

TIIG Cumbria Overview Report

Emergency Department Data Collection and Overview
April 2014 to March 2017

April 2018

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SUMMARY OF DATA

- There were 131,964 injury attendances to emergency departments (EDs) across Cumbria between April 2014 and March 2017 (including attendances made by Cumbria residents to Royal Lancaster Infirmary in Lancashire); 121,729 (92.2%) were residents of Cumbria.
- Injury-related ED attendances decreased by 5.5% over the three-year period.
- Half (49.9%) of attendances were at Cumberland Infirmary, followed by just under three in ten (29.7%) to West Cumberland Hospital.
- The majority (78.5%) of ED injury attendances were due to other injuries. Sports injuries accounted for close to one in ten (9.2%) attendances, followed by road traffic collisions (RTCs; 5.0%) and deliberate self-harm (DSH; 4.3%).
- There were more males attending than females; males accounted for 52.4% of attendances, a rate of 87 per 1,000 population.
- People aged between 30 and 59 years accounted for the largest proportion of attendances (30.7%), followed by people aged 60 years and over (27.0%) and those aged between 15 and 29 years (23.9%). Those aged between 15 and 29 years had the highest rate of attendances (124 per 1,000 population), followed by people aged between five and 14 years (98 per 1,000 population) and four years and under (96 per 1,000 population).
- Males aged between 15 and 29 years accounted for the highest rate of assault-related injuries (11 per 1,000 population) and females aged between 15 and 29 years accounted for the highest rate of DSH (11 per 1,000 population). Those aged four years and under accounted for the highest rates of other injury (males=100; females=86 per 1,000 population) and people aged between 15 and 29 years accounted for the highest rate of RTCs (males=11; females=10 per 1,000 population). Males aged between 15 and 29 years accounted for the highest rate of sports injury (41 per 1,000 population).
- Where recorded and/or stated, the vast majority (97.0%) of injury attendees were of white ethnicity.
- ED injury attendances peaked on a Monday (17.1%) and gradually decreased through the week until the weekend when they began to increase. There was a high proportion of attendances between 10:00 and 19:59, peaking between 16:00 and 17:59 (15.0%).
- In terms of source of referral to the ED, 63.2% self-referred and 18.3% were referred by the emergency services. By injury group, sports injuries and RTCs had the highest proportion of self-referrals (88.3% and 60.1% respectively), while DSH had the highest proportion referred by the emergency services (62.8%).
- In terms of mode of arrival, 59.7% arrived by other means while one-quarter (25.2%) arrived by ambulance. By injury group, DSH had a substantially higher proportion of patients arrive at the ED by ambulance (72.0%).
- In terms of incident location, 47.9% occurred in the home while 37.2% occurred in a location stated as other and 7.8% occurred in a public place. By injury group, DSH had the highest proportion of patients who sustained injuries at home (73.2%) and incidents occurring in a public place were highest for assaults and RTCs (27.1% and 26.9% respectively).
- In terms of disposal method from the ED, 48.0% were discharged from hospital, while 28.0% were referred for follow-up treatment and 20.8% were admitted into hospital. By injury group, 39.9% of DSH attendees were admitted into hospital while larger proportions of assault (57.7%), RTC (68.6%) and sports injury (58.7%) attendees were discharged with no further treatment required. Sports injuries accounted for the largest proportion of ED attendances referred for follow-up treatment (37.3%).

- The largest proportion of ED injury attendances were made by residents of Carlisle (34.6%), followed by residents of Allerdale (19.9%) and Copeland local authorities (19.7%).
- Carlisle had the highest three-year average number (12,915 attendances) and rate (119 per 1,000 population) of unintentional injuries (other injury, RTCs and sports injury) and the highest average number (1,118 attendances) and rate (10 per 1,000 population) of intentional injuries (assault and DSH).
- Fifteen out of the 20 lower super output areas (LSOAs) with the highest rates for ED injury attendances were in Carlisle, with five in Copeland. Carlisle 009A and Carlisle 011F had the highest rate (202 per 1,000 population each), compared to 73 per 1,000 population in South Lakeland 012A, the LSOA in that LA with the highest rate.
- The rate of assault ED attendances was 2 per 1,000 population across Cumbria. Thirteen out of the 20 LSOAs with the highest assault rates were in Carlisle; the highest rate was 11 per 1,000 population in Carlisle 010A.
- The rate of DSH ED attendances was 4 per 1,000 population. Fourteen out of the 20 LSOAs with highest rates were in Carlisle; the highest rate was 29 per 1,000 population in Carlisle 006A.
- The rate of RTC ED attendances was 4 per 1,000 population. Sixteen out of the 20 LSOAs with the highest rates were in Copeland; the highest rate was 14 per 1,000 population in Copeland 004H.
- The rate of sports injury ED attendances was 8 per 1,000 population. Thirteen out of the 20 LSOAs with highest rates were in Copeland; the highest rates were 20 per 1,000 population in Copeland 001D.
- There were 44,919 injury-related ambulance call outs across Cumbria between April 2014 and March 2017. Close to half (48.8%) were due to falls. Around half, 50.2% of patients were female and 50.2% of patients were aged 60 years and over, followed by 28.5% aged between 30 and 59 years and 15.8% aged between 15 and 29 years. There were more call outs at the weekend with the highest number on a Saturday (16.1%); call outs peaked between 12:00 and 17:59 (31.5%). The largest numbers of call outs were to South Lakeland (23.5%) and Carlisle (22.1%).

KEY DATA ISSUES

ED data collection is generally excellent in Cumbria; however, there are several areas where data collection and quality may be improved.

- Currently neither of the two trusts in Cumbria categorise falls as a specific injury group; instead they are recorded as “other injury”. Mechanisms to enable the EDs to further categorise unintentional injuries to include falls should be considered, which can be achieved through multi-agency meetings and discussions, primarily between the TIIG team and EDs. Future options should be considered, namely whether it is possible for falls to be added onto patient management systems used by EDs and secondly if not, whether falls can be categorised using other fields within the datasets such as diagnosis fields or presenting complaints.
- Improvements are still required in the recording of ethnicity by all EDs; ethnicity was not recorded in 6.1% of attendances.
- North Cumbria University Hospitals NHS Trust (Cumberland Infirmary and West Cumberland Hospital) currently do not collect enhanced data for assault-related injury attendances, as recommended by the Information Sharing to Tackle Violence (ISTV) mandatory standard. Discussions around this have been ongoing between the TIIG team and the Trust and will continue during 2018.
- University Hospitals of Morecambe Bay NHS Foundation Trust (Furness General Hospital and Royal Lancaster Infirmary) started to record enhanced data for assault-related injury attendances as per the ISTV guidelines in July 2015. Completion rates have improved although incident time and details of the incident location (i.e. bar name, street name) have been inconsistent. Data quality is expected to further improve through feedback from the TIIG team to the EDs. Furthermore, TIIG will also explore the potential for additional questions to be added on to patient management systems, in particular whether alcohol had been consumed prior to an assault.

WHAT IS THE POPULATION OVERVIEW?

Despite Cumbria being one of the largest counties in England, it has a small population of only 497,906 people, the second smallest population in England (Office for National Statistics, 2017a). Cumbria is made up of six local authority (LA) districts; Allerdale, Barrow-in-Furness, Carlisle, Copeland, Eden and South Lakeland.

Figure 1 shows population estimates for Cumbria residents by age group percentages, compared to the North West and England. Cumbria proportionally has an older population when compared to the whole of the North West region and England with 30.2% aged over 60 years of age in Cumbria, compared to 23.8% in North West and 23.2% in England. Conversely, Cumbria has lower percentages of all other age groups than both the North West and England.

Figure 1. Population estimates by age group percentages for Cumbria, North West and England¹

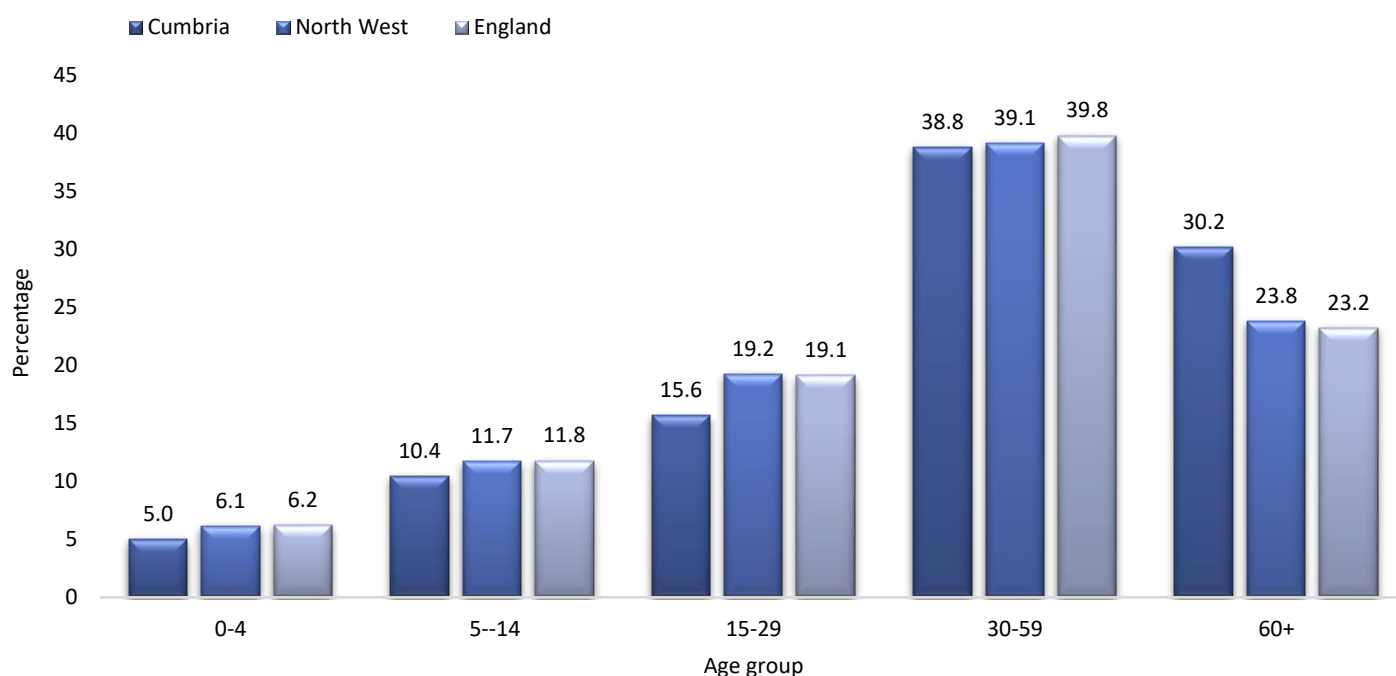


Table 1 shows the population of Cumbria's LAs, the percentage compositions in terms of urban and rural densities and the number of LSOAs within each LA. Carlisle has the largest population (n=108,409), followed by South Lakeland (n=103,274). Barrow-in-Furness and Carlisle are mostly comprised of urban city and town (69.4% and 75.0% respectively), while much of the rural communities spread across the rest of the county carry unique challenges for local organisations in the way services are designed and delivered.

¹ Mid-2016 population estimates have been used throughout this report (Office for National Statistics, 2017a).

Table 1. Percentage of LSOA habitation types by LA

LA	Population estimates	Rural town and fringe (%)	Rural town and fringe in a sparse setting (%)	Rural village and dispersed (%)	Rural village and dispersed in a sparse setting (%)	Urban city and town (%)	Urban city and town in a sparse setting (%)	LSOAs (N)
Allerdale	96,956	31.7	13.3	15.0	11.7	28.3	0.0	60
Barrow-in-Furness	67,321	30.6	0.0	0.0	0.0	69.4	0.0	49
Carlisle	108,409	8.8	0.0	13.2	2.9	75.0	0.0	68
Copeland	69,307	40.8	2.0	10.2	8.2	38.8	0.0	49
Eden	52,639	0.0	8.3	5.6	55.6	0.0	30.6	36
South Lakeland	103,274	18.6	15.3	23.7	8.5	33.9	0.0	59
Cumbria	497,906	22.1	6.5	12.2	11.8	43.9	3.4	321

DEPRIVATION IN CUMBRIA

The North West of England contains many of the country's most deprived areas with 19.6% of neighbourhoods in the region falling into the top 10% most deprived in England (New Economy, 2015)². Whilst across the North West, this level of deprivation is often confined to urban cities such as Manchester and Liverpool, there are pockets of deprived areas within Cumbria particularly within coastal towns. Approximately 9% of LSOAs in Cumbria fall within the top 10% most deprived areas in England (Cumbria Intelligence Observatory, 2015).

Whilst overall deprivation in Cumbria is slightly lower than the England average (Cumbria IMD score – 21.3; England IMD score – 21.8), levels of deprivation in Cumbria vary considerably. Whilst Eden (15.4) and South Lakeland (12.2) fall well below the England average for deprivation, Allerdale (22.6), Carlisle (22.5), Copeland (25.9) and Barrow in Furness (31.4) all have higher levels of deprivation. Further highlighting the variation in deprivation across Cumbria is the proportion of LSOAs within a LA which fall into the top 10% most deprived in England. In Cumbria, Barrow in Furness has the highest proportion of LSOAs within the top 10% most deprived in England (22.45%), compared to Eden and South Lakeland (both 0%).

In terms of other health indicators, life expectancy for both men and women in Cumbria is lower than the England average (although not significantly worse). Hospital admissions for unintentional and deliberate injuries in children aged between 0 to 14 years is significantly worse in Cumbria than England. Furthermore, indicators relating to number of people killed or seriously injured on roads, suicide rates, hospital admissions for self-harm and mental health conditions in Cumbria are also significantly worse than the England average. Indicators relating to violence and domestic violence as well as falls in those aged 65 years and over are however generally lower or not significantly different to England (Public Health England, 2017a).

Using the Indices of Multiple Deprivation (IMD; Department for Communities and Local Government, 2015), table 2 displays the IMD score range and score average (where higher scores indicate increasing levels of deprivation). The mean score ranged from 3.2 in Allerdale to 71.0 in Copeland. Barrow-in-Furness is Cumbria's most deprived LA (32 of 326 nationally), while South Lakeland is Cumbria's least deprived (242 of 326 nationally).

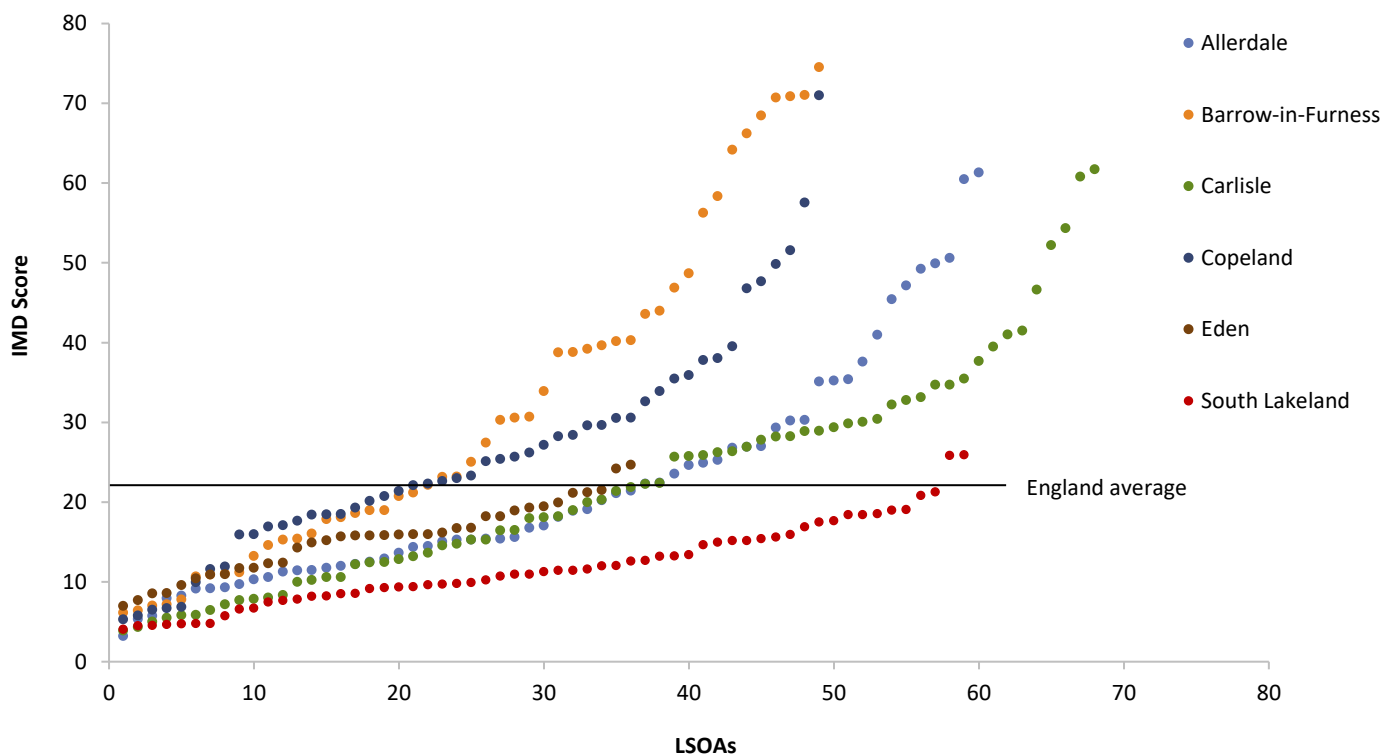
² All deprivation scores given are from Indices of Multiple Deprivation 2015

Table 2. Deprivation score ranges and means by LA

LA	Population estimates	IMD score range	IMD score average	LSOAs (N)
Allerdale	96,956	3.2 – 61.3	22.2	60
Barrow-in-Furness	67,321	6.2 – 74.6	31.7	49
Carlisle	108,409	3.9 – 61.7	22.7	68
Copeland	69,307	5.3 – 71.0	26.2	49
Eden	52,639	7.0 – 24.7	15.4	36
South Lakeland	103,274	4.1 – 25.9	12.0	59
Cumbria	497,906	3.2 – 71.0	21.3	321

Figure 2 displays IMD scores for each LSOA within Cumbria LAs, with the England average shown.

Figure 2. Deprivation scores by LSOA and LA



OVERVIEW OF TIIG DATA

EMERGENCY DEPARTMENT DATA

Within Cumbria there are three Emergency Departments (EDs) covered by two NHS trusts: Cumberland Infirmary in Carlisle, Furness General Hospital in Barrow-in-Furness and West Cumberland Hospital in Whitehaven. Attendances made by Cumbria residents to Royal Lancaster Infirmary in Lancashire are also included in the analysis in this report, as a substantial number of Cumbria residents attend this ED. Assaults, deliberate self-harm (DSH), firework injuries, other injuries, road traffic collisions (RTCs) and sports injuries are categorised by all EDs. None of the EDs categorise falls as a specific injury group; however data recorded by other EDs in the North West show that falls make up a large proportion of injuries.

Data collected by TIIG show there were a total of 131,964³ ED injury attendances between April 2014 and March 2017, of which, 121,729 were made by residents of Cumbria (92.2%); attendances by non-Cumbria residents have been excluded from this report. The number of injury-related ED attendances decreased by 5.5% overall over the three-year period, decreasing from 41,352 in 2014/15 to 39,095 in 2016/17. The month with the highest number of attendances, calculated as a daily average, was October 2015 (129 per day), compared to December 2015, the month with the fewest (96 per day; table 3).

Table 3. Number of injury attendances by financial year and month, April 2014 to March 2017

Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
2014/15	3,705	3,674	3,770	3,662	3,376	3,718	3,406	3,277	3,111	3,172	3,082	3,399	41,352
2015/16	3,542	3,459	3,744	3,554	3,502	3,728	4,007	3,515	2,988	3,002	2,817	3,424	41,282
2016/17	3,122	3,514	3,474	3,199	3,141	3,227	3,432	3,314	3,030	3,083	2,937	3,622	39,095
Total	10,369	10,647	10,988	10,415	10,019	10,673	10,845	10,106	9,129	9,257	8,836	10,445	121,729

Table 4 presents injury attendances by ED. Half (49.9%) of patients presented at Cumberland Infirmary in Carlisle, followed by just under three in ten (29.7%) to West Cumberland Hospital in Whitehaven. Attendances for all EDs decreased over the three year period (Cumberland Infirmary (14.2%), Royal Lancaster Infirmary (42.1%), West Cumberland Hospital (3.7%), with the exception of Furness General Hospital which saw an increase of 28.7%.

Table 4. Number of injury attendances by ED and financial year, April 2014 to March 2017

ED	2014/15	2015/16	2016/17	Total
Cumberland Infirmary	21,704	20,447	18,627	60,778
Furness General Hospital	6,128	7,880	7,887	21,895
Royal Lancaster Infirmary	1,151	1,071	666	2,888
West Cumberland Hospital	12,369	11,884	11,915	36,168
Total	41,352	41,282	39095	121,729

The majority (78.5%) of ED injury attendances were classified as other injuries (table 5). Sports injuries accounted for close to one in ten (9.2%) attendances, followed by road traffic collisions (RTCs; 5.0%) and deliberate self-harm (DSH; 4.3%). Most injury groups saw a decrease in attendances over the three year period. Assaults decreased by 15.0%, sports injuries by 7.1% and road traffic collisions by 6.3%. Attendances for deliberate self-harm increased by 5.5% and firework injuries jumped from 6 to 39 attendances in the three year period.

³ Including all injury attendances to Cumbria EDs and Cumbria resident injury attendances only to Royal Lancaster Infirmary

Table 5. Number of injury attendances by injury group and financial year, April 2014 to March 2017

Injury group	2014/15	2015/16	2016/17	Total
Assault	1,209	1,292	1,028	3,529
DSH	1,750	1,679	1,846	5,275
Firework injury	6	32	39	77
Other injury	32,390	32,546	30,593	95,529
RTC	2,074	2,079	1,944	6,097
Sports injury	3,923	3,654	3,645	11,222
Total	41,352	41,282	39,095	121,729

AMBULANCE DATA

Ambulance data collected by the North West Ambulance Service (NWS) are based on the location the ambulance was called out to rather than patient address and it may not necessarily be the location where the incident took place. Also a number of records may relate to non-Cumbria residents.

Between April 2014 and March 2017, there were 44,919 injury-related ambulance call outs across Cumbria. The number of call outs increased by 14.9% over the three-year period. The month with the highest number of call outs, calculated as a daily average, was June 2016 (48 per day), compared to February 2015, the month with the fewest (34 per day; table 6).

Table 6. Number of injury call outs by financial year and month, April 2014 to March 2017

Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
2014/15	1,132	1,166	1,166	1,240	1,243	1,121	1,194	1,095	1,181	1,109	961	1,177	13,785
2015/16	1,274	1,244	1,318	1,393	1,403	1,327	1,366	1,118	1,314	1,240	1,064	1,228	15,289
2016/17	1,230	1,408	1,443	1,383	1,413	1,339	1,329	1,221	1,332	1,312	1,141	1,294	15,845
Total	3,636	3,818	3,927	4,016	4,059	3,787	3,889	3,434	3,827	3,661	3,166	3,699	44,919

Close to half (48.8%) of all injury-related ambulance call outs between April 2014 and March 2017 were due to falls (table 7). Overdose and poisoning accounted for one in ten (9.3%) call outs, followed by 9.0% traffic/transportation accidents, 8.5% haemorrhage/lacerations, 8.4% psychiatric/suicide attempts and 8.0% traumatic injuries. Over the three-year period the number of call outs increased for all injury groups with the exception of traffic/transportation accidents.

Table 7. Number of injury call outs by call out reason and financial year, April 2014 to March 2017⁴

Call out reason	2014/15	2015/16	2016/17	Total
Allergies/envenomation - sting/bite	193	204	196	593
Animal bites/attacks	27	32	33	92
Assault/sexual assault	251	751	701	1,703
Burns (scalds)/explosion	124	121	135	380
Choking	138	168	151	457
Drowning (near)/diving accident	29	44	42	115
Electrocution/lightning	***	<15	10	26
Eye problems/injuries	<15	<20	21	52
Falls	6,950	7,347	7,620	21,917
Haemorrhage/lacerations	1,205	1,308	1,308	3,821
Overdose/poisoning (ingestion)	1,256	1,420	1,513	4,189
Psychiatric/suicide attempt	1,009	1,200	1,549	3,758
Stab/gunshot/penetrating trauma	55	66	80	201
Traffic/transportation accidents	1,361	1,396	1,284	4,041
Traumatic injuries (specific)	1,170	1,202	1,202	3,574
Total	13,785	15,289	15,845	44,919

WHO IS AT RISK AND WHY?

Cumbria's Joint Strategic Needs Assessment is an assessment of the current and future health and social care needs of Cumbria's local communities. It is a continuous rolling programme where individual topics are investigated in detail, outlining key issues and priorities to improve health and wellbeing. The most recent covers the period 2015-17 and outlines key priorities for the county. Priorities where ED and A&E data can be used in support focus on children and families, older people and mental health and wellbeing (Cumbria Intelligence Observatory, 2017).

Children and young people in Cumbria have a number of health indicators significantly worse than England, including hospital admissions caused by injuries; in 2015/16 there were 134.9 admissions per 10,000 population for children aged 14 years and under (Public Health England (PHE, 2017a)). Health indicators for the county show hospital stays for self-harm, suicide rate and rate of people killed or seriously injured on roads as being significantly worse than the England average (PHE, 2017a).

This section of the report looks at the demographics of ED attendances and ambulance call outs between April 2014 and March 2017. In response to Cumbria's priorities and at-risk groups identified through health profiles, children and young people, older people, DSH and RTCs will be considered in detail. Whilst Cumbria hospital admissions for falls in people aged 65 and over are significantly better than the average for England, falls have also been raised as a priority for Cumbria by local partners and commissioners.

⁴ For all tables throughout this report, numbers less than five have been suppressed (with ***) in line with patient confidentiality. If there is only one number less than five in a category then a second number has been suppressed to prevent back calculations from totals (e.g. <15).

PATIENT DEMOGRAPHICS

EMERGENCY DEPARTMENT DATA

Table 8 shows the number of ED attendances for each injury group by age group and gender. Overall, there were more males than females (males=52.4%) and people aged between 30 and 59 years accounted for the largest proportion of attendances (n=37,369; 30.7%) followed by people aged 60 years and over (n=32,837; 27.0%) and those aged between 15 and 29 years (n=29,080; 23.9%).

Males aged between 15 and 29 years accounted for the largest proportion of assault-related injuries (39.2%), followed by males aged between 30 and 59 years (28.6%). For DSH, 30 to 59-year-old females accounted for the largest proportion of attendees (27.3%), followed by males of the same age category (25.2%) and 15 to 29-year-old females (24.2%). Males aged between 15 and 29 years and between 30 and 59 years comprised the largest proportions of RTCs (22.4 % and 21.6% respectively); and for sports injuries, the largest proportion (44.6%) were sustained by 15 to 29 year old males, followed by males aged between 5 and 14 years (21.2%).

Table 8. Number of injury attendances by injury group, age group and gender, April 2014 to March 2017^{5,6}

Injury group	0-4		5-14		15-29		30-59		60+		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
Assault	***	***	90	46	1,384	476	1,008	424	<65	<35	2,546	983
DSH	***	***	18	98	858	1,274	1,325	1,440	123	131	2,324	2,944
Other injury	3,835	3,116	5,922	5,302	8,676	8,200	14,644	14,219	13,373	18,313	46,450	49,150
RTC	104	102	189	188	1,366	1,106	1,319	1,018	414	291	3,392	2,705
Sports injury	***	<10	2,381	1,033	5,000	731	1,663	305	<70	<30	9,114	2,107
Total	3,944	3,231	8,600	6,667	17,284	11,787	19,959	17,406	14,039	18,798	63,826	57,889

When looking at these figures as rates (table 9; calculated as a three-year average⁷), people aged between 15 and 29 years had the highest rate of attendances (124 per 1,000 population), followed by people aged between five and 14 years (98 per 1,000 population) and four years and under (96 per 1,000 population). There were more males than females attending an ED between April 2014 and March 2017 (males=87 per 1,000 population), and across all age group categories except for people aged 60 years and over. This could be due to unequal life expectancy; in England, life expectancy at the age of 65 is 18.8 years for males and 21.2 years for females (Office for National Statistics, 2015b). The highest rate for all injuries combined was for males aged between 15 and 29 years (143 per 1,000 population), followed by males aged between five and 14 years (107 per 1,000 population) and males aged five years and under (103 per 1,000 population).

There were more males than females presenting with assault-related injuries (males=3 per 1,000 population), with males aged between 15 and 29 years accounting for the highest rate (11 per 1,000 population); the highest rate of DSH injuries were sustained by females aged between 15 and 29 years (11 per 1,000 population). People aged four years and under had the highest rates of

⁵ Due to small numbers of firework injuries, these have been included in the "Other injury" category throughout the rest of the report.

⁶ Please note, there were 14 attendances which did not have a gender recorded. These attendances have not been included in table 8 and as such, totals provided in the text may differ to those provided in the table.

⁷ Rates for ED attendances throughout this report have been calculated using the average number of attendances over the three-year period (April 2014 to March 2017). Rates should be treated with caution as ED data do not relate to individuals i.e. a patient may present to an ED more than once over the three years.

other injury (males=100; females=86 per 1,000 population); people aged between 15 and 29 years accounted for the highest rates of RTCs (males=11; females=10 per 1,000 population); and for sports injuries, 12 per 1,000 population were male, with those aged between 15 and 29 years accounting for the highest rate (41 per 1,000 population).

Table 9. Rate of injury attendances per 1,000 population by injury group, age group and gender, April 2014 to March 2017 (three-year average)

Injury group	0-4		5-14		15-29		30-59		60+		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
Assault	0	0	1	1	11	4	4	1	0	0	3	1
DSH	0	0	0	1	7	11	5	5	1	1	3	4
Other injury	100	86	74	70	72	73	52	48	63	77	63	65
RTC	3	3	2	2	11	10	5	3	2	1	5	4
Sports injuries	0	0	30	14	41	6	6	1	0	0	12	3
Total	103	89	107	89	143	105	70	59	66	79	87	76
Gender combined	96		98		124		65		73		81	

Where recorded, the vast majority (97.0%) of injury attendees were of White ethnicity (table 10). There were 7,454 attendances where ethnicity was not stated.

Table 10. Number and percent of injury attendances by ethnic group, April 2014 to March 2017⁸

Ethnic group	N	%
Asian	385	0.3%
Black	144	0.1%
Mixed	342	0.3%
Other	2,527	2.2%
White	110,877	97.0%
Total	114,275	100.0%

AMBULANCE DATA

A number of records for injury-related ambulance call-outs may relate to non-Cumbria residents and for this reason rates have not been calculated. Of the 44,919 injury-related call outs between April 2014 and March 2017, there were slightly more females than males (females=21,701; 50.2%). Just over half (50.2%) of people were aged 60 years and over (n=20,801), followed by 28.5% aged between 30 and 59 years (n=11,816) and 15.8% aged between 15 and 29 years (n=6,562).⁹

⁸ Records where ethnicity was not recorded or recorded as “not stated” or “not known” have been excluded from the table.

⁹ There were 1,707 records where the gender was missing or recorded as unknown and 3,516 records missing age; these have been omitted from the calculations. Even though large proportions of records are missing patients’ gender and/or age, figures have still been provided as they will still offer a useful resource to local partners working in injury prevention.

CHILDREN AND YOUNG PEOPLE IN CUMBRIA

Children (14 years and under) in Cumbria have a number of health indicators significantly worse than England, including hospital admissions caused by injuries. Young people aged between 15-24 years have a similar rate of hospital admissions for injury as the England average. TIIG data show there were 42,412 attendances made by Cumbria residents aged 24 years and under due to injury between April 2014 and March 2017.

Table 11 presents the number of injury attendances made by children and young people by injury group and financial year. There were 22,443 ED attendances made by children aged 14 years and under during the three-year period. For those aged 14 years and under, injury attendances increased by 2.2% between 2014/15 and 2015/16, but then decreased by 2.7% between 2015/16 and 2016/17. The majority (81.0%) of attendances made by children were due to other injury, while sports injury accounted for 15.3% and road traffic collisions by 2.6%.

There were 19,969 young people aged between 15 and 24 years presenting with injuries. The number of injuries decreased each financial year. Overall, between 2014/15 and 2016/17 there was a 7.5% decrease. Over half (55.6%) of young people attending an ED were due to other injuries and 21.9% were due to sports injuries. Just under one in ten (8.7%) young people presented with injuries sustained by RTCs, while DSH and assaults accounted for 7.3% and 6.4% attendances respectively.

Table 11. Number of injury attendances made by children and young people by injury group and financial year, April 2014 to March 2017

Injury group	Children (0-14 years)				Young people (15-24 years)			
	2014/15	2015/16	2016/17	Total	2014/15	2015/16	2016/17	Total
Assault	52	50	40	142	472	448	368	1,288
DSH	33	38	46	117	447	475	541	1,463
Other injury	5,997	6,201	5,978	18,176	3,766	3,764	3,572	11,102
RTC	203	183	197	583	593	610	537	1,740
Sports injury	1,154	1,132	1,139	3,425	1,601	1,428	1,347	4,376
Total	7,439	7,604	7,400	22,443	6,879	6,725	6,365	19,969

For all children and young people overall, just under three in five (57.6%) were male (n=24,416) and there were more males than females across all injury groups except DSH. Those aged between 20 and 24 years accounted for the largest proportion of attendances (n=10,648; 25.1%), followed by those aged 15 to 19 years (n=9,321; 22.0%) and those aged between 10 and 14 years (9,236; 21.8%).

Table 12 presents rates of attendances per 100 population by LA of residence, age group and gender, calculated using the average number of attendances over the three-year period. Rates were higher for males (12 per 100 population) across each LA district, and highest for young people aged between 20 and 24 years (14 per 100 population). The highest rate by age group and gender was for males aged between 20 and 24 years (16 per 100 population) and the LAs with the highest rates were Carlisle (males=18; females=14 per 100 population) and Copeland (males=18; females=14 per 100 population).

Table 12. Rate of injury attendances made by children and young people per 100 population by LA of residence, age group and gender, April 2014 to March 2017 (three year average)

LA	0-4		5-9		10-14		15-19		20-24		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
Allerdale	9	9	7	7	12	11	14	10	17	12	12	10
Barrow-in-Furness	10	9	9	7	15	11	15	10	16	12	13	10
Carlisle	16	13	12	12	20	16	21	15	21	15	18	14
Copeland	15	13	13	11	21	16	20	13	23	17	18	14
Eden	3	3	3	3	8	5	8	6	8	8	6	5
South Lakeland	3	2	2	2	4	3	4	4	5	3	4	3
Cumbria	10	9	8	7	13	11	14	10	16	12	12	10
Gender combined	10		8		12		12		14		11	

YOUNG PEOPLE AND DELIBERATE SELF-HARM

A recent article in the BMJ reported that deliberate self-harm¹⁰ in young girls aged between 13 and 16 years had increased in recent years by 68% (Morgan et al, 2017). As part of Cumbria JSNA, there is a focus upon children and families and one strand of this looks at children's self-esteem, mental health and self-harm with Cumbria being worse than the national average on all measures (Cumbria Intelligence Observatory, 2017), DSH attendances in children and young people aged between 13¹¹ and 24 were examined to see if Cumbria was showing a similar trend to that seen in Morgan et al work (Table 13). The group with the highest number of DSH attendances were females aged between 20 and 24 years (n=440) and the lowest males aged between 13 and 16 years (n=71). Whilst all age groups saw an increase in the number of DSH attendances, it was females aged between 13 and 16 years which saw the biggest increase, jumping from 66 in 2014/15 to 108 in 2016/17. This represented a 63.6% increase, similar to the findings by Morgan et al.

Table 13. Number of DSH attendances made by children and young people by injury group and financial year, April 2014 to March 2017

Age group	Female				Male			
	2014/15	2015/16	2016/17	Total	2014/15	2015/16	2016/17	Total
13 to 16 years	66	93	108	267	20	22	29	71
17 to 19 years	102	108	118	328	45	41	58	144
20 to 24 years	148	136	156	440	98	105	111	314
Total	316	337	382	1035	163	168	198	529

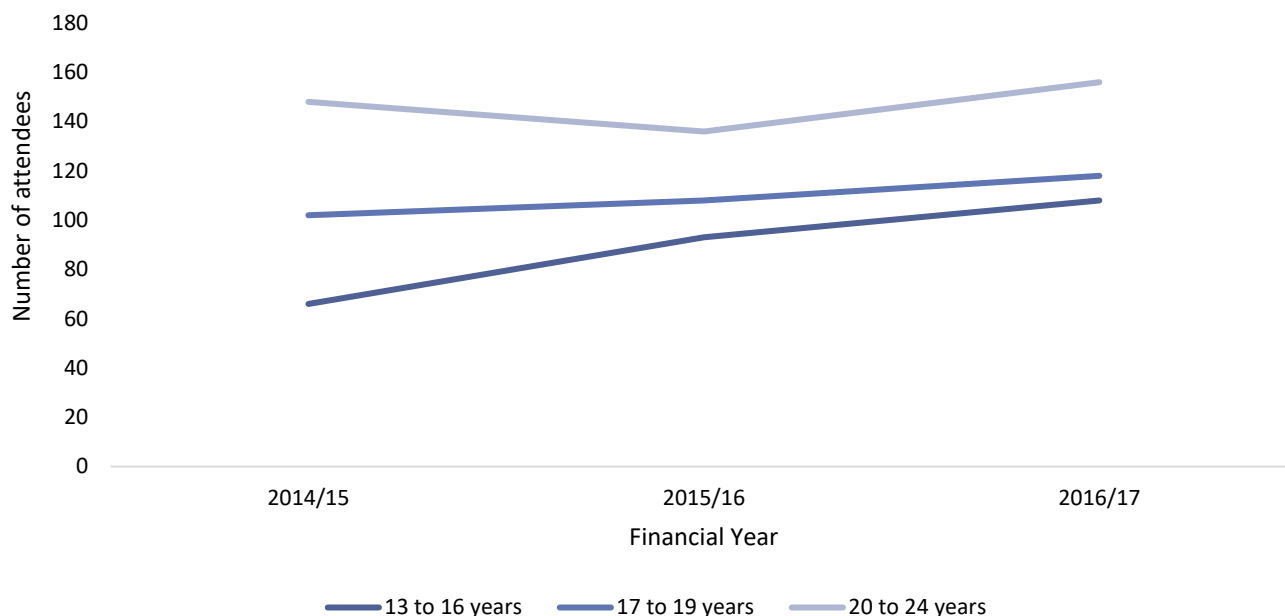
Looking just at female attendances, it is clear that whilst in 2014/15, the gap in DSH attendances between those aged 13 to 16 years and those aged between both 17 and 19 years and 20 and 24 years was quite broad, this gap is now narrowing (figure 3).

¹⁰ Taken from UK GP practice data

¹¹ Numbers were too small to include for children aged between 10 and 12 (n=10).

Whilst in 2014/15, there were 36 more attendances in those aged between 17 and 19 years (102) than those aged 13 to 16 years (66), in 2016/17, there were only 10 more DSH attendances in those aged between 17 and 19 years.

Figure 3. Number of deliberate self-harm attendances made by females aged between 13 and 24 years (April 2014 to March 2017)



OLDER PEOPLE IN CUMBRIA

The UK population is ageing; life expectancy is the highest it has ever been (Office for National Statistics, 2017a). Eighteen percent of the population in the UK are aged 65 years and over and this figure is expected to rise to 24.7% by 2046.

Table 14 shows the number of injury attendances made by older people by injury group and financial year. There were 28,275 ED attendances made by Cumbria residents aged 65 years and over between April 2014 and March 2017. Injury attendances for those aged 65 years and over decreased each year, representing an overall decrease of 12.4%. Almost all (97.3%) attendances made by older people in Cumbria were due to other injury. Those aged 65 years and over have the highest risk of falling with approximately a third of those aged 65 and over and half aged 80 and over falling at least once a year (Public Health England, 2017b). However, none of the EDs in Cumbria have a falls injury category. It is therefore probable that a large proportion of “other injury” includes fall-related injuries.

Table 14. Number of injury attendances made by older people by injury group and financial year, April 2014 to March 2017

Injury group	2014/15	2015/16	2016/17	Total
Assault	19	19	15	53
DSH	42	39	50	131
Other injury	9,649	9,428	8,429	27,506
RTC	184	177	171	532
Sports injury	17	18	18	53
Total	9,911	9,681	8,683	28,275

There were more females than males presenting for injuries, with females making up 58.2% of ED attendances made by older people over the three-year period (n=16,453). As discussed earlier, this could be due to unequal life expectancy. Older people aged between 80 and 84 years made up the largest proportion of attendances (n=5,330; 18.9%), followed by those aged 85 to 89 years (n=4,930; 17.4%).

Calculated using the average number of attendances between 2014/15 and 2016/17, the rates of attendances per 100 population by LA of residence, age group and gender for older residents of Cumbria are shown in table 15. Rates were higher for females (9 per 100 population) and for Allerdale, Carlisle, Copeland and Eden residents. Rates increased as age increased; they were highest for older people aged 90 years and over (22 per 100 population), followed by people aged between 85 and 89 years (17 per 100 population) and between 80 and 84 years (11 per 100 population). The highest rate by age group and gender was for males aged 90 years and over (24 per 100 population), followed by females aged 90 years and over (22 per 100 population). The LA with the highest rate was Carlisle (males=12; females=15 per 100 population).

Table 15. Rate of injury attendances made by older people per 100 population by LA of residence, age group and gender, April 2014 to March 2017 (three-year average)

LA	65-69		70-74		75-79		80-84		85-89		90+		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Allerdale	4	4	5	7	8	9	13	12	19	20	27	25	8	10
Barrow-in-Furness	4	5	5	5	7	6	8	9	12	13	18	13	6	7
Carlisle	7	8	9	9	11	14	18	19	30	30	37	36	12	15
Copeland	6	6	7	9	9	11	13	17	22	24	34	27	9	12
Eden	3	4	5	5	7	7	12	12	19	18	30	22	7	8
South Lakeland	1	1	1	2	2	3	3	4	5	5	8	8	2	3
Cumbria	4	4	5	6	7	8	11	12	17	18	24	22	7	9
Gender combined	4		5		7		11		17		22		8	

DELIBERATE SELF-HARM

Indicators show hospital stays for self-harm and the suicide rate are significantly worse in Cumbria compared to England (PHE, 2017a). In 2015/16, the rate of emergency hospital admissions for intentional self-harm in Cumbria was 227.0 per 100,000 population, significantly worse than the England average of 196.52 per 100,000 population. The rate from suicide and injury of undetermined intent in Cumbria between 2014 and 2016 was 13.0 per 100,000 population, also significantly worse than England (9.9 per 100,000 population).

TIIG data show there were 5,275 ED attendances between April 2014 and March 2017 due to injuries sustained from DSH. Overall, there was a 5.5% increase in DSH attendances between 2014/15 and 2016/17, though they decreased by 4.1% between 2014/15 and 2015/16 and then increased by 9.9% between 2015/16 and 2016/17.

Earlier data tables showed young women aged between 15 and 29 years had the highest rate of ED attendances due to DSH at 11 per 1,000 population, equivalent to a three-year average of 425 attendances. Of the total number of females aged between 15

and 29 years presenting with DSH injuries between 2014/15 and 2016/17, those aged between 15 and 19 years and between 20 and 24 years had the highest number of attendances (502 and 440 respectively; table 16).

Table 16. Number and percent of DSH injury attendances made by women aged 15 to 29 years by age group, April 2014 to March 2017

Age group	N	%
15-19	502	39.4%
20-24	440	34.5%
25-29	332	26.1%
Total	1,274	100.0%

ROAD TRAFFIC COLLISIONS

Between 2013 and 2015, the rate of those killed or seriously injured on roads was 46.9 per 100,000 population, significantly worse than the England average of 38.5 per 100,000 population (PHE, 2017a). TIIG data show there were 6,097 RTC-related injury attendances between April 2014 and March 2017. There was an overall decrease of 6.3% attendances between 2014/15 and 2016/17.

Earlier data tables showed young people aged between 15 and 29 years had the highest rate of RTC-related injury attendances (males=11; females=10 per 1,000 population), equivalent to 3-year average of 455 men and 369 women between 2014/15 and 2015/17. Of the total number of RTC-related injury attendances made by people aged between 15 and 29 years between April 2014 and March 2017, two in five (40.4%) were aged between 20 and 24 years (table 17). Similar proportions were seen across the age groups for both males and females.

Table 17. Number and percent of RTC injury attendances made by people aged 15 to 29 years by age group and gender, April 2014 to March 2017

Age group	Males		Females		Total	
	N	%	N	%	N	%
15-19	401	29.4%	340	30.7%	741	29.8%
20-24	542	39.7%	457	41.3%	999	40.4%
25-29	423	31.0%	309	27.9%	732	29.6%
Total	1,366	100.0%	1,106	100.0%	2,472	100.0%

WHAT IS THE LEVEL OF NEED AND GAPS?

Cumbria County Council identifies that children and young people have a number of health indicators which are significantly worse than the England average. TIIG data show the rate of ED injury attendances were high for children aged four years and under (96 per 1,000 population) and young people aged between five and 14 years (98 per 1,000 population). Rates were also high for females aged between 15 and 29 years presenting with injuries sustained from DSH (11 per 1,000 population) and for people aged between 15 and 29 years presenting with RTC-related injuries (males=11; females=10 per 1,000 population); Road safety, with a particular focus on young recently qualified drivers and DSH are both highlighted as key priorities for Cumbria.

Unintentional and deliberate injuries pose a burden on health services and residents in Cumbria. A comprehensive understanding of who is at risk of sustaining injuries and how they occur is needed in order to successfully inform targeted prevention strategies and support local work. EDs are at the heart of emergency care systems and can play a key role in reducing injuries through various means, including accurate and comprehensive data sharing.

However, gaps remain within ED data collection in Cumbria. Neither hospital trust in Cumbria providing ED services categorise falls as a specific injury group. Instead falls, are categorised under the umbrella patient group of “other injury”. TIIG data show that other EDs across the North West of England that do categorise falls have a large proportion within this group; for example, 37.8% of injury attendances to an ED in Lancashire over the same period as the data used in this report were due to falls. Furthermore, ambulance data also show a large proportion of call outs for fall-related injuries; 48.8% of call outs between April 2014 and March 2017 were due to falls. EDs in Cumbria should consider categorising falls in order to provide a comprehensive understanding of this type of injury.

Enhanced data for assault-related injury attendances as per PHE’s mandatory standard specification, Information Sharing to Tackle Violence (ISTV), are only collected by University Hospitals of Morecambe Bay NHS Foundation Trust (Furness General Hospital and Royal Lancaster Infirmary) at present; data collection began in July 2015. North Cumbria University Hospitals NHS Trust should consider collecting this information as it provides a vital resource to local partners working to reduce violence within Cumbria.

PEAK ATTENDANCE TIMES AND CALL OUTS

In order to understand the level and form of need in Cumbria, this section of the report looks at peak times of ED attendances and ambulance call outs; the referral source, arrival mode, incident location and disposal method for ED injury attendances; and, enhanced data for assault-related injury attendances.

Considering when accidents and ED attendances peak can provide a resource for identifying when health service need is greatest. The following charts present ED and NWS data to show when ED attendances and ambulance call outs are highest. ED attendances peak on a Monday (n=20,764; 17.1%) and gradually decrease through the week until the weekend when they increase. There were more injury-related ambulance call outs at the weekend with the highest number seen on a Saturday (n=7,220; 16.1%; figure 4).

Figure 4. Percent of injury attendances and call outs by day of week of attendance/call out, April 2014 to March 2017

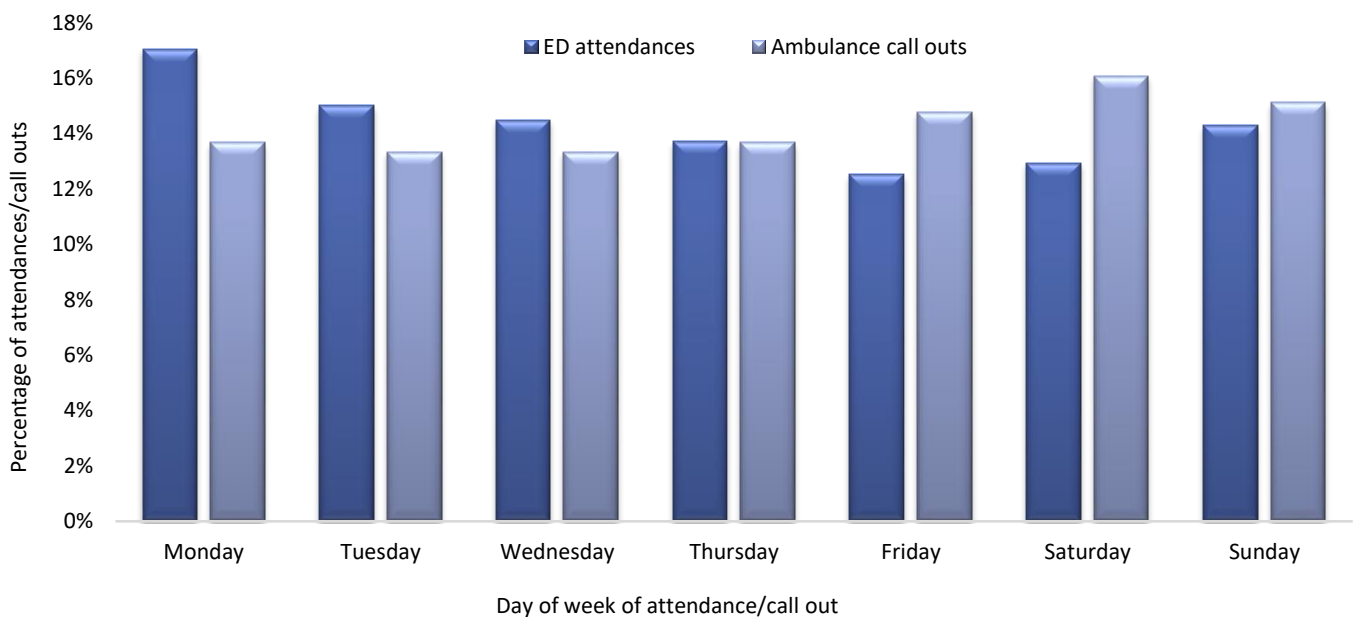
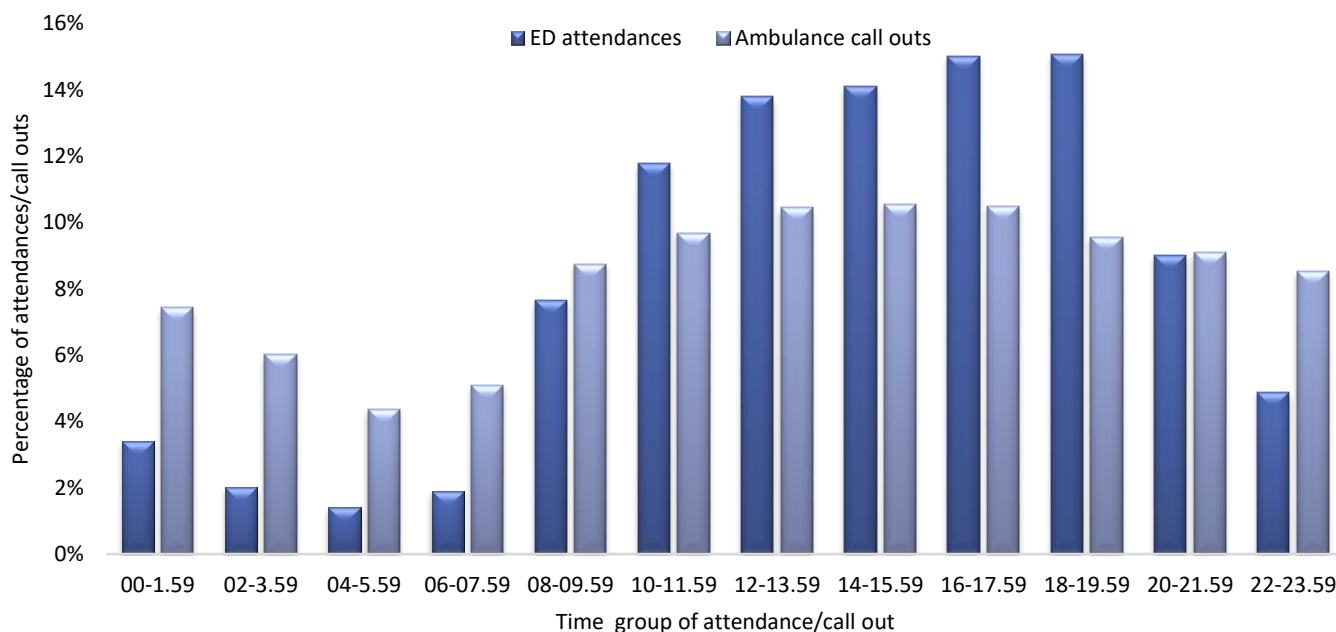


Figure 5 shows the time group of ED attendances and ambulance call outs. The largest proportion of ED injury attendances occurred between 10:00 and 19:59 (n=84,912; 69.8%), peaking between 16:00 and 17:59 (n=18,279; 15.0%). There were larger proportions of ambulance call outs between 20:00 and 07:59 compared to ED attendances, and call outs peaked between 12:00 and 17:59 (n=14,150; 31.5%).

Figure 5. Percent of injury attendances and call outs by time group of attendance/call out, April 2014 to March 2017



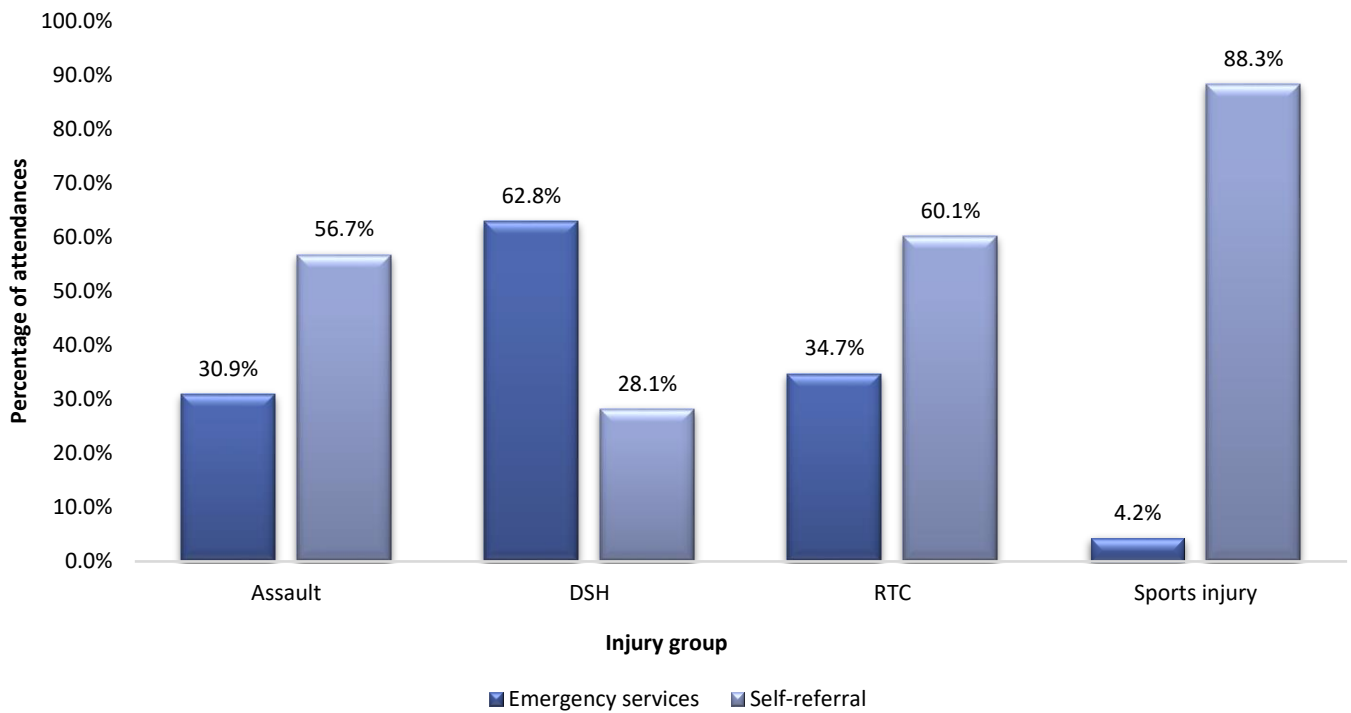
REFERRAL SOURCE, ARRIVAL MODE, INCIDENT LOCATION AND DISPOSAL METHOD

The following charts show selected referral sources, arrival modes, incident locations and disposal methods by injury group (excluding other injury).¹² Data were selected to highlight key differences and inform community partners in commissioning or improving targeted interventions.

Figure 6 presents the percentages referred by the emergency services or self-referred for each injury group. Overall, 63.2% self-referred and 18.3% were referred by the emergency services. Sports injury and RTCs had the highest proportions of self-referrals (88.3% and 60.1% respectively), while DSH had the highest proportion referred by the emergency services (62.8%).

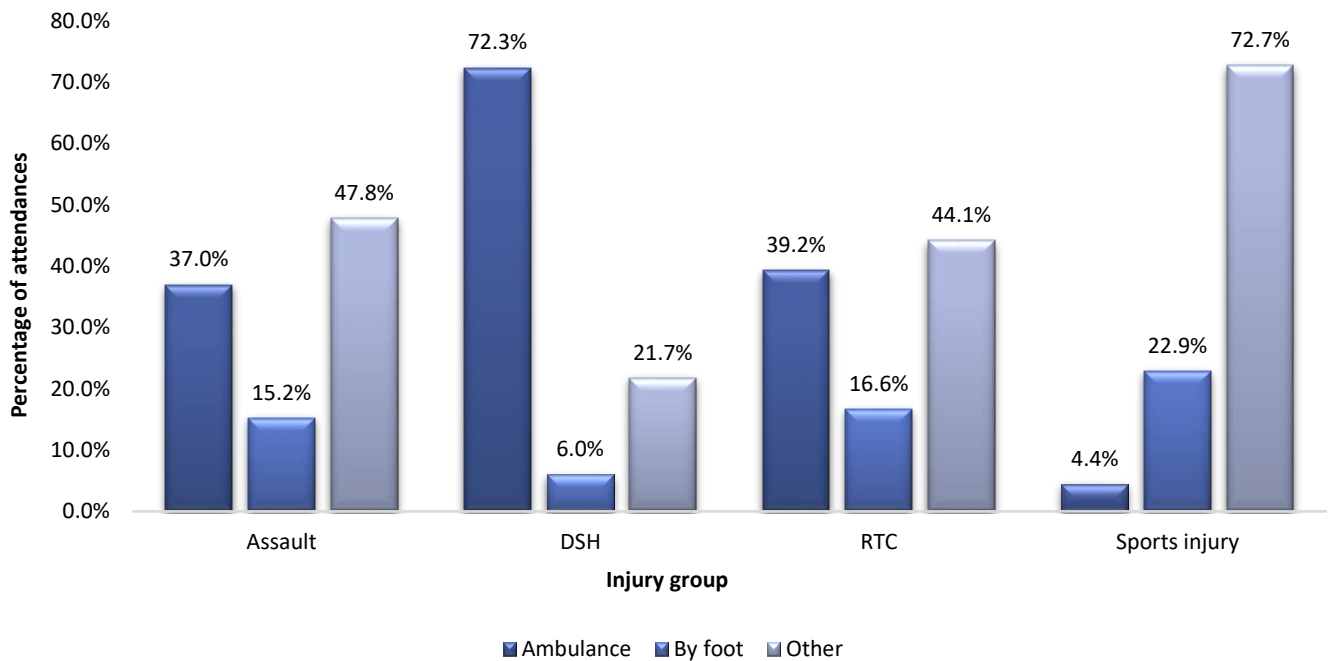
¹² See Appendices 1-4 for full data tables.

Figure 6. Percent of injury attendances by referral source (emergency services vs self-referral) and injury group, April 2014 to March 2017



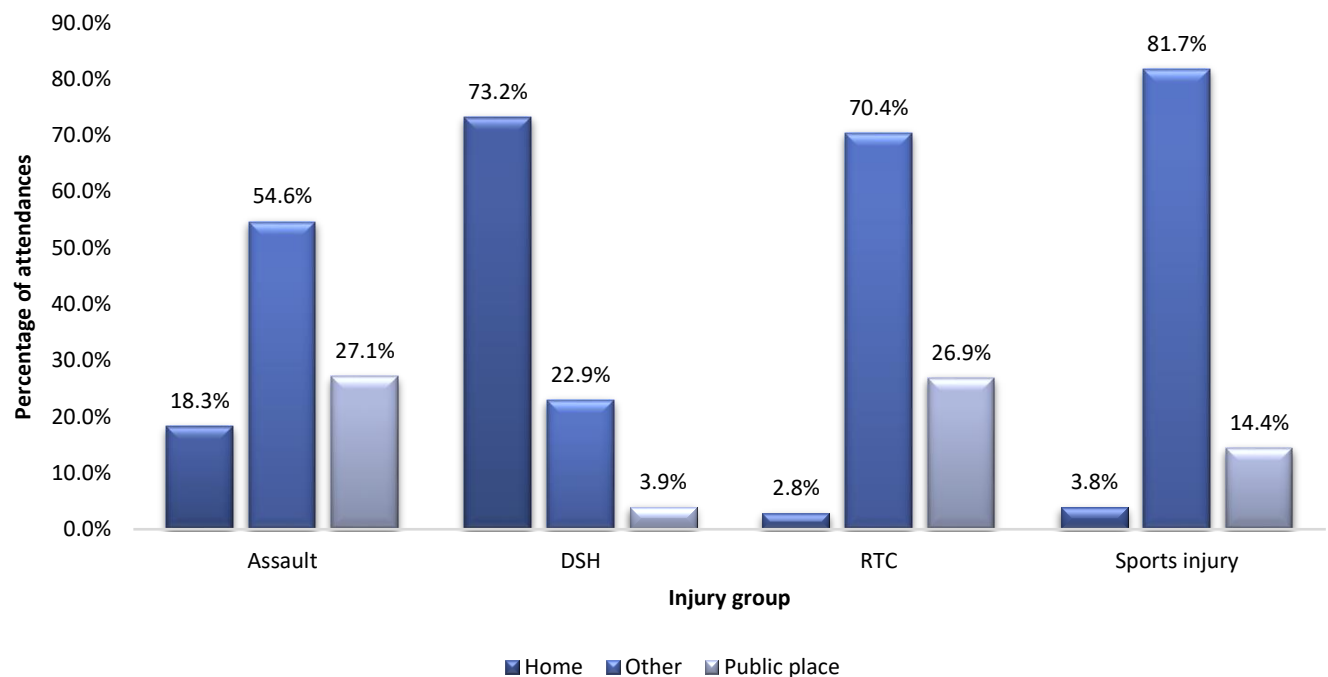
Overall, close to three in five (59.7%) patients arrived at an ED by other means, while one-quarter (25.2%) arrived by ambulance (including helicopter) compared to 15.1% who arrived by foot. Figure 7 shows the percentages for each arrival mode. There were higher proportions of attendees who arrived by other means for those presenting with injuries sustained from assault (47.8%) and sports injury (72.7%). For DSH, a substantially higher proportion of patients arrived by ambulance (72.3%), and for RTCs, similar proportions between ambulance and other arrival method were seen (39.2% and 44.1% respectively).

Figure 7. Percent of injury attendances by arrival mode (ambulance vs by foot vs other) and injury group, April 2014 to March 2017



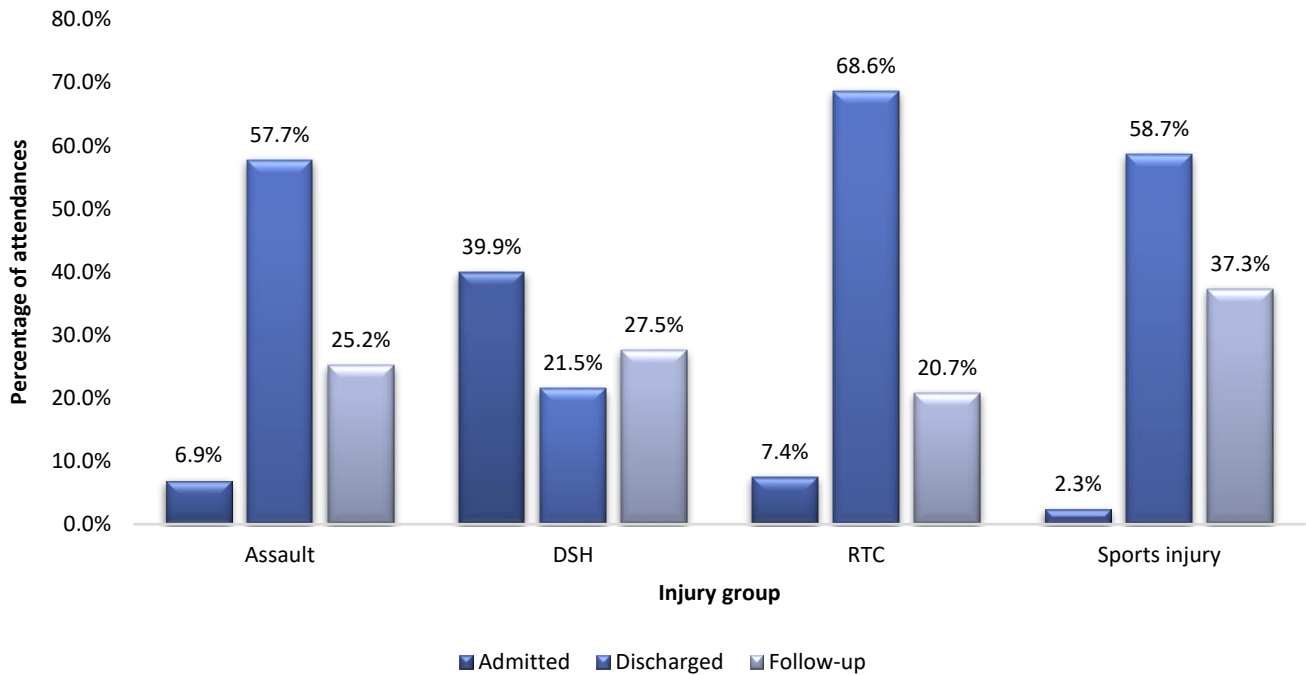
Just under half (47.9%) of incidents occurred in the home, whilst 37.2% occurred in a location stated as other and 7.8% occurred in a public place. Figure 8 presents the percentages of attendees who sustained injuries at home, other location or in a public place. DSH had the highest proportion of patients who sustained injuries at home (73.2%). Incidents occurring in a public place were highest for assaults and RTCs (27.1% and 26.9% respectively).

Figure 8. Percent of injury attendances by incident location (home vs other location vs public place) and injury group, April 2014 to March 2017



Patients often require further support and/or treatment following their injury which again increases costs on health care services. Figure 9 shows the percentages of people admitted, discharged and referred for follow-up treatment for each injury group. Overall, just under half (48.0%) were discharged from hospital, while 28.0% were referred for follow-up treatment and 20.8% were admitted into hospital. Four in ten (39.9%) DSH attendees were admitted into hospital while larger proportions of assault (57.7%), RTC (68.6%) and sports injury (58.7%) attendees were discharged with no further treatment required. Sports injuries accounted for the largest proportion of ED attendances referred for follow-up treatment (37.3%).

Figure 9. Injury attendances by disposal method (admitted vs discharged vs follow-up) and injury group, April 2014 to March 2017



ENHANCED DATA FOR ASSAULT-RELATED INJURIES

Violence is a major public health concern in the UK with assault-related injuries placing a burden on health services (Bellis et al., 2011). Between 2013/14 and 2015/16 there were 457 violence-related hospital admissions, equivalent to an age-standardised rate of 33.9 per 100,000, with the highest rates seen in Barrow-in-Furness (Public Health England, 2017a). Across England and Wales (between April 2016 and March 2017), there were 466,018 incidents of violence which resulted in injury within police recorded crimes (Office for National Statistics, 2017b). However, this figure is based on recorded crime only and it is known that a proportion of assaults that require hospital treatment are not reported to the police (Sutherland et al., 2002).

As promoted by the World Health Organization (WHO), the recording and sharing of ED data is a key element of injury prevention (Holder et al., 2001; Butchart et al., 2008) and therefore the data collected by EDs can contribute to the reduction of violence. In response to the Government’s commitment which states “we will make hospitals share non-confidential information with the police so that they know where gun and knife crime is happening and can target stop and search in gun and knife crime hotspots” (Department of Health, 2012, p.12), PHE developed this into a mandatory standard specification called Information Sharing to Tackle Violence (ISTV).

Furthermore, as reported by the Home Office, there is a correlation between violence and the night-time economy (NTE; Maguire and Nettleton, 2003). The NTE is made up of the leisure industry, namely pubs, bars and clubs, in towns and cities (Hobbs et al., 2000) and it is within these licensed premises where alcohol is widely consumed. It is well established that the consumption of alcohol is strongly associated with violence (Bellis et al., 2012).

TIIG already collects the ISTV data items to a high standard in many areas, but also collects a significant amount of supplementary information, as requested by local partners, over and above the ISTV standard. Table 18 shows the data items collected by many of the EDs across the North West of England.

Table 18. Additional data items collected for assault-related injury attendances

Data type	Field name	Description
ISTV data items	Assault date	Date assault occurred
	Assault time	Time assault occurred
	Incident location	General description of the incident location e.g. public place, pub/bar/club
	Incident location details	Detailed description of the assault location i.e. premises name, street name
	Assault weapon	Assault weapon used e.g. body part, sharp object
	Assault weapon details	Detailed description of the weapon used e.g. fist, knife
Additional TIIG data items	Alcohol consumed	Whether the assault attendee consumed alcohol in the three hours prior to the incident
	Location last drink	General description of the location where the assault attendee consumed his/her last drink (if alcohol was consumed in the 3 hours prior to the incident) e.g. at home, pub/bar/club
	Location last drink details	Detailed description of the location details where the assault attendee consumed his/her last drink (if alcohol was consumed in the 3 hours prior to the incident) e.g. premises name
	Reported to police	Whether or not the assault attendee has informed or intends to inform the police of the incident
	Number of attackers	The number of attackers involved in the incident
	Gender of attacker/s	The gender of the attacker/s
	Relationship to attacker/s	The relationship of the attacker/s to the assault attendee

Prior to June 2015, EDs across Cumbria did not collect any additional data for assault-related injury attendances. However, University Hospitals of Morecambe Bay NHS Foundation Trust (Furness General Hospital [FGH] and Royal Lancaster Infirmary [RLI]) started to collect the ISTV data items in July 2015. Completion rates have been provided for Furness General Hospital (Table 19). The College of Emergency Medicine (CEM, 2017) recommend that completion of incident location should be at least 70%; TIIG uses this as a baseline for the completion of all additional assault items with though meeting 70% coloured in green in table 19.

Table 19. Completion rates for ISTV data items for Furness General Hospital (July 2015 to March 2017)

		Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16			
No. assault attendances		26	28	12	31	27	36	22	14	28			
ISTV data items	Assault date	85%	75%	92%	94%	89%	75%	95%	79%	86%	Key: Red Amber Green		
	Assault time	85%	50%	50%	45%	41%	39%	64%	14%	43%			
	Incident location type	85%	39%	92%	87%	78%	75%	91%	79%	86%			
	Incident location details	31%	32%	0%	58%	52%	47%	64%	50%	71%			
	Assault weapon	85%	75%	92%	94%	89%	75%	95%	79%	86%			
	Assault weapon details	54%	64%	92%	94%	89%	75%	100%	100%	100%			
		Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17
No. assault attendances		24	19	22	24	18	22	31	11	18	17	15	18
ISTV data items	Assault date	75%	95%	91%	75%	89%	100%	74%	100%	100%	82%	67%	100%
	Assault time	33%	16%	55%	33%	33%	41%	74%	64%	61%	41%	67%	67%
	Incident location type	75%	89%	82%	71%	83%	100%	100%	100%	100%	100%	53%	83%
	Incident location details	72%	58%	55%	54%	61%	68%	52%	100%	61%	47%	47%	72%
	Assault weapon	75%	95%	91%	75%	89%	100%	74%	100%	100%	82%	67%	100%
	Assault weapon details	100%	95%	91%	75%	89%	100%	74%	100%	100%	82%	67%	100%

Completion rates for Furness General Hospital are generally good. However, the two fields which require improvement are Assault time and Incident location details which both frequently fall below the 70% threshold. More recent completion rates (April 2017 to October 2017) show that issues remain with these fields and additionally rates for other fields, in particular assault date and weapon, have also begun to drop. However, discussions are ongoing with both FGH and RLI to request additional TIIG data items to be added to their system and at this point, further discussions will be held about improving the ISTV data items.

The following provides an overview of the enhanced assault data collected by FGH and RLI between July 2015 and March 2017¹³ with the aim of showing what data are available to inform prevention strategies and support local work to reduce violence involving Cumbria residents. Data are routinely shared, on a monthly basis with Cumbria Police and Cumbria County Council. The two EDs of North Cumbria University Hospital NHS Trust (Cumberland Infirmary and West Cumberland Hospital) should also consider ways to capture the ISTV data items; discussions are ongoing and we understand that the patient management system is capable of recording the data items as they exist on the system.

Between July 2015 and March 2017 there were 478 assault-related injury attendances to FGH (all residents) and 60 Cumbria residents who presented at RLI. The month with the highest number of attendances was December 2015 (n=37), followed by August 2015 (n=35). Most frequently, assault attendances presented on Sunday (n=129; 24.0%), Saturday (n=99; 18.4%) and Friday (n=77; 14.3%). The most frequent time periods for assault attendances were between 02:00 and 03:59 (n=75; 13.9%) and 00:00-01:59AM (n=70; 13.0%). Assault attendances between 00:00 and 05:59 on a Sunday made up 11.7% of attendances.

Date of assault was captured for 427 of attendances. The largest proportion of assaults occurred on a Sunday (n=99; 23.2%), a Saturday (n=85; 19.9%) and Friday (n=74; 17.3%). Time of assault was captured for 241 of attendances. The largest proportion of assaults occurred between 00:00 and 01:59 and 02:00 and 03:59 (both n=51; 21.2%). Where both date and time of assault were recorded (n=241), assaults occurring between Saturday night 22:00 to Sunday morning 03:59 made up 26.1% of attendances.

All 538 assault attendances had the type of incident location recorded; over half (53.7%) of assaults occurred in a public place (n=289) and 18.0% occurred at home (n=97). A number of these records had details of the assault location recorded, i.e. street name or premises name, details of which are available to local partners; however, the quality of the data requires continued improvement through feedback from the TIIG team to the EDs.

Of the 385 assault attendees with the assault weapon recorded, the majority (78.4%) suffered injuries inflicted by a body part (n=302) while 14.0% of assault-related injuries involved a weapon (n=54).

GEOGRAPHICAL DIFFERENCES IN NEED

Within Cumbria there are substantial differences between the LA districts. Barrow-in-Furness in the south west of the county and Carlisle in the north are the largest urban areas, with the West coast isolated and predominantly industrial, and the remainder of the county consisting of rural communities. Local organisations are therefore challenged in the way services are designed and delivered to the residents of Cumbria.

¹³ See Appendices 5-9 for data tables.

This section of the report will look at where ED injury attendees reside, highlighting areas where there are higher attendances overall and for specific injury groups. Data are also provided to show the relationship between deprivation and the rate of attendances for each injury group.

AREA OF RESIDENCY OF EMERGENCY DEPARTMENT ATTENDEES

Table 20 displays attendances to each ED by LA of residence. Over one-third (34.6%) of ED injury attendances were made by residents of Carlisle LA, followed by one in five made by Allerdale and Copeland residents (19.9% and 19.7% respectively). As expected, attendees generally presented at the ED located within or closest to their LA of residence. For example, 99.1% of Barrow-in-Furness residents attended Furness General Hospital and 99.5% of Carlisle residents attended Cumberland Infirmary.

Table 20. Number of injury attendances by LA and ED, April 2014 to March 2017

LA	Cumberland Infirmary	Furness General Hospital	Royal Lancaster Infirmary	West Cumberland Hospital	Total
Allerdale	9,749	25	30	14,430	24,234
Barrow-in-Furness	38	15,988	70	42	16,138
Carlisle	41,876	19	33	173	42,101
Copeland	1,055	1,455	31	21,413	23,954
Eden	7,918	17	96	59	8,090
South Lakeland	142	4,391	2,628	51	7,212
Total	60,778	21,895	2,888	36,168	121,729

Figure 10 presents the number of injury attendances by LSOA of residence, overlaid by LA boundaries.

Figure 10. Number of injury attendances by LSOA of residence, overlaid by LA boundaries, April 2014 to March 2017

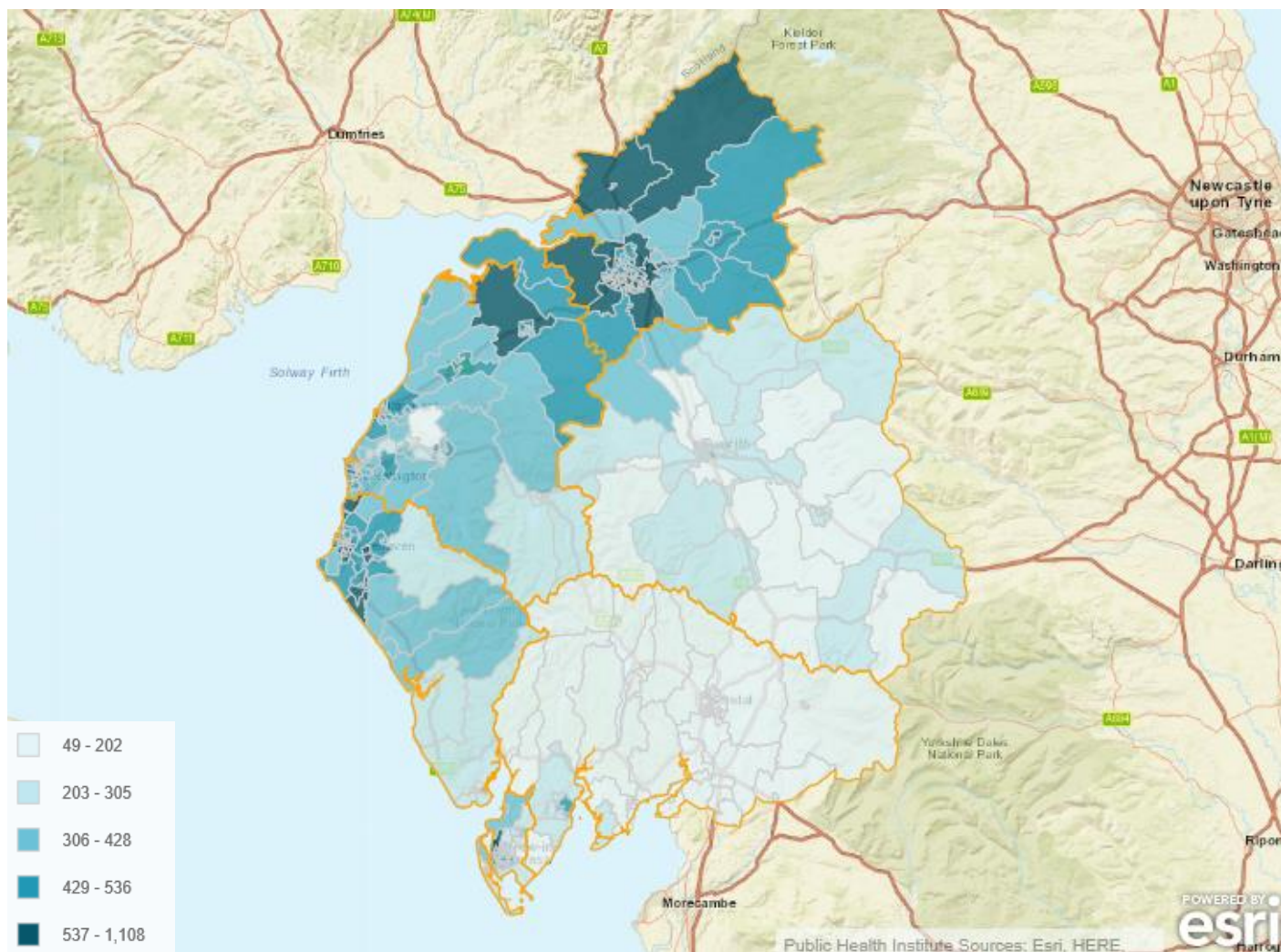


Table 21 shows a breakdown of unintentional (other injury, RTCs and sports injury) and intentional (assault and DSH) injuries. Figures are presented as the average number of attendances over the three-year period and the rate per 1,000 population by LA of residence. Overall, there was a much higher rate of unintentional injuries (76 per 1,000 population) compared to intentional injuries (6 per 1,000 population). Carlisle had the highest three-year average number (12,915 attendances) and rate (119 per 1,000 population) of unintentional injuries, while South Lakeland had the lowest average number (2,255 attendances) and rate (22 per 1,000 population). Similarly, in terms of intentional injuries, Carlisle had the highest average number (1,118 attendances) and rate (10 per 1,000 population) while South Lakeland had the lowest rate (1 per 1,000 population). Eden saw the lowest number of attendances (132).

Table 21. Number and rate of injury attendances per 1,000 population by LA and injury type, April 2014 to March 2017 (three-year average)

LA	Population	Unintentional injury attendances		Intentional injury attendances	
		Number	Rate	Number	Rate
Allerdale	96,956	7,495	77	583	6
Barrow-in-Furness	67,321	4,952	74	427	6
Carlisle	108,409	12,915	119	1,118	10
Copeland	69,307	7,459	108	525	8
Eden	52,639	2,565	49	132	3
South Lakeland	103,274	2,255	22	149	1
Total	497,906	37,642¹⁴	76	2935	6

When looking at attendance rates by LSOA of residence, 15 out of the 20 LSOAs with the highest rates were in Carlisle, with five in Copeland. Calculated using the average number of attendances across the three-year period, table 22 presents the three highest rates for each LA. Carlisle 009A and Carlisle 011F had the highest rate (202 per 1,000 population each), compared to 73 per 1,000 population in South Lakeland 012A, the LSOA in that LA with the highest rate.

¹⁴ Due to rounding the total does not exactly match the LA totals.

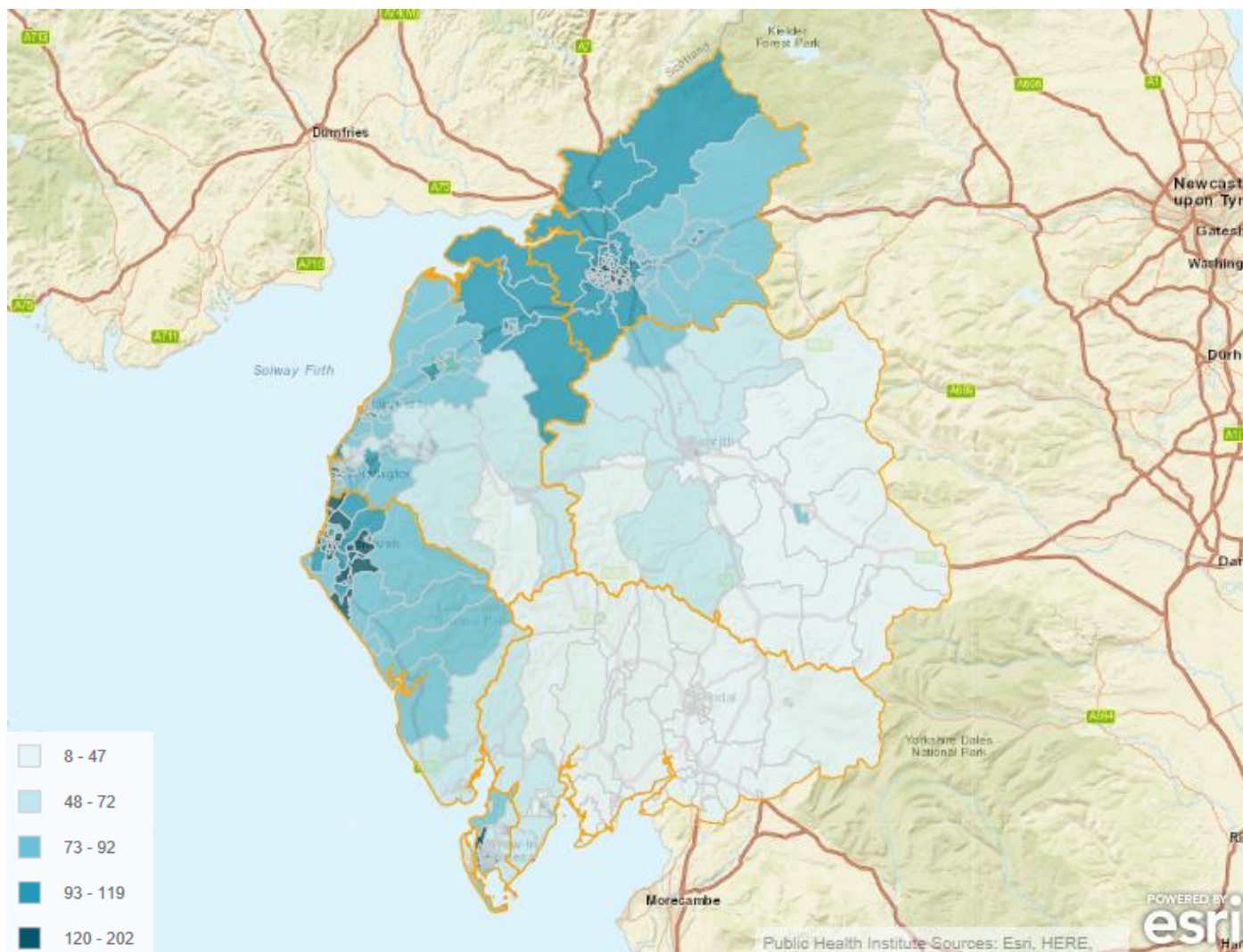
Table 22. LSOAs with highest attendance rates per 1,000 population for each LA, April 2014 to March 2017 (three-year average)¹⁵

LA name	LSOA name	LSOA code	Number	Rate
Allerdale	Allerdale 009C	E01019113	221	125
	Allerdale 001E	E01019135	178	114
	Allerdale 010A	E01019108	163	114
Barrow-in-Furness	Barrow-in-Furness 004C	E01019164	187	126
	Barrow-in-Furness 004A	E01019156	154	112
	Barrow-in-Furness 007A	E01019140	115	109
Carlisle	Carlisle 009A	E01019193	357	202
	Carlisle 011F	E01019245	332	202
	Carlisle 009D	E01019231	285	182
Copeland	Copeland 005D	E01019295	286	184
	Copeland 005F	E01019301	303	174
	Copeland 003D	E01019285	242	166
Eden	Eden 003B	E01019332	116	84
	Eden 003C	E01019333	100	79
	Eden 002A	E01019315	141	78
South Lakeland	South Lakeland 012A	E01019388	133	73
	South Lakeland 012B	E01019389	156	65
	South Lakeland 014C	E01019380	61	57
Cumbria			40,576	81

¹⁵ Rates by LSOA for each LA is available upon request.

Figure 11 shows the rate of ED injury attendances per 1,000 population by LSOA of residence, using the average number of attendances between 2014/15 and 2016/17.

Figure 11. Rate of injury attendances per 1,000 population by LSOA of residence, overlaid by LA boundaries, April 2014 to March 2017 (three-year average)



Calculated using the average number of attendances between 2014/15 and 2016/17, table 23 displays the rate of ED attendances per 100 population by LA of residence, age group and gender. Rates were higher for males overall (9 per 100 population) and for Allerdale, Barrow-in-Furness, Carlisle and Copeland; there were no gender differences for Eden and South Lakeland. Rates were highest for people aged between 15 and 29 years (12 per 100 population), followed by people aged four years and under and between five and 14 years (10 per 100 population each). The highest rate by age group and gender was for males aged between 15 and 29 years (14 per 100 population), followed by males between five and 14 years (11 per 100 population). The LA with the highest rates was Carlisle (males=14; females=12 per 100 population).

Table 23. Rate of injury attendances per 100 population by LA of residence, age group and gender, April 2014 to March 2017 (three-year average)

LA	0-4		5-14		15-29		30-59		60+		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
Allerdale	9	9	10	9	15	11	7	6	7	9	9	8
Barrow-in-Furness	10	9	12	9	15	10	7	6	6	6	9	7
Carlisle	16	13	16	14	21	15	11	10	11	13	14	12
Copeland	15	13	17	13	21	14	9	9	8	11	12	11
Eden	3	3	5	4	7	6	4	3	6	7	5	5
South Lakeland	3	2	3	2	4	3	2	1	2	3	2	2
Cumbria	10	9	11	9	14	10	7	6	7	8	9	8
Gender combined	10		10		12		6		7		8	

DEPRIVATION BY INJURY GROUP

ASSAULTS

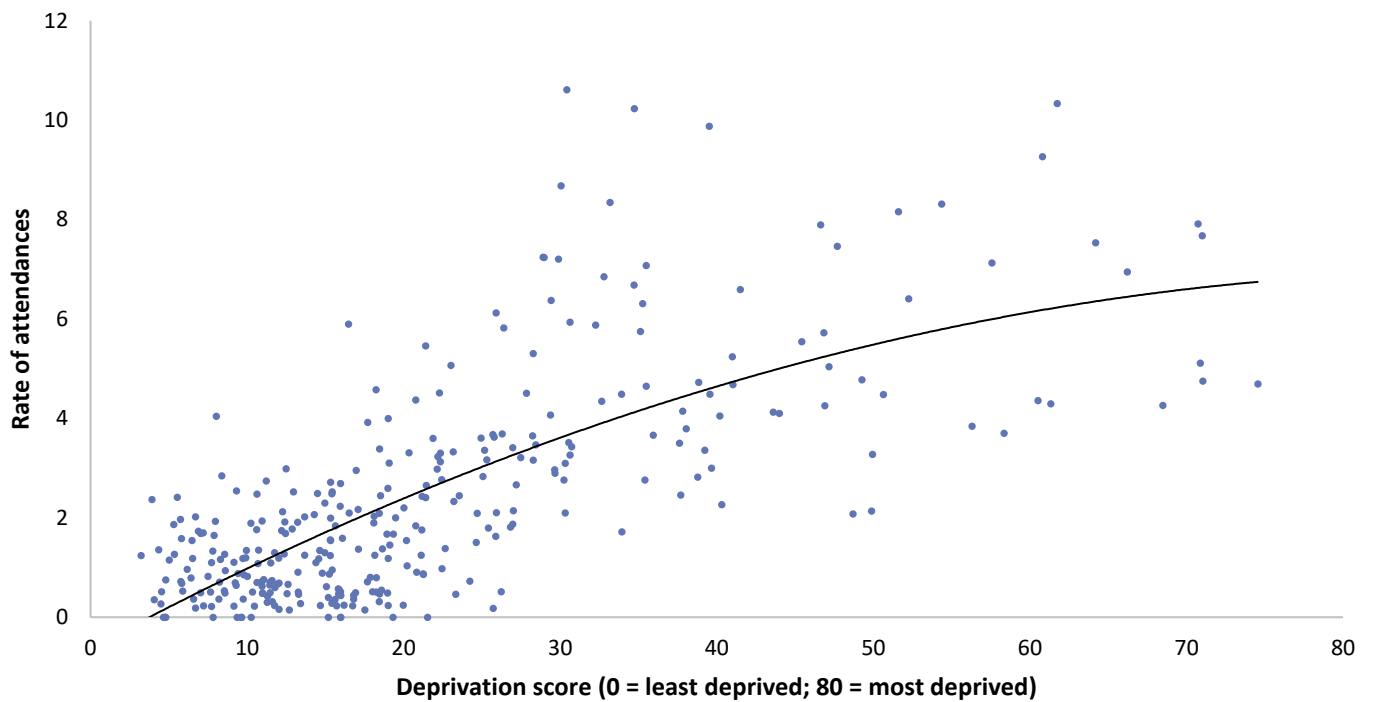
Table 24 displays the three LSOAs for each LA with the highest rates for assault-related injury attendances per 1,000 population, calculated using the average number of attendances between 2014/15 and 2016/17. Overall, there was a rate of two assault attendances per 1,000 population across Cumbria. Thirteen out of the 20 LSOAs with the highest assault rates were in Carlisle, with the highest being 11 per 1,000 population for Carlisle 010A. In comparison, the highest rate for Eden LA was just 2 per 1,000 population (Eden 003E, Eden 003C and Eden 003D).

Table 24. LSOAs with highest assault attendance rates per 1,000 population for each LA, April 2014 to March 2017 (three-year average)

LA name	LSOA name	LSOA code	Number	Rate
Allerdale	Allerdale 008A	E01019116	8	6
	Allerdale 004E	E01019115	9	6
	Allerdale 009E	E01019121	10	6
Barrow-in-Furness	Barrow-in-Furness 010B	E01019139	10	8
	Barrow-in-Furness 008A	E01019141	9	8
	Barrow-in-Furness 008B	E01019142	9	7
Carlisle	Carlisle 010A	E01019209	15	11
	Carlisle 011F	E01019245	17	10
	Carlisle 006B	E01019206	16	10
Copeland	Copeland 005D	E01019295	13	8
	Copeland 005F	E01019301	13	8
	Copeland 004F	E01019267	10	7
Eden	Eden 003E	E01019336	4	2
	Eden 003C	E01019333	3	2
	Eden 003D	E01019335	3	2
South Lakeland	South Lakeland 012A	E01019388	6	3
	South Lakeland 012B	E01019389	5	2
	South Lakeland 004C	E01019364	3	2
Cumbria			1,176	2

Figure 12 shows the rate of assault-related ED attendances per 1,000 population against deprivation. Overall, there was a positive association between deprivation and the rate of assault attendances, where increasingly deprived areas had increasing assault rates among its residents.

Figure 12. Rate of assault attendances per 1,000 population by deprivation score, April 2014 to March 2017 (three-year average)



DELIBERATE SELF-HARM

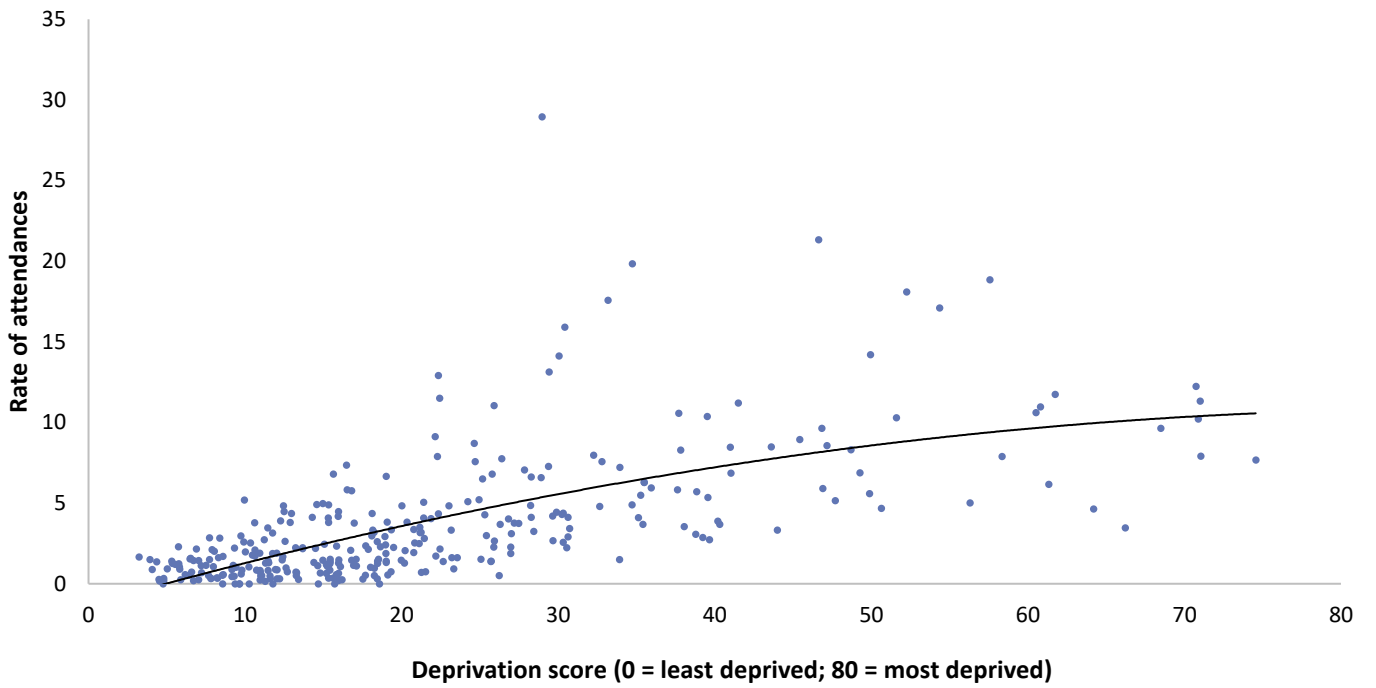
Calculated using the average number of attendances over the three-year period, the rate of DSH ED attendances across Cumbria was 4 per 1,000 population. Fourteen out of the 20 LSOAs with highest rates of DSH were in Carlisle. Table 25 presents the three LSOAs with highest rates for DSH ED attendances for each LA. South Lakeland had the lowest rates for DSH, with the highest being 4 per 1,000 population (South Lakeland 012A).

Table 25. LSOAs with highest DSH attendance rates per 1,000 population for each LA, April 2014 to March 2017 (three-year average)

LA name	LSOA name	LSOA code	Number	Rate
Allerdale	Allerdale 005A	E01019095	22	14
	Allerdale 009C	E01019113	19	11
	Allerdale 009E	E01019121	17	9
Barrow-in-Furness	Barrow-in-Furness 010B	E01019139	16	12
	Barrow-in-Furness 004A	E01019156	14	10
	Barrow-in-Furness 004C	E01019164	14	10
Carlisle	Carlisle 006A	E01019204	32	29
	Carlisle 009D	E01019231	33	21
	Carlisle 006B	E01019206	32	20
Copeland	Copeland 002B	E01019280	27	19
	Copeland 002C	E01019281	16	13
	Copeland 005F	E01019301	20	11
Eden	Eden 003C	E01019333	10	8
	Eden 003B	E01019332	7	5
	Eden 003E	E01019336	9	5
South Lakeland	South Lakeland 012A	E01019388	7	4
	South Lakeland 001A	E01019374	5	3
	South Lakeland 012B	E01019389	6	3
Cumbria			1,758	4

The rate of DSH ED attendances per 1,000 population against deprivation is shown in figure 13. Overall there was a positive association between deprivation and the rate of DSH, where increasingly deprived areas had increasing DSH rates among its residents.

Figure 13. Rate of DSH attendances per 1,000 population by deprivation score, April 2014 to March 2017 (three-year average)



ROAD TRAFFIC COLLISIONS

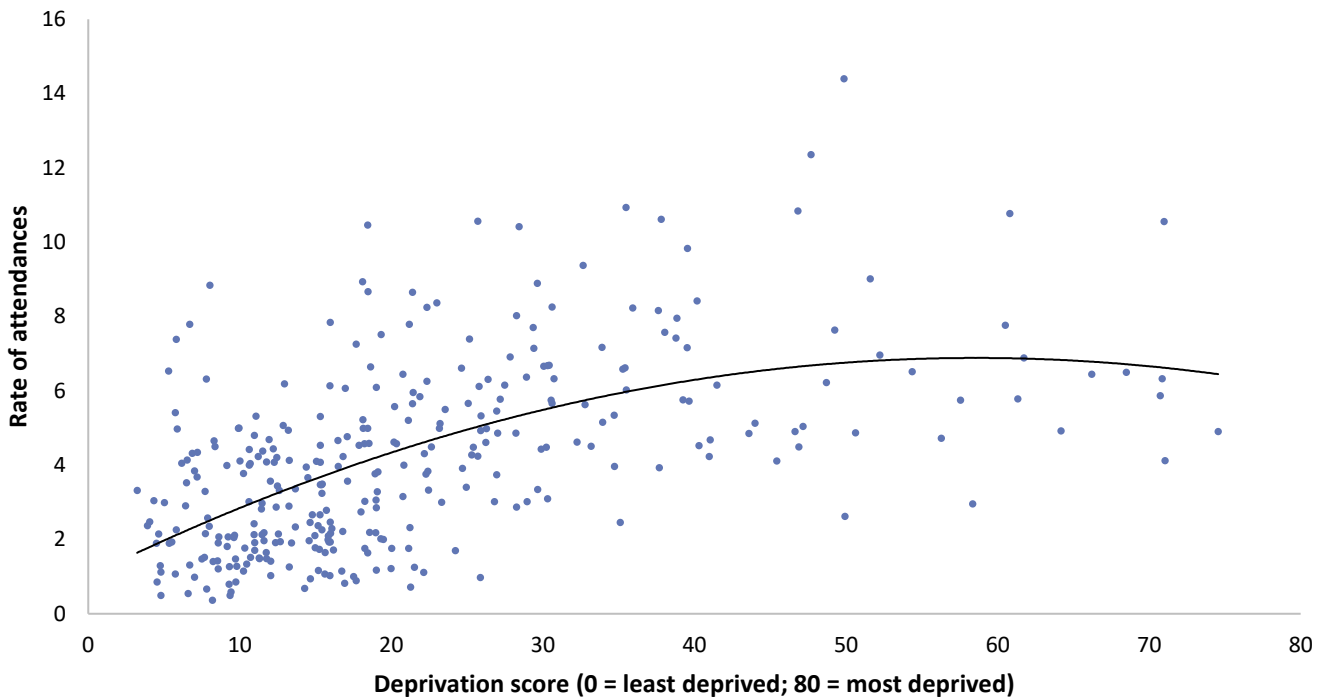
Using the average number of attendances between 2014/15 and 2016/17, there was a rate of 4 RTC ED attendances per 1,000 population across Cumbria. Sixteen out of the 20 LSOAs with the highest rates of ED attendances for RTCS were in Copeland. The highest rate was 14 per 1,000 population in Copeland 004H (table 26). The lowest rates were in Eden, with four being the highest rate in the district (Eden 002A and 003C).

Table 26. LSOAs with highest RTC attendance rates per 1,000 population for each LA, April 2014 to March 2017 (three-year average)

LA name	LSOA name	LSOA code	Number	Rate
Allerdale	Allerdale 010A	E01019108	12	8
	Allerdale 009C	E01019113	14	8
	Allerdale 001E	E01019135	12	8
Barrow-in-Furness	Barrow-in-Furness 005D	E01019170	11	9
	Barrow-in-Furness 009F	E01033160	17	8
	Barrow-in-Furness 006C	E01019177	11	8
Carlisle	Carlisle 009A	E01019193	19	11
	Carlisle 005E	E01019255	12	9
	Carlisle 008B	E01019207	10	7
Copeland	Copeland 004H	E01019277	18	14
	Copeland 004F	E01019267	16	12
	Copeland 003C	E01019284	13	11
Eden	Eden 002A	E01019315	8	4
	Eden 003C	E01019333	5	4
	Eden 006C	E01019310	4	3
South Lakeland	South Lakeland 012B	E01019389	13	5
	South Lakeland 014D	E01019391	8	5
	South Lakeland 014C	E01019380	5	5
Cumbria			2,032	4

The rates of RTC-related injury attendances per 1,000 population against deprivation are presented in figure 14. Overall there was a positive association between deprivation and the rate of RTC attendances, where increasingly deprived areas had increasing RTC rates among its residents.

Figure 14. Rate of RTC attendances per 1,000 population by deprivation score, April 2014 to March 2017 (three-year average)



SPORTS INJURIES

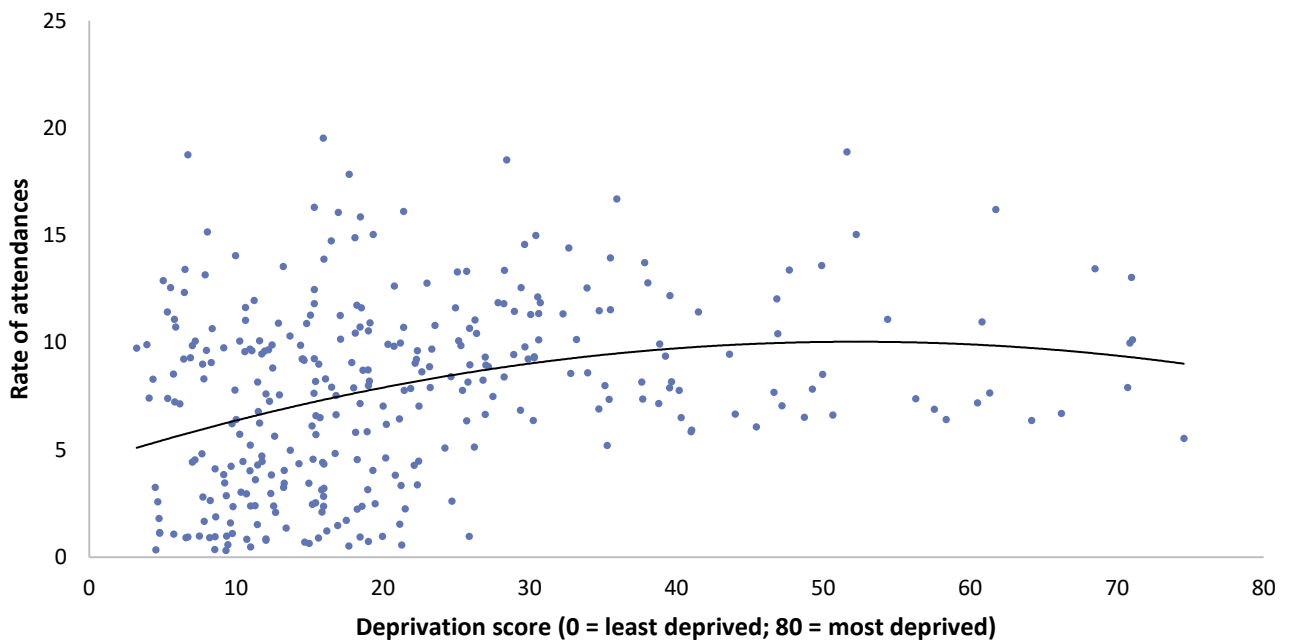
Table 27 shows the three LSOAs with highest rates for sport-related injury attendances for each LA, using the average number of attendances over the three-year period. Thirteen out of the 20 LSOAs with highest rates of sports-related ED attendances were in Copeland. Copeland 001D had the highest rate (20 per 1,000 population). The rate overall for Cumbria was eight per 1,000 population.

Table 27. LSOAs with highest sports injury attendance rates per 1,000 population for each LA, April 2014 to March 2017 (three-year average)

LA name	LSOA name	LSOA code	Number	Rate
Allerdale	Allerdale 011C	E01019101	17	12
	Allerdale 009D	E01019120	19	12
	Allerdale 006A	E01019084	18	11
Barrow-in-Furness	Barrow-in-Furness 005D	E01019170	18	15
	Barrow-in-Furness 004C	E01019164	20	13
	Barrow-in-Furness 002C	E01019150	20	13
Carlisle	Carlisle 006D	E01019235	20	16
	Carlisle 011F	E01019245	27	16
	Carlisle 005E	E01019255	20	15
Copeland	Copeland 001D	E01019297	23	20
	Copeland 005D	E01019295	29	19
	Copeland 003F	E01019287	22	19
Eden	Eden 002A	E01019315	14	8
	Eden 001C	E01019320	9	7
	Eden 003B	E01019332	7	5
South Lakeland	South Lakeland 012B	E01019389	21	9
	South Lakeland 012A	E01019388	15	8
	South Lakeland 014D	E01019391	13	8
Cumbria			3,741	8

Figure 15 shows the rate of sports-related injury attendances per 1,000 population against deprivation. There was a positive association between deprivation and the rate of sports-related injury attendances but the effect was not as pronounced as other injury groups.

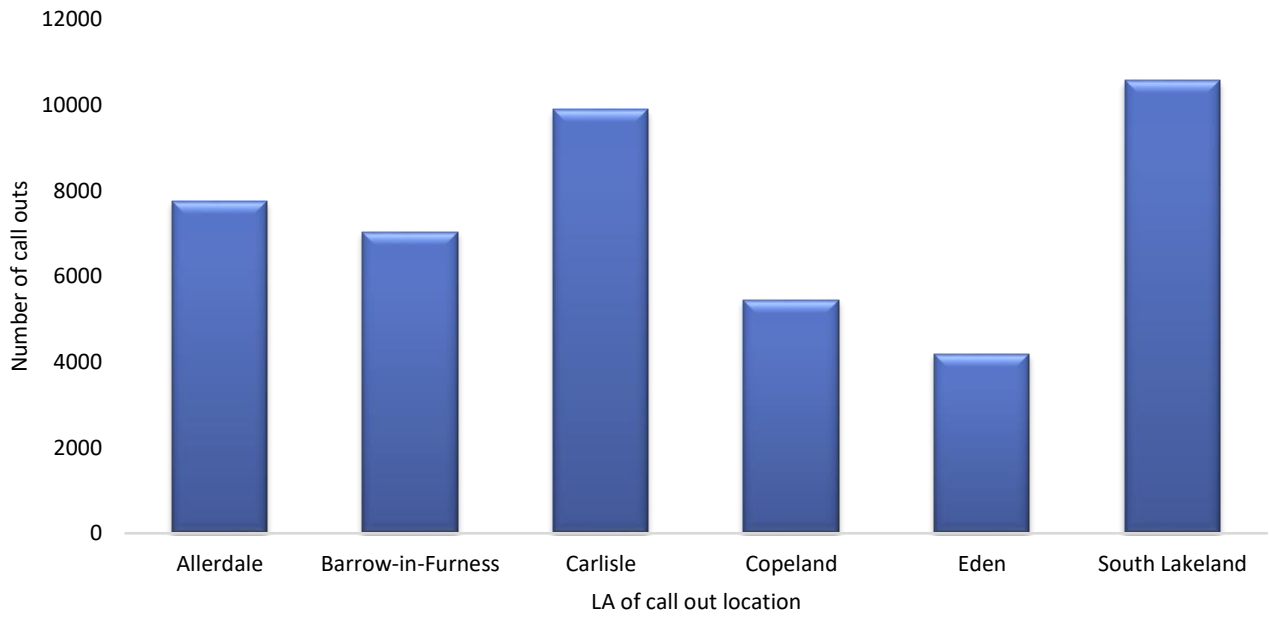
Figure 15. Rate of sports injury attendances per 1,000 population by deprivation score, April 2014 to March 2017 (three-year average)



LOCATION OF AMBULANCE CALL OUTS

Figure 16 presents the number of injury-related ambulance call outs by LA of call out location between April 2014 and March 2017. Ambulance data collected by NWS are based on the location the ambulance was called out to rather than patient address, and it may not necessarily be the location where the incident took place. Also, a number of records may relate to non-Cumbria residents and therefore rates have not been calculated. The largest numbers of call outs were to South Lakeland (n=10,573; 23.5%) and Carlisle (n=9,910; 22.1%). Under one in five (17.3%) call outs were to Allerdale (n=7,754), followed by 15.7% to Barrow-in-Furness (n=7,039), 12.1% to Copeland (n=5,452) and 9.3% to Eden (n=4,191).

Figure 16. Number of injury call outs by LA of call out location, April 2014 to March 2017



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LINKS TO DATA SOURCES AND USEFUL WEBSITES

Public Health Institute (Liverpool John Moores University): <http://www.cph.org.uk/>

Child Health Profiles (Public Health England): <http://www.chimat.org.uk/profiles>

Cumbria Intelligence Observatory (Cumbria County Council): <http://www.cumbriaobservatory.org.uk/>

English Indices of Deprivation (Department for Communities and Local Government):

www.gov.uk/government/collections/english-indices-of-deprivation

Health Profiles (Public Health England): <https://fingertips.phe.org.uk/>

Information Sharing to Tackle Violence (Department of Health): <https://www.gov.uk/government/publications/sharing-to-tackle-violence-guidance-for-community-safety-partnerships-on-engaging-with-the-nhs>

Public Health Outcomes Framework (Public Health England): <https://fingertips.phe.org.uk/profile/public-health-outcomes-framework>

Trauma and Injury Intelligence Group (Centre for Public Health, Liverpool John Moores University): www.cph.org.uk/tiig/

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APPENDICES

APPENDIX 1

Number of injury attendances by referral source and injury group, April 2014 to March 2017¹⁶

Referral source	Assault	DSH	Other injury	RTC	Sports injury	Total
Educational establishment	10	<15	420	***	208	654
Emergency services	1,092	3,314	15,277	2,116	476	22,275
General medical practitioner	48	77	14,516	108	241	14,990
Health care provider: same or other	26	<80	952	<35	77	1,164
Other	316	311	3,009	156	299	4,091
Self-referral	2,000	1,482	59,828	3,667	9,907	76,884
Work	37	0	1,604	16	14	1,671
Total	3,529	5,275	95,606	6,097	11,222	121,729

APPENDIX 2

Number of injury attendances by arrival mode and injury group, April 2014 to March 2017¹⁷

Arrival mode	Assault	DSH	Other injury	RTC	Sports injury	Total
Ambulance	1,304	3,815	22,684	2,393	496	30,692
By foot	537	315	13,970	1013	2567	18,402
Other	1,688	1,145	58,952	2,691	8,159	72,635
Total	3,529	5,275	95,606	6,097	11,222	121,729

APPENDIX 3

Number of injury attendances by incident location and injury group, April 2014 to March 2017

Incident location	Assault	DSH	Other injury	RTC	Sports injury	Total
Educational establishment	95	<35	2,923	***	1,529	4,583
Home	645	3,860	53,238	169	432	58,344
Other	1,744	1,177	30,445	4,278	7,634	45,278
Public place	957	206	5,043	1,638	1,620	9,464
Work	88	***	3,957	<10	7	4,060
Total	3,529	5,275	95,606	6,097	11,222	121,729

¹⁶ "Other" includes general dental practitioner, local authority social services and other.

¹⁷ "Ambulance" includes helicopter; "Other" includes not specified, private transport and public transport.

APPENDIX 4

Number of injury attendances by disposal method and injury group, April 2014 to March 2017¹⁸

Disposal method	Assault	DSH	Other injury	RTC	Sports injury	Total
Admitted	243	2,103	22,254	453	260	25,313
Discharged	2,037	1,134	44,470	4,183	6,585	58,409
Follow-up	888	1,453	26,261	1,264	4,182	34,048
Other	361	585	2,621	197	195	3,959
Total	3,529	5,275	95,606	6,097	11,222	121,729

APPENDIX 5

Number and percent of assault attendances to FGH and RLI by month of incident, July 2015 to March 2017¹⁹

2015/16	N	%
Jul	23	12.0%
Aug	12	6.3%
Sep	15	7.8%
Oct	32	16.7%
Nov	24	12.5%
Dec	28	14.6%
Jan	22	11.5%
Feb	10	5.2%
March	26	13.5%
Total	192	100.0%
2016/17		
Apr	19	8.1%
May	20	8.5%
Jun	21	8.9%
Jul	20	8.5%
Aug	17	7.2%
Sep	25	10.6%
Oct	27	11.5%
Nov	13	5.5%
Dec	24	10.2%
Jan	15	6.4%
Feb	14	6.0%
Mar	20	8.5%
Total	235	100.0%

¹⁸ "Follow-up" includes discharged - follow-up treatment to be provided by a general practitioner, follow-up with ED, referred to ED clinic, referred to fracture clinic, referred to other healthcare professional, referred to other outpatient clinic and transferred to other health care provider; "Other" includes died in department, left department before being treated and left department having refused treatment.

¹⁹ There were 111 records missing incident date; these have been omitted from the tables.

APPENDIX 6

Number and percent of assault attendances to FGH and RLI by day of week of incident, July 2015 to March 2017¹⁹

Day of week	N	%
Monday	45	10.5%
Tuesday	45	10.5%
Wednesday	41	9.6%
Thursday	38	8.9%
Friday	74	17.3%
Saturday	85	19.9%
Sunday	99	23.2%
Total	427	100.0%

APPENDIX 7

Number and percent of assault attendances to FGH and RLI by time group of incident, July 2015 to March 2017²⁰

Time group	N	%
00:00-01:59	51	21.2%
02:00-03:59	51	21.2%
04:00-05:59	16	6.6%
06:00-07:59	***	0.8%
08:00-09:59	11	4.6%
10:00-11:59	7	2.9%
12:00-13:59	12	5.0%
14:00-15:59	12	5.0%
16:00-17:59	<10	2.5%
18:00-19:59	9	3.7%
20:00-21:59	19	7.9%
22:00-23:59	45	18.7%
Total	241	100.0%

²⁰ There were 297 records missing incident time; these have been omitted from the table.

APPENDIX 8

Number and percent of assault attendances to FGH and RLI by incident location, July 2015 to March 2017

Incident location	N	%
Educational establishment	13	2.4%
Home	97	18.0%
Other	103	19.1%
Public place	289	53.7%
Work	36	6.7%
Total	538	100.0%

APPENDIX 9

Number and percent of assault attendances to FGH and RLI by assault weapon, July 2015 to March 2017²¹

Assault weapon	N	%
Body part	291	70.0%
Pushed	11	2.6%
Unknown	35	8.4%
Weapon	79	19.0%
Total	416	100.0%

²¹ There were 122 records missing assault weapon; these have been omitted from the table.

