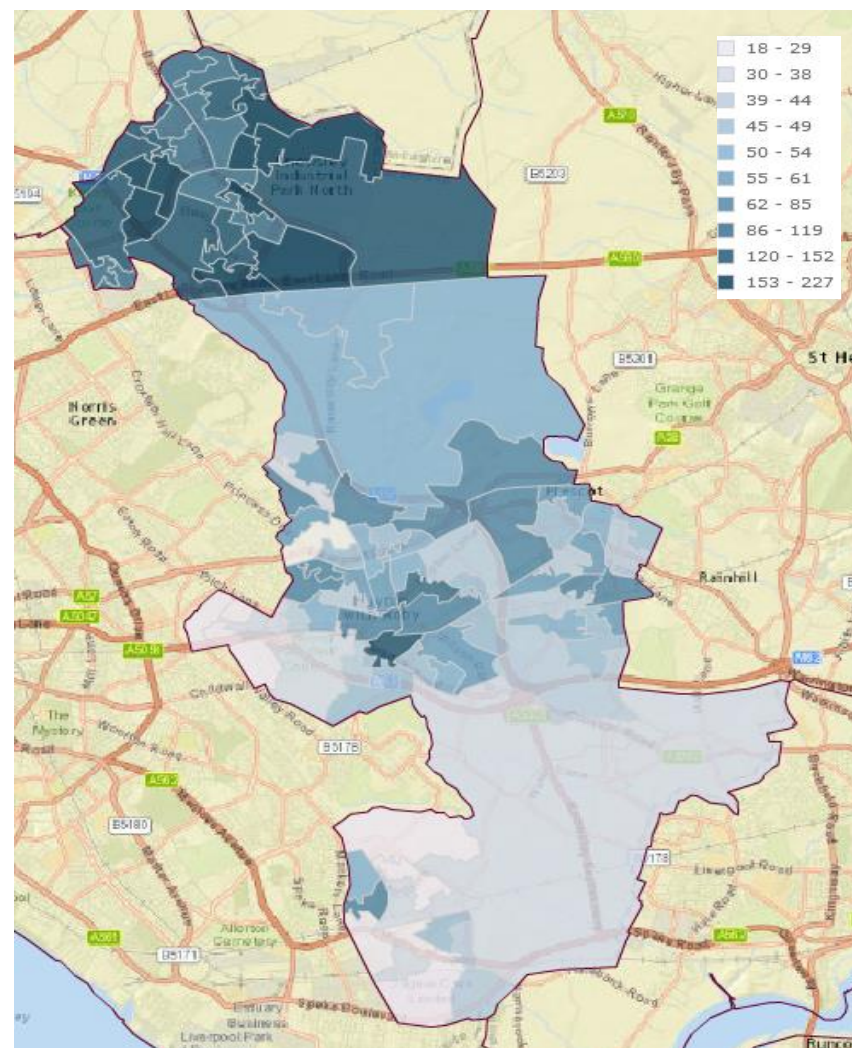
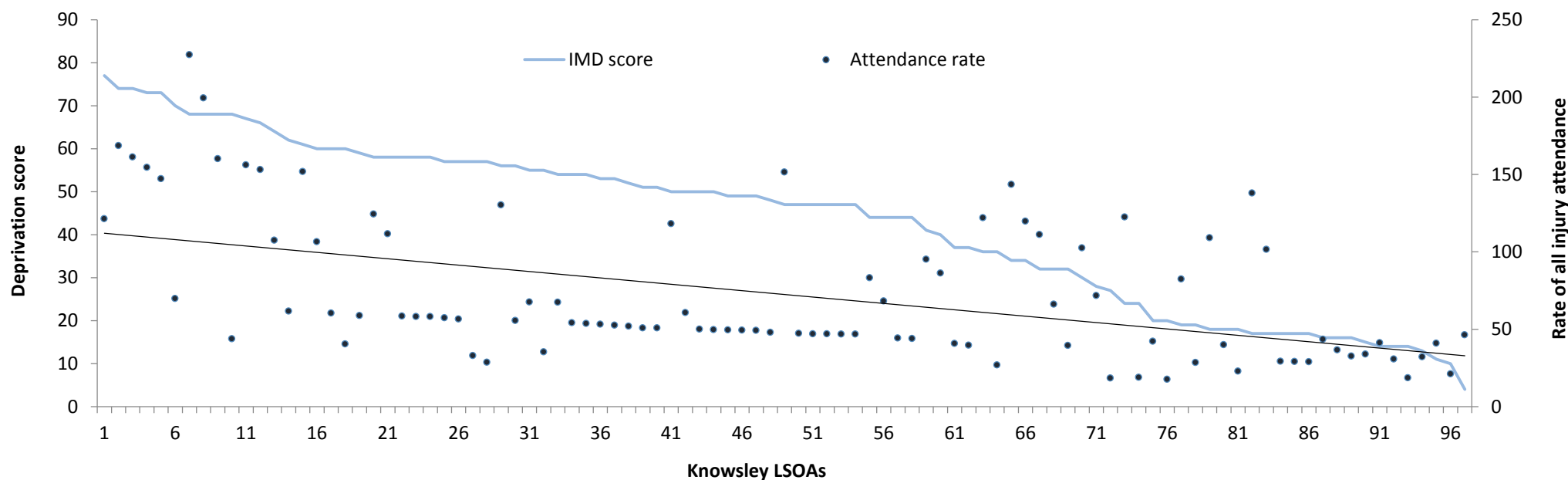


Figure 5 displays all injury attendance rates per 100 population for Knowsley residents aged 65 years and over, with a linear trend line, plotted against deprivation scores, where higher scores represent higher levels of deprivation, for each LSOA. As shown, attendance rates generally declined with decreasing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

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



Falls

Falls accounted for 24% (4,084) of all injury attendances for people aged 65 years and over in Knowsley. However, this is likely to be substantially lower than the actual proportion since there is a large discrepancy between Whiston Hospital ED and Aintree Hospital ED; which together account for 98% of injury attendances for Knowsley residents. Where falls accounted for 41% of injuries among people aged 65 years and over in Whiston ED, they accounted for 7% at Aintree ED, implying a large number of falls are being categorised as other injuries at Aintree ED.

“Injury attendance rates for Knowsley residents per 100 population generally increased with increasing level of deprivation.”

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.

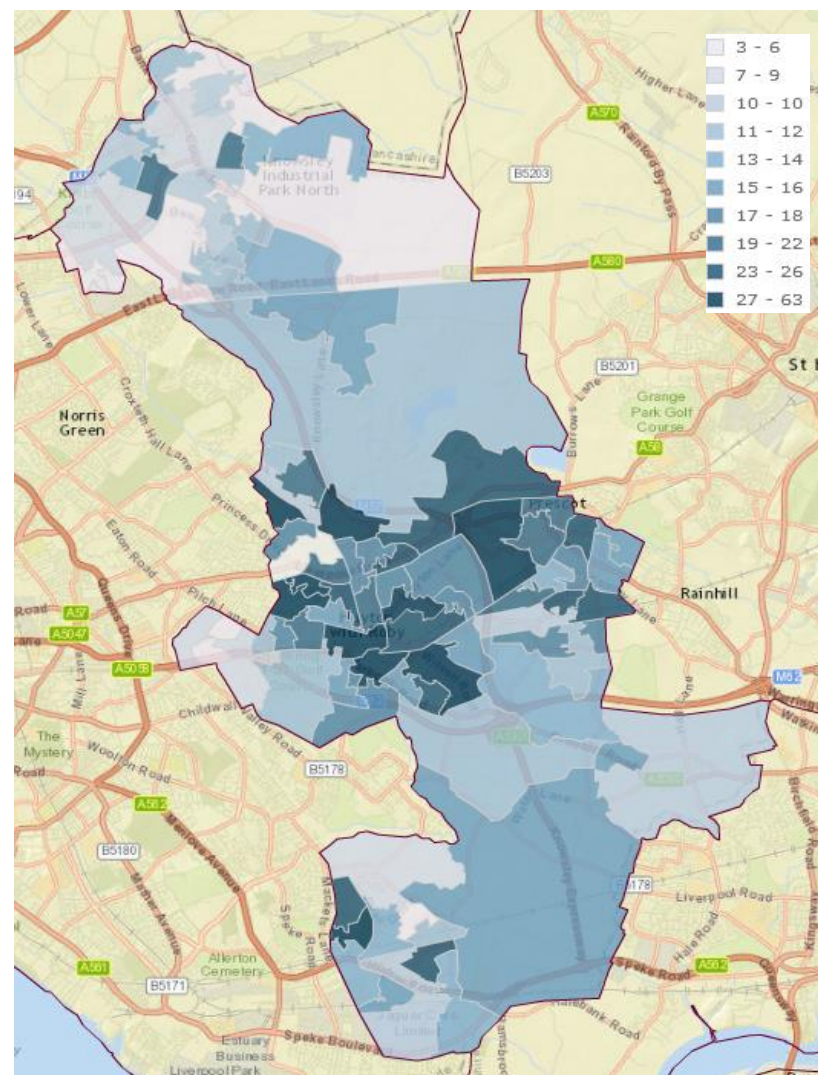
Table 9. Top ten LSOAs in terms of fall attendance rates per 100 population for Knowsley residents aged 65 years and over

LSOA Name	LSOA Code	65 and over population	Total fall attendances	Rate of fall attendances per 100 population
Knowsley 016D	E01006475	426	267	62.7
Knowsley 011B	E01006482	253	118	46.6
Knowsley 016C	E01006474	420	157	37.4
Knowsley 007D	E01006464	498	169	33.9
Knowsley 006D	E01006441	411	131	31.9
Knowsley 008A	E01006453	182	52	28.6
Knowsley 015B	E01006478	222	63	28.4
Knowsley 012B	E01006450	227	64	28.2
Knowsley 018C	E01006430	375	102	27.2
Knowsley 018D	E01006433	277	70	25.3

Figure 6 displays the rate of fall attendances per 100 population by Knowsley residents aged 65 years and over. As displayed the majority of LSOAs with the highest rates of attendance are clustered in the centre of the Local Authority.¹²

“A high proportion of injuries for people aged 65 years and over occur in the home; community interventions may consider preventative action to make homes safer.”

Figure 6. Fall attendance rates per 100 population for Knowsley residents aged 65 years and over, April 2012 to March 2015



¹² These LSOAs are geographically closer to Whiston, where falls are more comprehensively categorised than Aintree Hospital ED.

Recommendations

- Consider mechanisms to improve the categorisation of injury groups, particularly in relation to falls at Aintree Hospital ED. This can be achieved through multi-agency working and meetings between the TIIG team, stakeholders and EDs.
 - 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 and a relatively lower proportion were referred by friends or relatives compared to all age groups combined. 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.
 - Explore why older people presenting for deliberate self-harm were admitted and referred for further treatment less than other injury groups. Deliberate self-harm has high rates of repeat attendances and is a high risk factor for suicide. Consider evaluating the process of how self-harm is dealt with among older people within EDs; for example consider giving psycho-social assessments for all patients presenting for self-harm and offering psychiatric follow-up appointments where appropriate.
- 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 Knowsley.

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