

TIIG Cumbria Overview Report

Emergency Department Data Collection and Overview
April 2012 to March 2015

April 2016

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SUMMARY OF DATA

- There were 127,069 injury attendances to emergency departments (EDs) across Cumbria between April 2012 and March 2015 (including attendances made by Cumbria residents to Royal Lancaster Infirmary in Lancashire); 117,244 (92.3%) were residents of Cumbria.
- Injury-related ED attendances increased by 18.3% over the three year period, with the largest increase between 2012/13 and 2013/14 (17.2%).
- Half (49.9%) of attendances were at Cumberland Infirmary, followed by just under one-third (32.0%) to West Cumberland Hospital.
- The majority (76.8%) of ED injury attendances were due to other injuries. Sports injuries accounted for one in ten (10.0%) attendances, followed by road traffic collisions (RTCs; 5.2%) and deliberate self-harm (DSH; 4.7%).
- There were more males attending than females; males accounted for 53.5% of attendances, a rate of 85 per 1,000 population.
- People aged between 30 and 59 years accounted for the largest proportion of attendances (30.9%), followed by people aged between 15 and 29 years (25.5%) and 60 years and over (24.9%), while people aged between 15 and 29 years had the highest rate of attendances (125 per 1,000 population), followed by people aged between five and 14 years (96 per 1,000 population) and four years and under (95 per 1,000 population).
- Males aged between 15 and 29 years accounted for the highest rate of assault-related injuries (13 per 1,000 population); females aged between 15 and 29 years accounted for the highest rate of DSH (12 per 1,000 population); people aged four years and under accounted for the highest rates of other injury (males=103; females=82 per 1,000 population); people aged between 15 and 29 years accounted for the highest rate of RTCs (males=11; females=10 per 1,000 population); and, males aged between 15 and 29 years accounted for the highest rate of sports injury (45 per 1,000 population).
- Where recorded and/or stated, the vast majority (99.0%) 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 (14.6%).
- In terms of source of referral to the ED, under two-thirds (63.5%) self-referred and 18.6% were referred by the emergency services. By injury group, sports injuries and RTCs had the highest proportion of self-referrals (95.7% and 62.6% respectively), while DSH had the highest proportion referred by the emergency services (71.2%).
- In terms of mode of arrival, 62.7% arrived by other means while one-quarter (25.1%) 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, 48.0% occurred in the home while just over one-third (34.1%) occurred in a location stated as other and 9.9% occurred in a public place. By injury group, DSH had the highest proportion of patients who sustained injuries at home (76.2%) and incidents occurring in a public place were highest for assaults and RTCs (29.0% and 27.3% respectively).
- In terms of disposal method from the ED, 47.8% were discharged from hospital, while 28.7% were referred for follow-up treatment and 20.2% were admitted into hospital. By injury group, 51.0% of DSH attendees were admitted into hospital while larger proportions of assault (61.5%), RTC (71.6%) and sports injury (57.0%) attendees were discharged with no

further treatment required. Sports injuries accounted for the largest proportion of ED attendances referred for follow-up treatment (40.3%).

- The largest proportion of ED injury attendances were made by residents of Carlisle (35.7%), followed by residents of Allerdale and Copeland local authorities (LAs; 20.4% each).
- Carlisle had the highest three-year average number (12,709 attendances) and rate (118 per 1,000 population) of unintentional injuries (other injury, RTCs and sports injury) and the highest average number (1,231 attendances) and rate (11 per 1,000 population) of intentional injuries (assault and DSH).
- Fourteen out of the 20 lower super output areas (LSOAs) with the highest rates for ED injury attendances were in Carlisle, with six in Copeland. Carlisle 012E and Carlisle 009A had the highest rate (207 per 1,000 population each), compared to 59 per 1,000 population in South Lakeland 012B, the LSOA in that LA with the highest rate.
- The rate of assault ED attendances was 3 per 1,000 population across Cumbria. Fifteen out of the 20 LSOAs with the highest assault rates were in Carlisle; the highest rate was 15 per 1,000 population in Carlisle 006A.
- The rate of DSH ED attendances was 4 per 1,000 population. Thirteen out of the 20 LSOAs with highest rates were in Carlisle; the highest rate was 45 per 1,000 population in Carlisle 012E, substantially higher than other LSOAs across the county.
- The rate of RTC ED attendances was 4 per 1,000 population. Thirteen out of the 20 LSOAs with the highest rates were in Copeland; the highest rate was 13 per 1,000 population in Copeland 004B, Copeland 004H and Copeland 003C.
- The rate of sports injury ED attendances was 8 per 1,000 population. Sixteen out of the 20 LSOAs with highest rates were in Copeland; the highest rates were 20 per 1,000 population in Copeland 003C and Copeland 006E.
- There were 42,906 injury-related ambulance call outs across Cumbria between April 2012 and March 2015; half (50.3%) were due to falls; 50.8% of patients were female; 51.1% of patients were aged 60 years and over, followed by 27.8% aged between 30 and 59 years and 15.7% aged between 15 and 29 years; there were more call outs at the weekend with the highest number on a Saturday (16.2%); call outs peaked between 16:00 and 17:59 (10.3%); and the largest numbers of call outs were to South Lakeland (23.3%) and Carlisle (22.0%).

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. A potential barrier may be whether the patient management system used by EDs can be easily modified to allow for the categorisation of falls and whether a cost would be incurred to do so. This may be overcome with cooperative action and by highlighting the importance of such data in informing prevention and intervention strategies.
- Improvements would be welcomed in the recording of ethnicity by all EDs; of those that do record ethnicity, 5.5% did not have an ethnicity stated and ethnicity was not known in 2.5% of records.
- 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. The Trust should consider processes to enable data collection; we are aware that the patient management system is capable of recording the data items as they exist on the IT system. Discussions around this have been ongoing between the TIIG team and the Trust.
- 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 vary and are particularly poor for incident time and details of the incident location (i.e. bar name, street name). Data quality is expected to improve through feedback from the TIIG team to the EDs and as staff become familiar with the process of entering complete and high quality data onto the patient management system.

Reducing intentional and unintentional injuries is a key objective of local councils, public health professionals, service providers and other organisations that make up Community Safety Partnerships (CSPs). EDs can play a central and leading role, not only in providing rich and timely data, but in providing objective and informed recommendations for targeted prevention measures and interventions. Recommendations presented here are derived from evidence reported in the literature and information presented in this report, including Trauma and Injury Intelligence Group (TIIG) data.

- Consider work to further explore the relationship between deprivation and both intentional and unintentional injuries. Better understanding the cause of this association may inform current service provision and target education and awareness campaigns in areas with high incidents of particular injuries.
- Consider the potential for LAs to use the rates for injury attendances to appraise the current level of, and identify any potential gaps in, service provision. Findings may be used to inform needs assessment and commissioning decision making. Also consider work in specific LSOAs which have been flagged for high prevalence of injuries; for example Carlisle 012E.
- Consider work to explore the associations between habitation types (as determined by the rural/urban classification) and prevalence of given injuries. While different urban and rural areas may fall within the same LA, they may require different and specific interventions based on the physical or urban geography. For example, the nature of RTCs is likely to vary depending on whether the road is busy and urban, or remote and rural.
- Explore variable risk factors in injuries sustained by children and young people and older people, and consider ways that TIIG data can feed into multifaceted prevention strategies to reduce the risk. Such strategies should consider education, training, creating safer environments, research, and establishing effective policies to reduce risk.
- Consider mechanisms to target specific interventions and education for young females identified as being at elevated risk of suffering DSH. Educational messages may include the promotion of mental health services; other promising approaches include problem-solving therapy, provision of emergency service contact information and long-term psychological therapy.
- Injuries resulting from RTCs have been neglected from the global health agenda for many years (World Health Organization, 2015), despite being predictable and largely preventable. Evidence shows that dramatic successes in preventing RTCs can be achieved through concerted efforts that involve, but are not limited to, the health sector. Rich and timely data from EDs, analysed by TIIG and applied by community partners may be invaluable in monitoring prevalence and trends, and identifying those at the highest risk of suffering injuries as a consequence of RTCs. This information can then be used to inform the targeting and planning of appropriate interventions across a range of behavioural risk factors including speed, drink driving, mobile phone use, seat belt and helmet use and child restraints (World Health Organization, 2015).

It is understood that EDs are demanding places of work, that staff are frequently operating at and above capacity and that recording information at reception takes valuable time. However, the implementation of these recommendations would be likely to initiate substantial positive change by preventing and reducing injuries among Cumbria's residents.

WHAT IS THE POPULATION OVERVIEW?

Cumbria is the second largest county in England. However, with a population of just under 500,000 people (Office for National Statistics, 2015a) it is the second least densely populated county. 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. The main differences are for people aged between 15 and 29 years and 60 years and over; there are proportionately fewer people aged between 15 and 29 years and proportionately more people aged 60 years and over in Cumbria compared to the North West and England percentages.

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

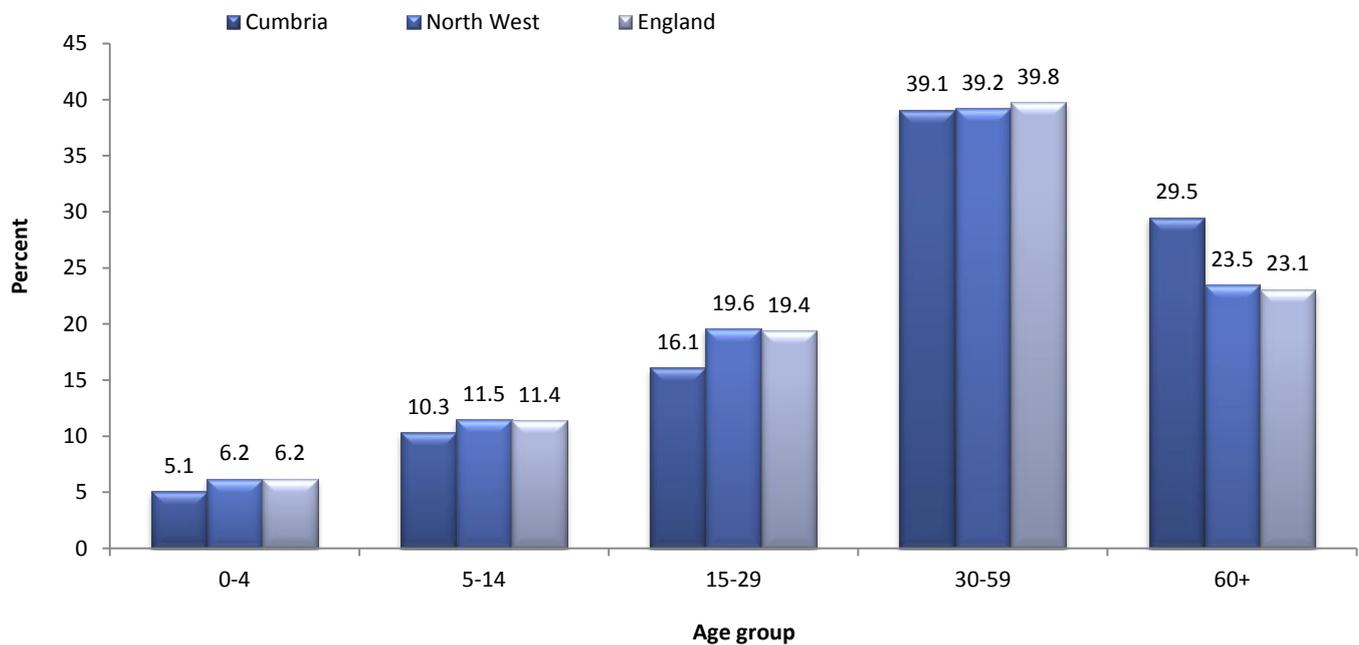


Table 1 shows the population of Cumbria's LAs, the percentage compositions in terms of urban and rural densities and the number of LSOAs within each LA. Carlisle has the largest population (n=108,022), followed by South Lakeland (n=103,271). Barrow-in-Furness and Carlisle are mostly comprised of urban 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-2014 population estimates have been used throughout this report (Office for National Statistics, 2015a).

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	96,471	31.7	13.3	15.0	11.7	28.3	0.0	60
Barrow-in-Furness	67,648	30.6	0.0	0.0	0.0	69.4	0.0	49
Carlisle	108,022	8.8	0.0	13.2	2.9	75.0	0.0	68
Copeland	69,832	40.8	2.0	10.2	8.2	38.8	0.0	49
Eden	52,630	0.0	8.3	5.6	55.6	0.0	30.6	36
South Lakeland	103,271	18.6	15.3	23.7	8.5	33.9	0.0	59
Cumbria	497,874	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 (52% of the top 1% most deprived areas and 35% of the top 5% most deprived areas). Sixteen percent of people in Cumbria are living in 20% of the most deprived areas in England (PHE, 2015), and within Cumbria there is substantial variation in terms of deprivation.

According to Public Health England (PHE, 2015) the health of people in Cumbria is varied compared with the England average, with considerable inequalities in health. Deprivation in Cumbria is lower than the England average, however around 12,000 children in the county live in poverty and children from deprived families are at greater risk of unintentional injuries (Child Accident Prevention Trust, 2013). Furthermore, life expectancy for both men and women in Cumbria is lower than the England average. The indicators relating to injury in the Health Profile for Cumbria show hospital stays for self-harm, suicide rate and rate of people killed or seriously injured on roads are significantly worse than the England average (PHE, 2015).

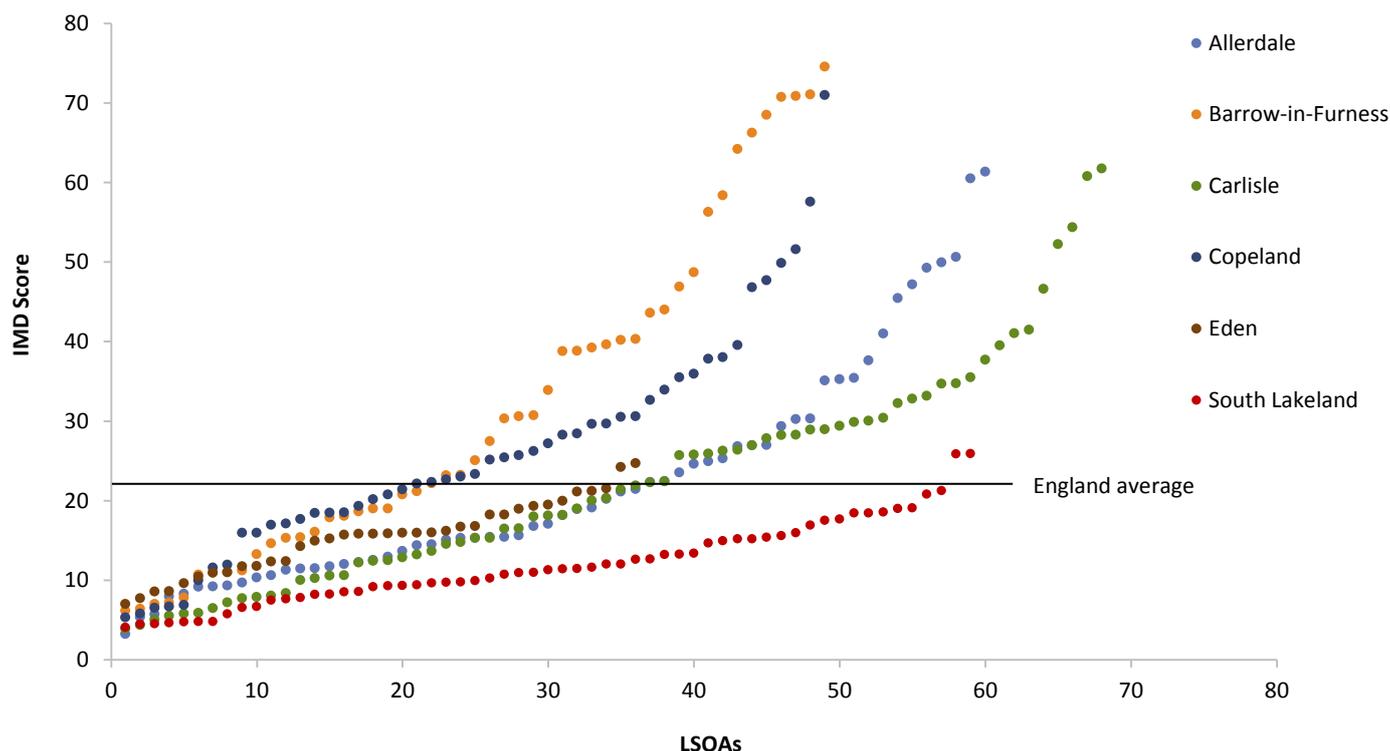
Using the Indices of Multiple Deprivation (IMD; Department for Communities and Local Government, 2015), table 2 displays the IMD score range and score average (where higher scores indicate increasing levels of deprivation). The mean score ranged from 3.2 in Allerdale to 71.0 in Copeland. Barrow-in-Furness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

Table 2. Deprivation score ranges and means by LA

LA	Population estimates	IMD score range	IMD score average	LSOAs (N)
Allerdale	96,471	3.2 – 61.3	22.2	60
Barrow-in-Furness	67,648	6.2 – 74.6	31.7	49
Carlisle	108,022	3.9 – 61.7	22.7	68
Copeland	69,832	5.3 – 71.0	26.2	49
Eden	52,630	7.0 – 24.7	15.4	36
South Lakeland	103,271	4.1 – 25.9	12.0	59
Cumbria	497,874	3.2 – 71.0	21.7	321

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

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 127,069 ED injury attendances between April 2012 and March 2015, of which, 117,244 were made by residents of Cumbria (92.3%); attendances by non-Cumbria residents have been excluded from this report. The number of injury-related ED attendances increased by 18.3% overall over the three-year period, with the largest increase between 2012/13 and 2013/14 (17.2%). The month with the highest number of attendances, calculated as a daily average, was July 2014 (135 per day), compared to January 2013, the month with the fewest (81 per day; table 3).

Table 3. Number of injury attendances by financial year and month, April 2012 to March 2015

Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
2012/13	2,952	3,145	2,758	2,994	2,679	3,174	2,875	2,837	2,846	2,515	2,814	3,356	34,945
2013/14	3,185	3,551	3,595	4,176	3,594	3,477	3,413	3,019	3,228	3,144	3,004	3,561	40,947
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
Total	9,842	10,370	10,123	10,832	9,649	10,369	9,694	9,133	9,185	8,831	8,900	10,316	117,244

Table 4 presents injury attendances by ED. Half (49.9%) of patients presented at Cumberland Infirmary in Carlisle, followed by just under one-third (32.0%) to West Cumberland Hospital in Whitehaven. The number of attendances to Cumberland Infirmary and Royal Lancaster Infirmary increased by 30.0% and 22.1% over the three-year period respectively, while there were no substantial differences in attendances to West Cumberland Hospital. However, attendances to Furness General Hospital increased by 49.8% between 2012/13 and 2013/14 and decreased by 13.7% between 2013/14 and 2014/15.

Table 4. Number of injury attendances by ED and financial year, April 2012 to March 2015

ED	2012/13	2013/14	2014/15	Total
Cumberland Infirmary	16,701	20,108	21,704	58,513
Furness General Hospital	4,738	7,099	6,128	17,965
Royal Lancaster Infirmary	943	1,102	1,151	3,196
West Cumberland Hospital	12,563	12,638	12,369	37,570
Total	34,945	40,947	41,352	117,244

The majority (76.8%) of ED injury attendances were due to other injuries (table 5). Sports injuries accounted for one in ten (10.0%) attendances, followed by road traffic collisions (RTCs; 5.2%) and deliberate self-harm (DSH; 4.7%). Overall, there were decreases in attendances for injuries sustained by assault (19.7%), DSH (6.0%) and RTCs (1.6%) between 2012/13 and 2014/15, while other injuries and sports injuries increased by 26.0% and 4.0% respectively.

Table 5. Number of injury attendances by injury group and financial year, April 2012 to March 2015

Injury group	2012/13	2013/14	2014/15	Total
Assault	1,505	1,065	1,209	3,779
DSH	1,862	1,924	1,750	5,536
Firework injury	0	7	6	13
Other injury	25,698	32,005	32,390	90,093
RTC	2,107	1,935	2,074	6,116
Sports injury	3,773	4,011	3,923	11,707
Total	34,945	40,947	41,352	117,244

AMBULANCE DATA

Ambulance data collected by the North West Ambulance Service (NWAS) 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 2012 and March 2014, there were 42,906 injury-related ambulance call outs across Cumbria. The number of call outs decreased by 6.5% over the three-year period. The month with the highest number of call outs, calculated as a daily average, was September 2012 (44 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 2012 to March 2015

Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
2012/13	1,190	1,272	1,198	1,293	1,249	1,309	1,203	1,230	1,244	1,206	1,130	1,217	14,741
2013/14	1,088	1,213	1,232	1,338	1,294	1,215	1,144	1,178	1,250	1,195	1,073	1,160	14,380
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
Total	3,410	3,651	3,596	3,871	3,786	3,645	3,541	3,503	3,675	3,510	3,164	3,554	42,906

Half (50.3%) of all injury-related ambulance call outs between April 2012 and March 2015 were due to falls (table 7). Overdose and poisoning accounted for one in ten (9.9%) call outs, followed by 9.4% traffic/transportation accidents, 8.9% haemorrhage/lacerations, 8.3% traumatic injuries and 7.1% psychiatric/suicide attempt. Over the three-year period, the number of call outs increased for allergies/envenomation (sting/bite) and burns (scalds)/explosion, though decreased for animal bites/attacks, assault/sexual assault, drowning/diving accident, falls, haemorrhage/lacerations and overdose/poisoning. For choking, eye problems/injuries and traffic/transportation accidents, the number of call outs decreased between 2012/13 and 2013/14 but then increased between 2013/14 and 2014/15. And for psychiatric/suicide attempt, stab/gunshot/penetrating trauma and traumatic injuries, call outs increased between 2012/13 and 2013/14 and then decreased between 2013/14 and 2014/15.

Table 7. Number of injury call outs by call out reason and financial year, April 2012 to March 2015²

Call out reason	2012/13	2013/14	2014/15	Total
Allergies/envenomation - sting/bite	170	164	193	527
Animal bites/attacks	29	27	27	83
Assault/sexual assault	446	288	251	985
Burns (scalds)/explosion	108	116	124	348
Choking	134	82	138	354
Drowning (near)/diving accident	36	33	29	98
Electrocution/lightning	***	***	***	10
Eye problems/injuries	<25	<10	<15	42
Falls	7,352	7,282	6,950	21,584
Haemorrhage/lacerations	1,306	1,288	1,205	3,799
Overdose/poisoning (ingestion)	1,542	1,459	1,256	4,257
Psychiatric/suicide attempt	987	1,037	1,009	3,033
Stab/gunshot/penetrating trauma	59	63	55	177
Traffic/transportation accidents	1,368	1,323	1,361	4,052
Traumatic injuries (specific)	1,181	1,206	1,170	3,557
Total	14,741	14,380	13,785	42,906

² 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).

WHO IS AT RISK AND WHY?

Cumbria's Joint Strategic Needs Assessment 2012-2015 (Cumbria Intelligence Observatory, 2015) outlines four key challenges for the county: inequalities, children and young people, mental health and wellbeing, and ageing population. Children and young people in Cumbria have a number of health indicators significantly worse than England, including hospital admissions caused by injuries; in 2014/15 there were 140.9 admissions per 10,000 population for children aged 14 years and under and 145.6 per 10,000 population for young people aged between 15 and 25 years (PHE, 2016a). 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, 2015).

This section of the report looks at the demographics of ED attendances and ambulance call outs between April 2012 and March 2015. 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.

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=53.5%) and people aged between 30 and 59 years accounted for the largest proportion of attendances (n=36,247; 30.9%), followed by people aged between 15 and 29 years (n=29,937; 25.5%) and 60 years and over (n=29,144; 24.9%).

Males aged between 15 and 29 years accounted for the largest proportion of assault-related injuries (42.4%); 30 to 59 year old females accounted for the largest proportion of DSH attendees (28.2%), followed by males of the same age category (24.7%) 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 (22.9% and 22.2% respectively); and for sports injuries, just under half (47.5%) were sustained by 15 to 29 year old males.

Table 8. Number of injury attendances by injury group, age group and gender, April 2012 to March 2015³

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	***	***	121	47	1,602	494	993	412	73	32	2,791	988
DSH	0	0	12	90	922	1,337	1,365	1,559	123	128	2,422	3,114
Other injury	3,933	3,060	5,806	5,058	8,827	7,960	14,193	13,293	11,545	16,431	44,304	45,802
RTC	82	98	176	183	1,400	1,116	1,359	1,005	386	311	3,403	2,713
Sports injury	<10	<10	2,372	858	5,564	715	1,752	316	63	52	9,760	1,947
Total	4,026	3,167	8,487	6,236	18,315	11,622	19,662	16,585	12,190	16,954	62,680	54,564

When looking at these figures as rates (table 9; calculated as a three-year average⁴), people aged between 15 and 29 years had the highest rate of attendances (125 per 1,000 population), followed by people aged between five and 14 years (96 per 1,000

³ Due to small numbers of firework injuries (n=13), these have been included in the "Other injury" category throughout the rest of the report.

population) and four years and under (95 per 1,000 population). There were more males than females attending an ED between April 2012 and March 2015 (males=85 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 18.7 years for males and 21.1 years for females (Office for National Statistics, 2015b). The highest rate for all injuries combined was for males aged between 15 and 29 years (148 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 (105 per 1,000 population).

There were more males than females presenting with assault-related injuries (males=4 per 1,000 population), with males aged between 15 and 29 years accounting for the highest rate (13 per 1,000 population); the highest rate of DSH injuries were sustained by females aged between 15 and 29 years (12 per 1,000 population); people aged four years and under had the highest rates of other injury (males=103; females=82 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, 13 per 1,000 population were male, with those aged between 15 and 29 years accounting for the highest rate (45 per 1,000 population).

Table 9. Rate of injury attendances per 1,000 population by injury group, age group and gender, April 2012 to March 2015 (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	2	1	13	4	3	1	0	0	4	1
DSH	0	0	0	1	7	12	5	5	1	1	3	4
Other injury	103	82	73	68	71	68	49	45	56	70	60	60
RTC	2	3	2	2	11	10	5	3	2	1	5	4
Sports injuries	0	0	30	12	45	6	6	1	0	0	13	3
Total	105	85	107	84	148	100	68	56	59	73	85	72
Gender combined	95		96		125		62		66		78	

⁴ Rates for ED attendances throughout this report have been calculated using the average number of attendances over the three-year period (April 2012 to March 2015). 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.

Where recorded and/or stated, the vast majority (99.0%) of injury attendees were of white ethnicity (table 10). Where data were collected for ethnicity, it was not stated in 5.5% of records and not known in 2.5%.

Table 10. Number and percent of injury attendances by ethnic group, April 2012 to March 2015⁵

Ethnic group	N	%
Asian	265	0.3%
Black	157	0.2%
Mixed	276	0.3%
Other	289	0.3%
White	95,095	99.0%
Total	96,082	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 42,906 injury-related call outs between April 2012 and March 2015, there were slightly more females than males (females=20,964; 50.8%). Just over half (51.1%) of people were aged 60 years and over (n=20,051), followed by 27.8% aged between 30 and 59 years (n=10,924) and 15.7% aged between 15 and 29 years (n=6,179).⁶

CHILDREN AND YOUNG PEOPLE IN CUMBRIA

Children (14 years and under) and young people (15 to 24 years) in Cumbria have a number of health indicators significantly worse than England, including hospital admissions caused by injuries. TIIG data show there were a total of 43,041 attendances made by Cumbria residents aged 24 years and under due to injury between April 2012 and March 2015.

Table 11 presents the number of injury attendances made by children and young people by injury group and financial year. There were 21,916 ED attendances made by children aged 14 years and under during the three-year period. Injury attendances increased by 5.8% between 2012/13 and 2013/14, though remained similar between 2013/14 and 2014/15. The majority (81.5%) of attendances made by children were due to other injury, while sports injury accounted for 14.8%.

There were 21,125 young people aged between 15 and 24 years presenting with injuries. The number of attendances increased by 4.2% between 2012/13 and 2013/14 and then decreased by 5.4% between 2013/14 and 2014/15. Over half (54.0%) of young people attending an ED were due to other injuries and 22.8% 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 7.2% attendances respectively.

⁵ University Hospitals of Morecambe Bay NHS Foundation Trust (Furness General Hospital and Royal Lancaster Infirmary) started collecting ethnicity in March 2013. For all EDs, records where ethnicity was not recorded or recorded as “not stated” or “not known” have been excluded from the table.

⁶ There were 1,665 records where the gender was missing or recorded as unknown and 3,671 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.

Table 11. Number of injury attendances made by children and young people by injury group and financial year, April 2012 to March 2015

Injury group	Children (0-14 years)				Young people (15-24 years)			
	2012/13	2013/14	2014/15	Total	2012/13	2013/14	2014/15	Total
Assault	83	38	52	173	607	446	472	1,525
DSH	30	39	33	102	531	560	447	1,538
Other injury	5,727	6,133	5,997	17,857	3,682	3,954	3,766	11,402
RTC	182	154	203	539	645	609	593	1,847
Sports injury	1,013	1,078	1,154	3,245	1,510	1,702	1,601	4,813
Total	7,035	7,442	7,439	21,916	6,975	7,271	6,879	21,125

For all children and young people overall, just under three in five (59.2%) were male (n=45,480) and there were more males than females across all injury groups except DSH. Young people aged between 20 and 24 years accounted for the largest proportion of attendances (n=11,318; 26.3%).

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 (13 per 100 population) and 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 (17 per 100 population) and the LAs with the highest rates were Carlisle (males=19; females=14 per 100 population) and Copeland (males=19; 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 2012 to March 2015 (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	10	9	7	7	13	9	14	10	19	12	13	10
Barrow-in-Furness	7	6	7	6	15	10	15	8	16	8	12	8
Carlisle	17	13	14	12	20	16	21	15	23	16	19	14
Copeland	16	13	13	10	21	15	22	15	25	17	19	14
Eden	3	3	3	3	7	5	7	6	7	7	6	5
South Lakeland	3	2	2	2	4	3	4	3	6	3	4	2
Cumbria	11	9	8	7	14	10	14	10	17	11	13	9
Gender combined	10		8		12		12		14		11	

OLDER PEOPLE IN CUMBRIA

The UK population is ageing; life expectancy is the highest it has ever been (PHE, 2016b). There are now over 14.9 million people in the UK aged 60 years and over (Office for National Statistics, 2015a), owing to improvements in mortality rates, the post-war baby boom of 1946/47 and the baby boom of the 1960s (Office for National Statistics, 2012).

Table 13 shows the number of injury attendances made by older people by injury group and financial year. There were 24,823 ED attendances made by Cumbria residents aged 65 years and over between April 2012 and March 2015. Injury attendances increased by 64.9% over the three-year period, with the largest increase between 2012/13 and 2013/14 (48.2%). Almost all (96.9%) attendances made by older people of Cumbria were due to other injury. According to the Department of Health (2001),

falls comprise the majority of injuries among older people; however, none of the EDs in Cumbria have a falls injury category. It should therefore be expected that a large proportion of “other injury” includes fall-related injuries.

Table 13. Number of injury attendances made by older people by injury group and financial year, April 2012 to March 2015

Injury group	2012/13	2013/14	2014/15	Total
Assault	23	16	19	58
DSH	32	45	42	119
Other injury	5,747	8,664	9,649	24,060
RTC	163	160	184	507
Sports injury	44	18	17	79
Total	6,009	8,903	9,911	24,823

There were more females than males presenting for injuries, with females making up 59.5% of ED attendances made by older people over the three-year period (n=14,760). As discussed earlier, this could be due to unequal life expectancy. Older people aged between 80 and 84 years accounted for the largest number of injury attendances (n=4,736; 19.1%).

Calculated using the average number of attendances between 2012/13 and 2014/15, the rates of attendances per 100 population by LA of residence, age group and gender for older residents of Cumbria are shown in table 14. Rates were higher for females (8 per 100 population) and for Allerdale, Carlisle, Copeland and Eden residents, though rates for males and females in Barrow-in-Furness and South Lakeland were the same. Rates increased as age increased; they were highest for older people aged 90 years and over (20 per 100 population), followed by people aged between 85 and 89 years (15 per 100 population) and between 80 and 84 years (10 per 100 population). The highest rate by age group and gender was for males aged 90 years and over (21 per 100 population), followed by females aged 90 years and over (20 per 100 population). The LA with the highest rate was Carlisle (males=12; females=14 per 100 population).

Table 14. Rate of injury attendances made by older people per 100 population by LA of residence, age group and gender, April 2012 to March 2015 (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	5	5	6	7	8	11	12	16	18	24	24	7	9
Barrow-in-Furness	3	3	4	4	5	5	6	8	10	9	11	10	5	5
Carlisle	7	8	8	9	11	13	16	20	28	27	35	35	12	14
Copeland	5	7	6	8	8	4	6	14	18	21	26	27	7	8
Eden	3	3	4	5	7	6	11	11	19	18	24	21	6	8
South Lakeland	1	1	1	1	2	2	3	3	4	5	7	8	2	2
Cumbria	4	4	4	5	6	6	9	11	15	16	21	20	6	8
Gender combined	4		5		6		10		15		20		7	

DELIBERATE SELF-HARM

Indicators show hospital stays for self-harm and the suicide rate are significantly worse in Cumbria compared to England (PHE, 2015). In 2013/14, the rate of hospital stays for self-harm in Cumbria was 266.0 per 100,000 population, significantly worse than the England average of 203.2 per 100,000 population. The rate from suicide and injury of undetermined intent in Cumbria between 2011 and 2013 was 10.9 per 100,000 population, also significantly worse than England (8.8 per 100,000 population).

TIIG data show there were 5,536 ED attendances between April 2012 and March 2015 due to injuries sustained from DSH. As shown earlier, there was an overall 6.0% reduction in DSH attendances between 2012/13 and 2014/15, though they increased by 3.3% between 2012/13 and 2013/14 and then decreased by 9.0% between 2013/14 and 2014/15.

Earlier data tables showed young women aged between 15 and 29 years had the highest rate of ED attendances due to DSH at 12 per 1,000 population, equivalent to a three-year average of 446 attendances. Of the total number of females aged between 15 and 29 years presenting with DSH injuries between 2012/13 and 2014/15, those aged between 15 and 19 years and between 20 and 24 years had the highest number of attendances (472 and 386 respectively; table 15).

Table 15. Number and percent of DSH injury attendances made by women aged 15 to 29 years by age group, April 2012 to March 2015

Age group	N	%
15-19	472	35.3%
20-24	479	35.8%
25-29	386	28.9%
Total	1,337	100.0%

ROAD TRAFFIC COLLISIONS

From 2011 to 2013, 228 people were killed or seriously injured on Cumbria's roads, a rate of 45.7 per 100,000, significantly worse than the England average of 39.7 per 100,000 population. TIIG data show there were 6,116 RTC-related injury attendances between April 2012 and March 2015. Even though there was an overall decrease of 1.6% attendances between 2012/13 and 2014/15, the number increased by 7.2% between 2013/14 and 2014/15.

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 an average of 467 men and 372 women between 2012/13 and 2014/15. Of the total number of RTC-related injury attendances made by people aged between 15 and 29 years between April 2012 and March 2015, over two in five (41.7%) were aged between 20 and 24 years (table 16). Similar proportions were seen across the age groups for both males and females.

Table 16. Number and percent of RTC injury attendances made by people aged 15 to 29 years by age group and gender, April 2012 to March 2015

Age group	Males		Females		Total	
	N	%	N	%	N	%
15-19	437	31.2%	362	32.4%	799	31.8%
20-24	584	41.7%	464	41.6%	1,048	41.7%
25-29	379	27.1%	290	26.0%	669	26.6%
Total	1,400	100.0%	1,116	100.0%	2,516	100.0%

WHAT IS THE LEVEL OF NEED AND GAPS?

When looking at the demographics of ED injury attendances, some demographic groups had higher rates of attendances. Cumbria County Council identifies injuries sustained by children and young people as a key challenge for the county; TIIG data show the rate of ED injury attendances were high for children aged four years and under (95 per 1,000 population) and young people aged between five and 14 years (96 per 1,000 population). Rates were also high for females aged between 15 and 29 years presenting with injuries sustained from DSH (12 per 1,000 population) and for people aged between 15 and 29 years presenting with RTC-related injuries (males=10; females=11 per 1,000 population); DSH and RTCs are also key priorities for improving Cumbria’s public health.

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, there are gaps within ED data collection in Cumbria. Neither hospital trust in Cumbria providing ED services categorise falls as a specific injury group; currently they are captured as “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, 41.1% 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; 50.3% of call outs between April 2012 and March 2015 were due to falls. For this reason, 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.

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.

PEAK ATTENDANCE TIMES AND CALL OUTS

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 peaked on a Monday (n=19,992; 17.1%) and gradually decreased through the week until the weekend when they began to increase. There were more injury-related ambulance call outs at the weekend with the highest number seen on a Saturday (n=6,971; 16.2%; figure 3).

Figure 3. Percent of injury attendances and call outs by day of week of attendance/call out, April 2012 to March 2015

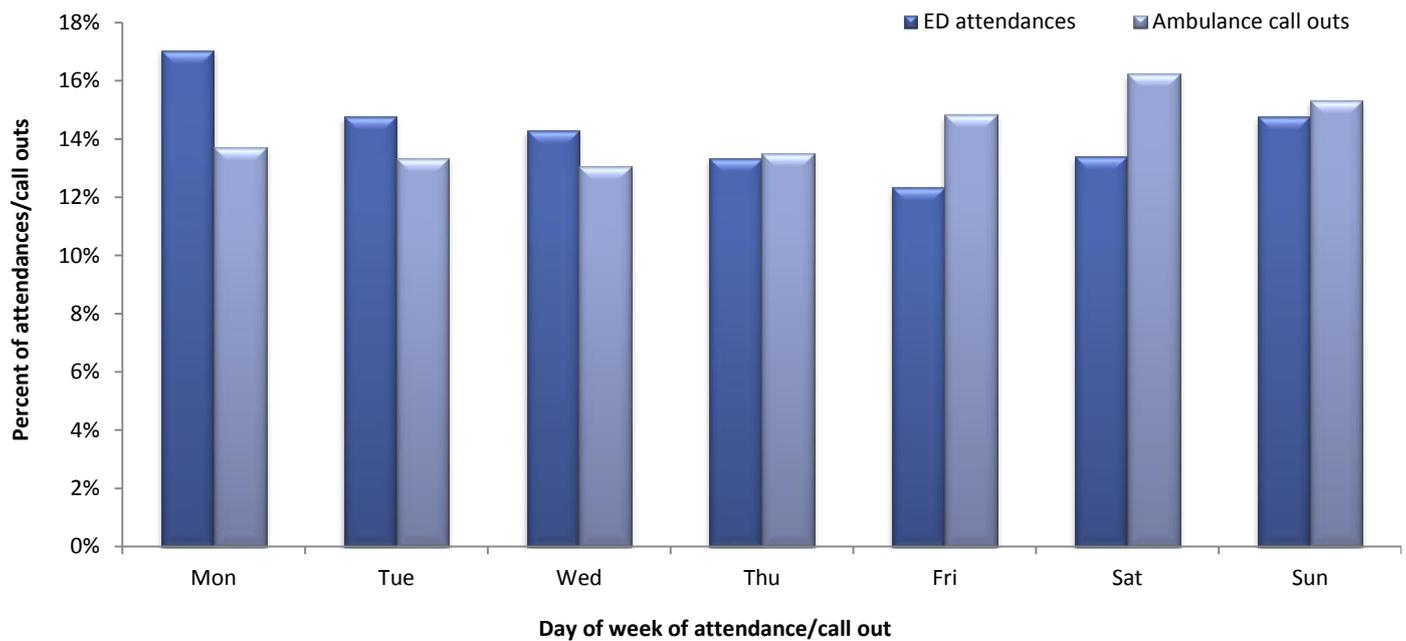
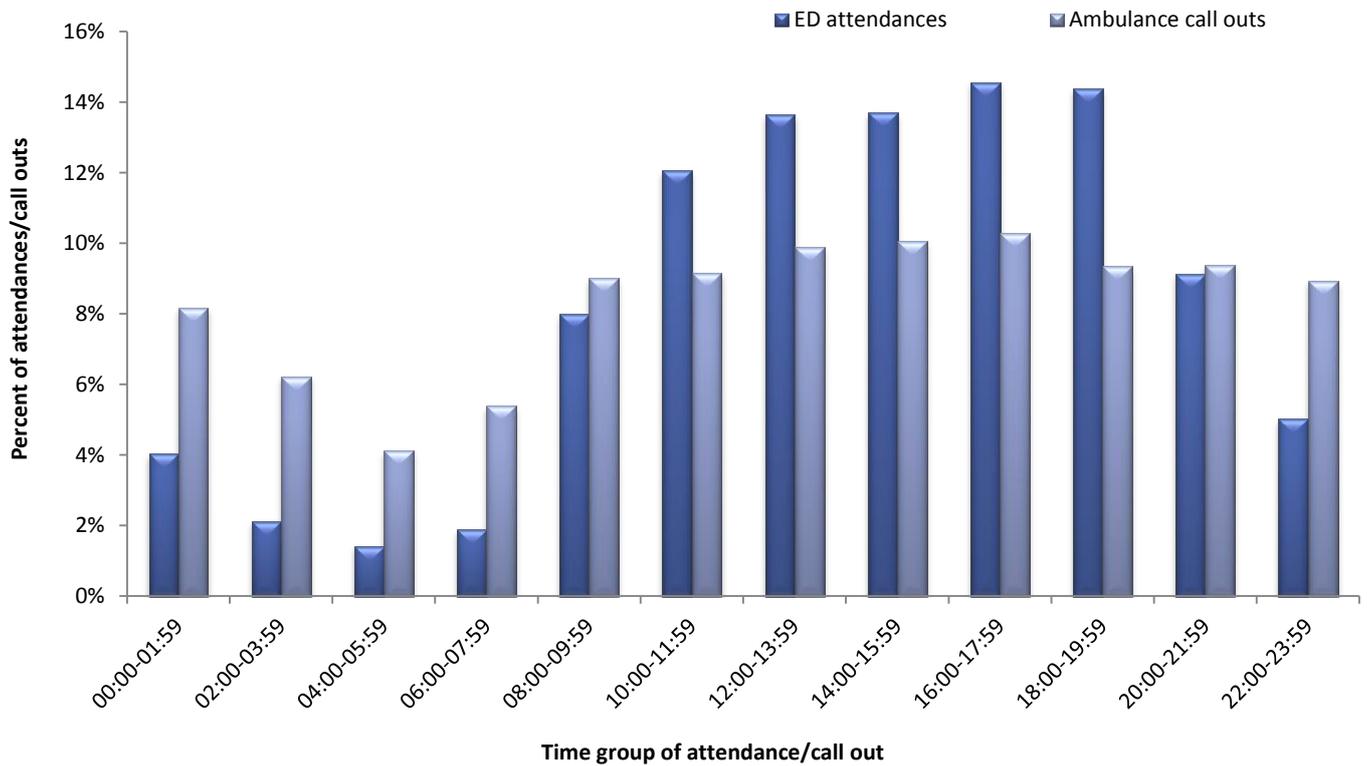


Figure 4 shows the time group of ED attendances and ambulance call outs. There were more ED injury attendances between 10:00 and 19:59, peaking between 16:00 and 17:59 (n=17,089; 14.6%). There were larger proportions of ambulance call outs between 20:00 and 07:59 compared to ED attendances and similarly, call outs peaked between 16:00 and 17:59 (n=4,415; 10.3%).

Figure 4. Percent of injury attendances and call outs by time group of attendance/call out, April 2012 to March 2015



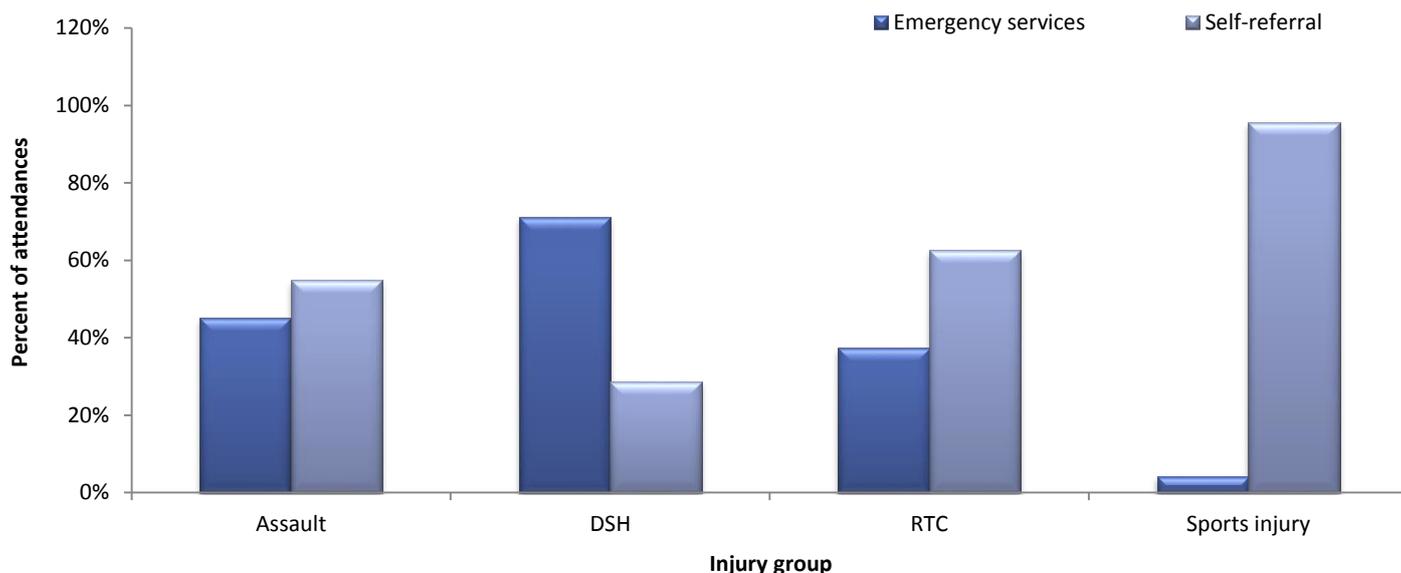
REFERRAL SOURCE, ARRIVAL MODE, INCIDENT LOCATION AND DISPOSAL METHOD

The following charts show selected referral sources, arrival modes, incident locations and disposal methods by injury group (excluding other injury).⁷ Data were selected to highlight key differences and inform community partners in commissioning or improving targeted interventions.

Figure 5 presents the percentages referred by the emergency services or self-referred for each injury group. Overall, 63.5% self-referred and 18.6% were referred by the emergency services. Sports injury and RTCs had the highest proportions of self-referrals (95.7% and 62.6% respectively), while DSH had the highest proportion referred by the emergency services (71.2%).

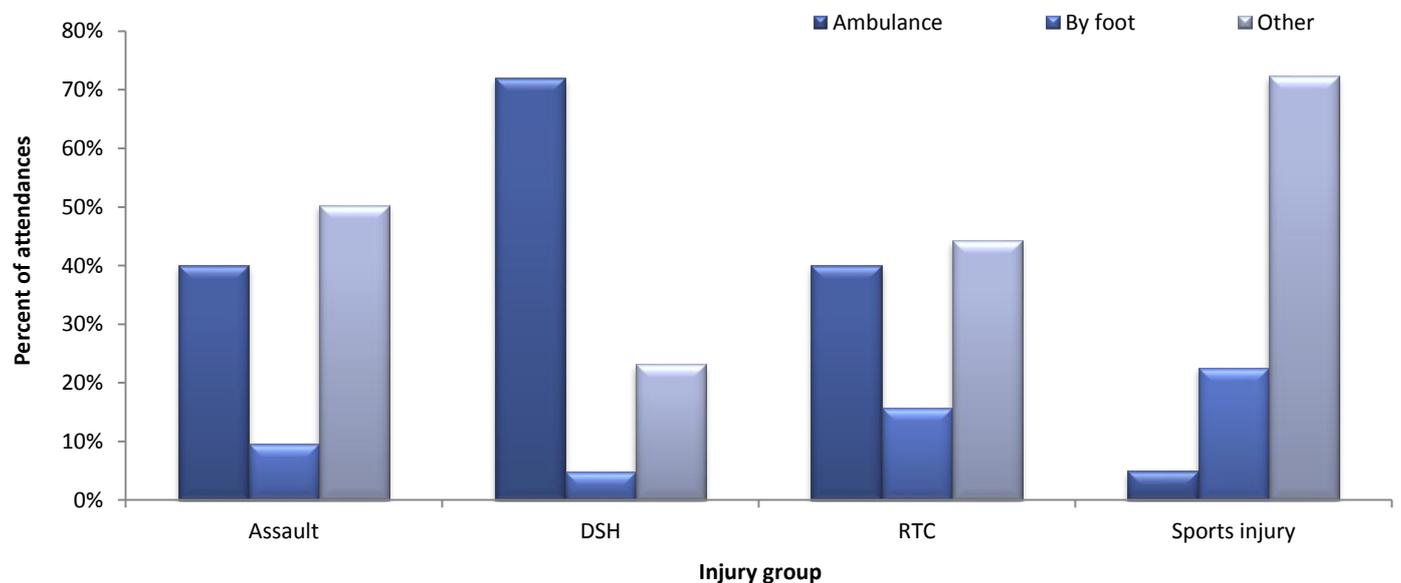
⁷ See Appendices 1-4 for full data tables.

Figure 5. Percent of injury attendances by referral source (emergency services vs self-referral) and injury group, April 2012 to March 2015



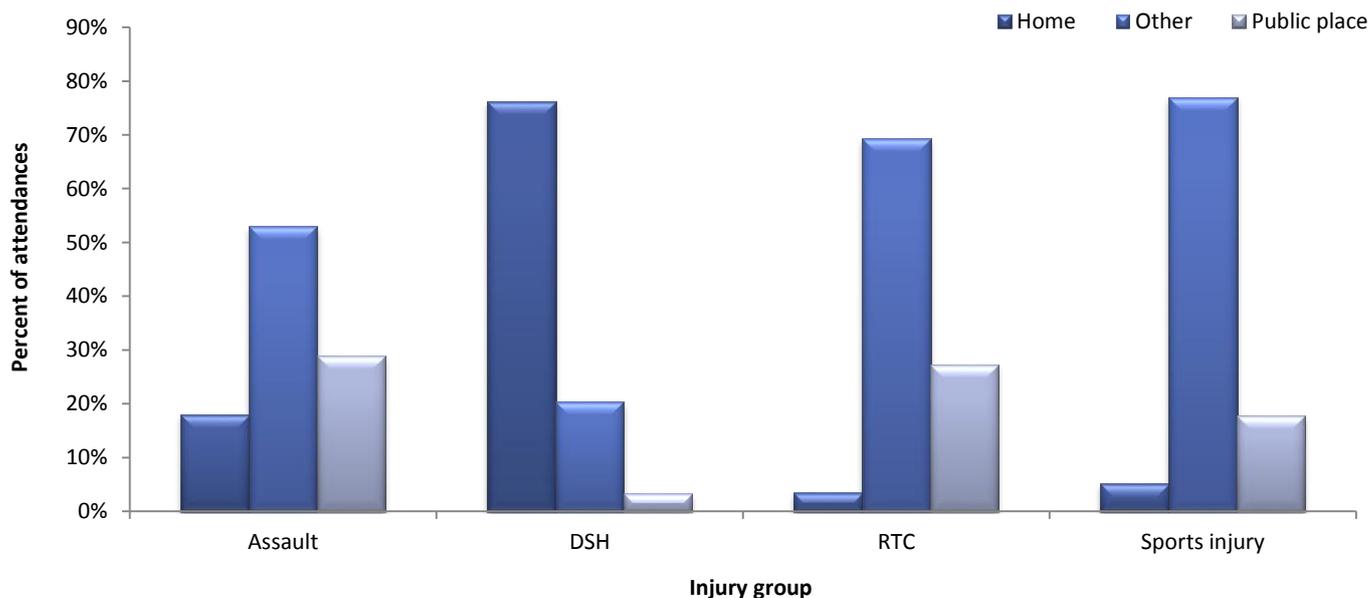
Overall, more than three in five (62.7%) patients arrived at an ED by other means, while one-quarter (25.1%) arrived by ambulance (including helicopter) compared to 12.3% who arrived by foot. Figure 6 shows the percentages for each arrival mode. There were higher proportions of attendees who arrived by other means for those presenting with injuries sustained from assault (50.4%) and sports injury (72.4%). For DSH, a substantially higher proportion of patients arrived by ambulance (72.0%), and for RTCs, similar proportions between ambulance and other arrival method were seen (40.0% and 44.3% respectively).

Figure 6. Percent of injury attendances by arrival mode (ambulance vs by foot vs other) and injury group, April 2012 to March 2015



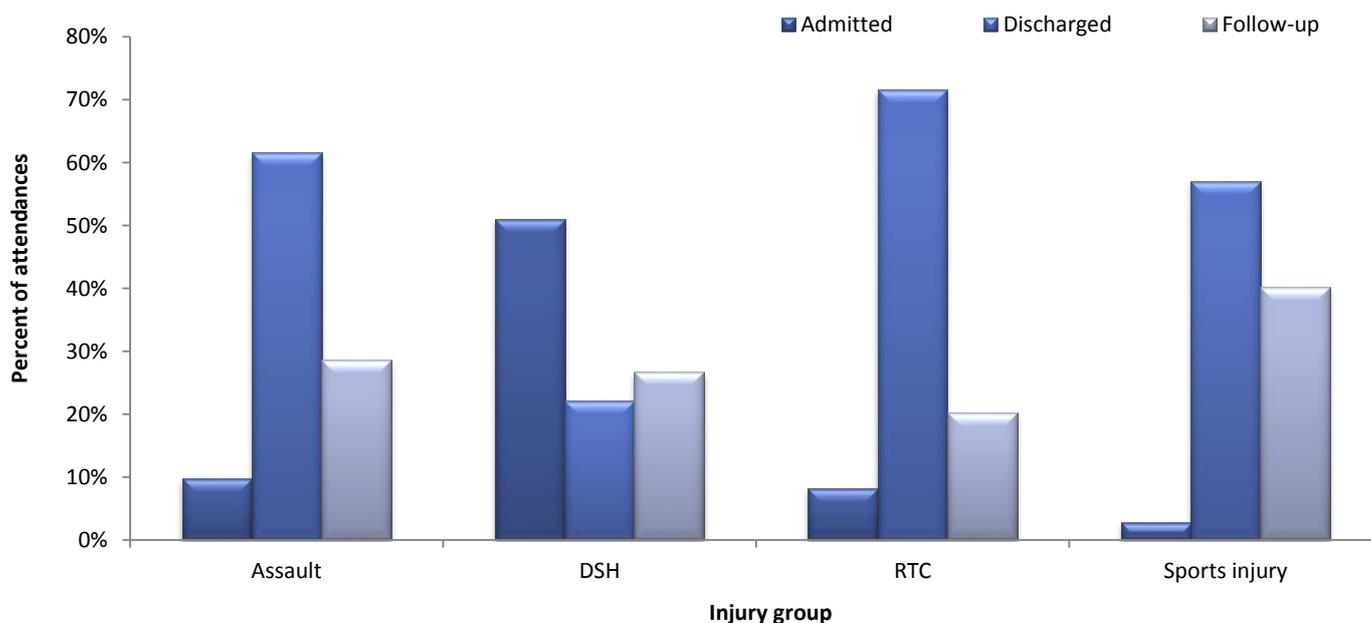
Just under half (48.0%) of incidents occurred in the home, while just over one-third (34.1%) occurred in a location stated as other and 9.9% occurred in a public place. Figure 7 presents the percentages of attendees who sustained injuries at home, other location or in a public place. DSH had the highest proportion of patients who sustained injuries at home (76.2%). Incidents occurring in a public place were highest for assaults and RTCs (29.0% and 27.3% respectively).

Figure 7. Percent of injury attendances by incident location (home vs other location vs public place) and injury group, April 2012 to March 2015



Patients often require further support and/or treatment following their injury which again increases costs on health care services. Figure 8 shows the percentages of people admitted, discharged and referred for follow-up treatment for each injury group. Overall, under half (47.8%) were discharged from hospital, while 28.7% were referred for follow-up treatment and 20.2% were admitted into hospital. Just over half (51.0%) DSH attendees were admitted into hospital while larger proportions of assault (61.5%), RTC (71.6%) and sports injury (57.0%) attendees were discharged with no further treatment required. Sports injury accounted for the largest proportion of ED attendances referred for follow-up treatment (40.3%).

Figure 8. Injury attendances by disposal method (admitted vs discharged vs follow-up) and injury group, April 2012 to March 2015



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). According to PHE (2016c), between 2011/12 and 2013/14 there were 678 violence-related hospital admissions, equivalent to an age-standardised rate of 49.3 per 100,000, ranging from 19.8 in Eden to 71.9 in Barrow-in-Furness. The UK Government reported 325,455 assaults which resulted in injury in 2014/15 (Home Office, 2016); 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 has recently 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 17 shows the data items collected by many of the EDs across the North West of England.

Table 17. 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

Between April 2012 and March 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. Between July and December 2015, completion rates vary; it may be expected that completion rates are initially low for some data items as staff require time to become accustomed to the processes and how to record the information onto the patient management system. The College of Emergency Medicine (CEM, 2012) recommends the completion of incident location should be at least 70%; TIIG uses this as a baseline for the completion of all additional assault data items.

The following provides an overview of the enhanced assault data collected by FGH and RLI between July and December 2015⁸ 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 currently not routinely shared with Cumbria Police and Cumbria County Council; however the mechanism to allow data sharing in Cumbria is in place and data sharing is expected to commence in 2016/17. 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.

Over the six-month period, there were 160 assault-related injury attendances to FGH (all residents) and 17 Cumbria residents who presented at RLI. Of the 133 assault-related attendances to FGH and RLI with the incident date recorded, the month with the highest number of attendances, calculated as a daily average, was August (9 per day) followed by September (8 per day), and incidents peaked over the weekend with 29 occurring on a Sunday (21.8%). There were 85 records with the incident time recorded, of which, the majority were at night; over one in five (21.2%) occurred between 00:00 and 01:59 (n=18), followed by 20.0% between 22:00 and 23:59 (n=17) and 17.6% between 02:00 and 03:59 (n=15).

All 177 assault attendances had the type of incident location recorded; over half (54.2%) of assaults occurred in a public place (n=96) and just under one in five (19.2%) occurred at home (n=34). 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 and as staff become familiar with entering the details onto the patient management system.

Of the 133 assault attendees with the assault weapon recorded, the majority (73.7%) suffered injuries inflicted by a body part (n=98) while 14.3% of assault-related injuries involved a weapon (n=19). Further details regarding the body part and weapon used were also provided for 122 of the assault attendances.

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.

⁸ 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 18 displays attendances to each ED by LA of residence. Over one-third (35.7%) of ED injury attendances were made by residents of Carlisle LA, followed by one in five made by Allerdale and Copeland residents (20.4% each). As expected, attendees generally presented at the ED located within or closest to their LA of residence. For example, 98.7% of Barrow-in-Furness residents attended Furness General Hospital and 99.6% of Carlisle residents attended Cumberland Infirmary.

Table 18. Number of injury attendances by LA and ED, April 2012 to March 2015

LA	Cumberland Infirmary	Furness General Hospital	Royal Lancaster Infirmary	West Cumberland Hospital	Total
Allerdale	8,553	15	25	15,281	23,874
Barrow-in-Furness	47	13,177	67	58	13,349
Carlisle	41,637	18	33	134	41,822
Copeland	694	1,149	32	21,989	23,864
Eden	7,467	10	93	49	7,619
South Lakeland	115	3,596	2,946	59	6,716
Total	58,513	17,965	3,196	37,570	117,244

Figure 9 presents the number of injury attendances by LSOA of residence, overlaid by LA boundaries. The map shows there were more attendances made by residents of Carlisle and Copeland LAs, and parts of Allerdale. There were substantially less attendances made by residents of South Lakeland.

Figure 9. Number of injury attendances by LSOA of residence, overlaid by LA boundaries, April 2012 to March 2015

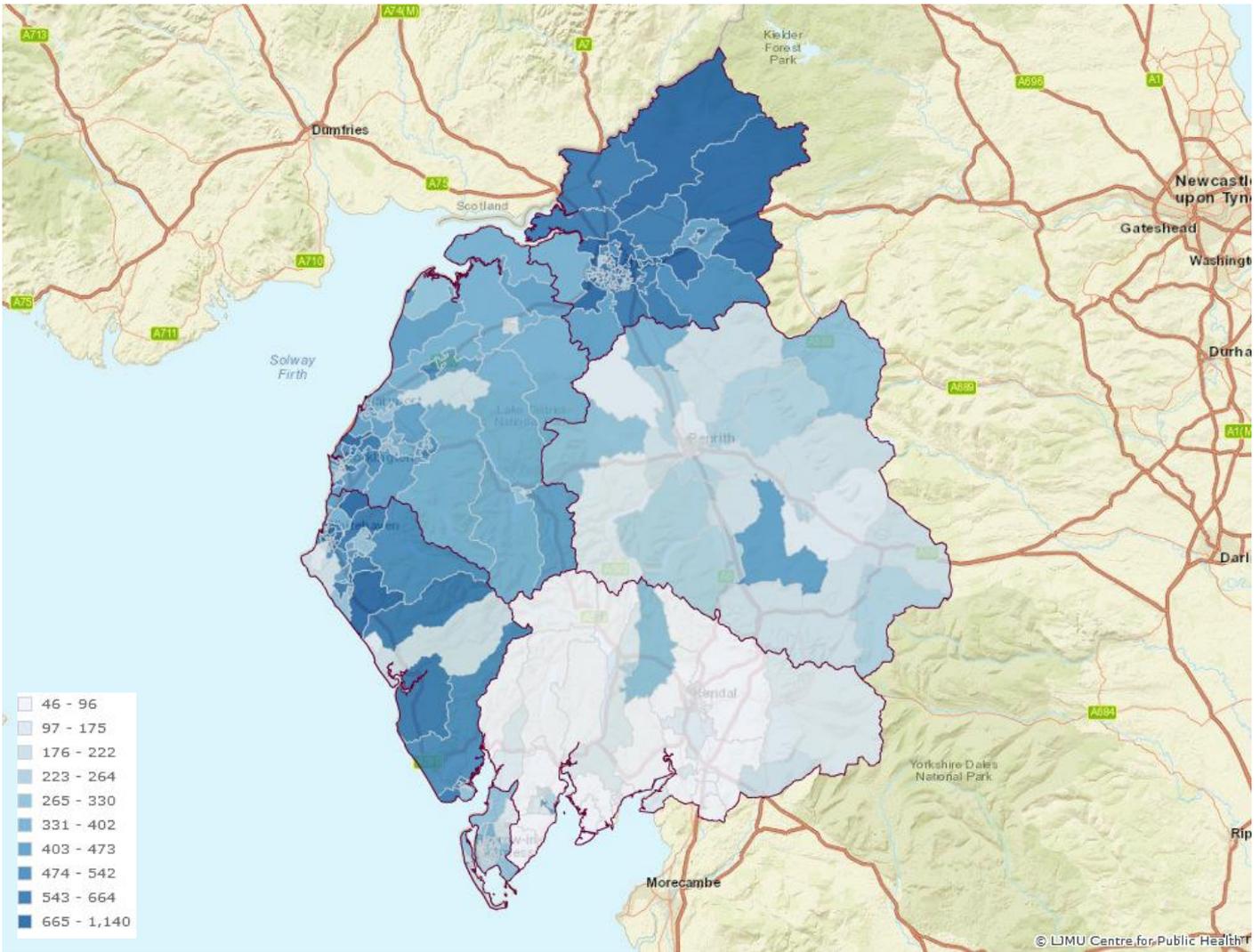


Table 19 shows a breakdown of unintentional (other injury, RTCs and sports injury) and intentional (assault and DSH) injuries. Figures are presented as the average number of attendances over the three-year period and the rate per 1,000 population by LA of residence. Overall, there was a much higher rate of unintentional injuries (72 per 1,000 population) compared to intentional injuries (6 per 1,000 population). Carlisle had the highest three-year average number (12,709 attendances) and rate (118 per 1,000 population) of unintentional injuries, while South Lakeland had the lowest average number (2,096 attendances) and rate (20 per 1,000 population). Similarly in terms of intentional injuries, Carlisle had the highest average number (1,231 attendances) and rate (11 per 1,000 population) while South Lakeland had the lowest average number (143 attendances) and rate (1 per 1,000 population).

Table 19. Number and rate of injury attendances per 1,000 population by LA and injury type, April 2012 to March 2015 (three-year average)

LA	Population	Unintentional injury attendances		Intentional injury attendances	
		Number	Rate	Number	Rate
Allerdale	96,471	7,349	76	609	6
Barrow-in-Furness	67,648	4,079	60	371	5
Carlisle	108,022	12,709	118	1,231	11
Copeland	69,832	7,357	105	598	9
Eden	52,630	2,387	45	153	3
South Lakeland	103,271	2,096	20	143	1
Total	497,874	35,976⁹	72	3,105	6

When looking at attendance rates by LSOA of residence, 14 out of the 20 LSOAs with the highest rates were in Carlisle, with six in Copeland. Calculated using the average number of attendances across the three-year period, table 20 presents the three highest rates for each LA. Carlisle 012E and Carlisle 009A had the highest rate (207 per 1,000 population each), compared to 59 per 1,000 population in South Lakeland 012B, the LSOA in that LA with the highest rate.

⁹ Due to rounding the total does not exactly match the LA totals.

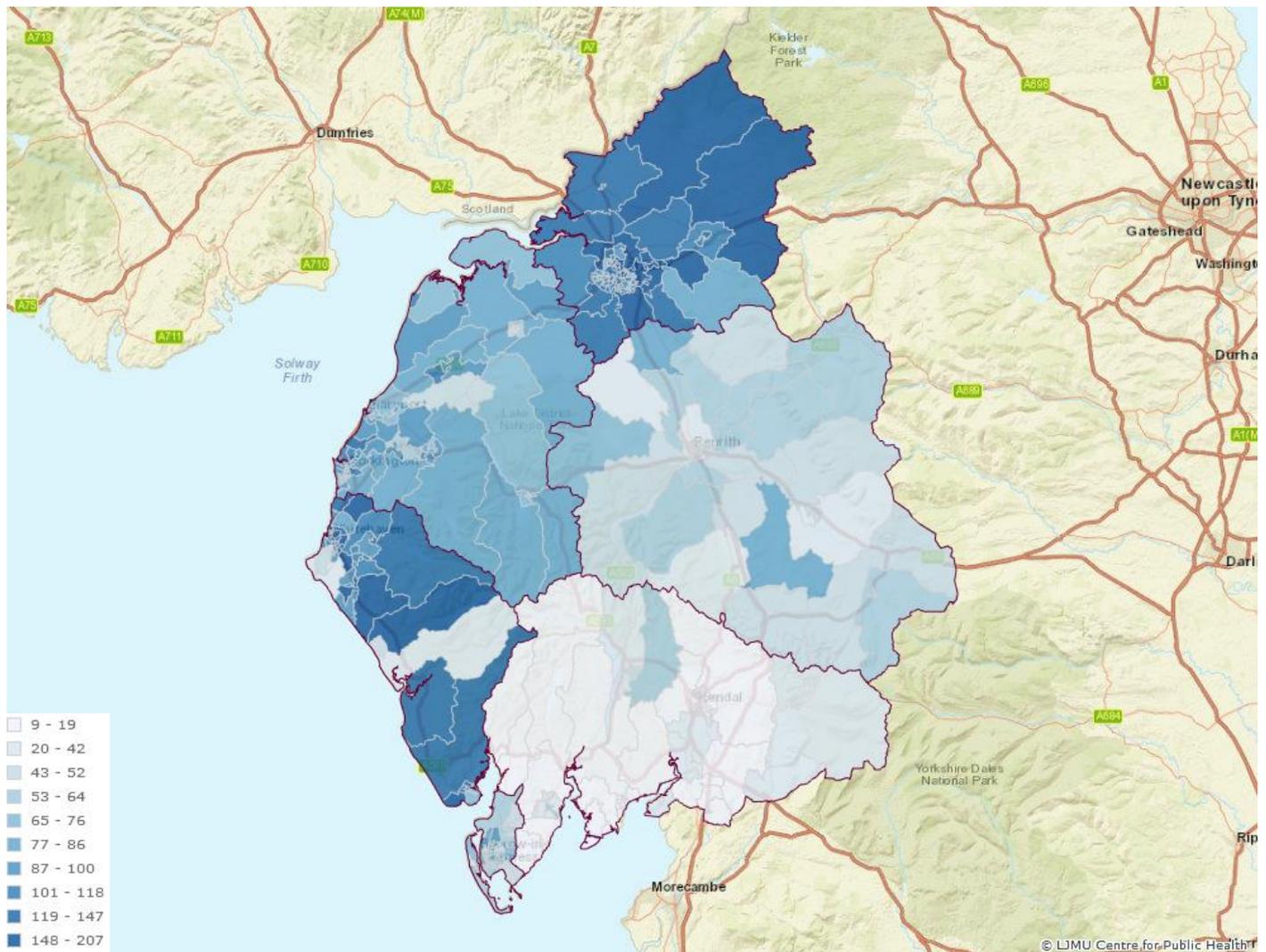
Table 20. LSOAs with highest attendance rates per 1,000 population for each LA, April 2012 to March 2015 (three-year average)¹⁰

LA name	LSOA name	LSOA code	Number	Rate
Allerdale	Allerdale 009C	E01019113	234	130
	Allerdale 009E	E01019121	233	121
	Allerdale 009A	E01019111	188	117
Barrow-in-Furness	Barrow-in-Furness 010B	E01019139	126	98
	Barrow-in-Furness 004A	E01019156	126	92
	Barrow-in-Furness 004C	E01019164	129	89
Carlisle	Carlisle 012E	E01019248	241	207
	Carlisle 009A	E01019193	332	207
	Carlisle 011F	E01019245	331	206
Copeland	Copeland 005D	E01019295	296	190
	Copeland 003C	E01019284	226	180
	Copeland 005F	E01019301	292	169
Eden	Eden 002A	E01019315	151	84
	Eden 003B	E01019332	115	84
	Eden 002D	E01019338	95	65
South Lakeland	South Lakeland 012B	E01019389	135	59
	South Lakeland 012A	E01019388	110	58
	South Lakeland 014D	E01019391	82	49
Cumbria			39,081	78

Figure 10 shows the rate of ED injury attendances per 1,000 population by LSOA of residence, using the average number of attendances between 2012/13 and 2014/15. Similar to the previous map showing the total number of attendances, the most concentrated areas of injury attendances are clustered around Carlisle, Copeland and parts of Allerdale.

¹⁰ Rates by LSOA for each LA is available upon request.

Figure 10. Rate of injury attendances per 1,000 population by LSOA of residence, overlaid by LA boundaries, April 2012 to March 2015 (three-year average)



Calculated using the average number of attendances between 2012/13 and 2014/15, table 21 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 (15 per 100 population), followed by males aged four years and under and between five and 14 years (11 per 100 population each). The LA with the highest rates was Carlisle (males=14; females=12 per 100 population).

Table 21. Rate of injury attendances per 100 population by LA of residence, age group and gender, April 2012 to March 2015 (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	10	9	10	8	16	10	8	6	6	8	9	8
Barrow-in-Furness	7	6	11	8	14	8	6	5	4	5	8	6
Carlisle	17	13	17	14	22	15	11	9	11	13	14	12
Copeland	16	13	17	13	22	15	9	9	7	10	12	11
Eden	3	3	5	4	7	6	4	3	6	7	5	5
South Lakeland	3	2	3	2	5	3	2	1	2	2	2	2
Cumbria	11	9	11	8	15	10	7	6	6	7	9	7
Gender combined	10		10		12		6		7		8	

DEPRIVATION BY INJURY GROUP

ASSAULTS

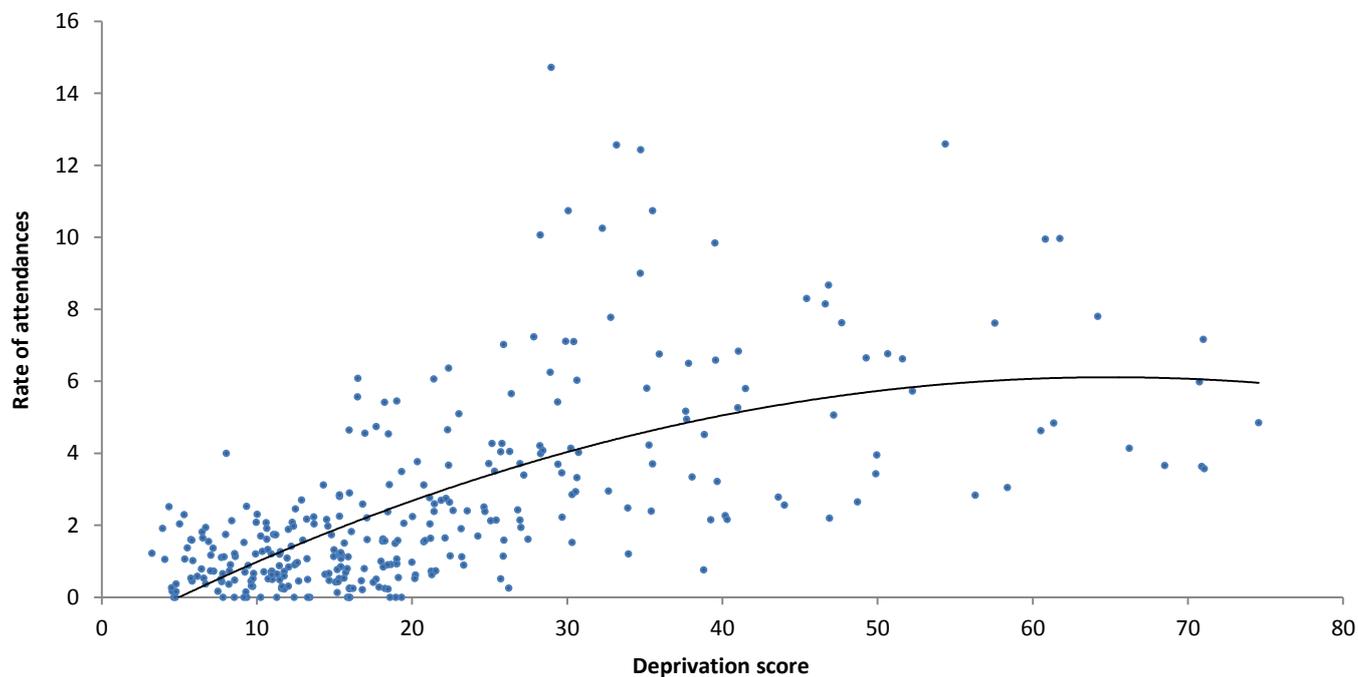
Table 22 displays the three LSOAs for each LA with the highest rates for assault-related injury attendances per 1,000 population, calculated using the average number of attendances between 2012/13 and 2014/15. Overall, there was a rate of three assault attendances per 1,000 population across Cumbria. Fifteen out of the 20 LSOAs with the highest assault rates were in Carlisle, with the highest being 15 per 1,000 population for Carlisle 006A. In comparison, the highest rate for South Lakeland LA was just 2 per 1,000 population (South Lakeland 012B, South Lakeland 012A and South Lakeland 012D).

Table 22. LSOAs with highest assault attendance rates per 1,000 population for each LA, April 2012 to March 2015 (three-year average)

LA name	LSOA name	LSOA code	Number	Rate
Allerdale	Allerdale 009E	E01019121	16	8
	Allerdale 009B	E01019112	12	7
	Allerdale 009A	E01019111	11	7
Barrow-in-Furness	Barrow-in-Furness 008A	E01019141	9	8
	Barrow-in-Furness 010B	E01019139	8	6
	Barrow-in-Furness 008C	E01019143	8	5
Carlisle	Carlisle 006A	E01019204	18	15
	Carlisle 011A	E01019197	25	13
	Carlisle 006C	E01019234	19	13
Copeland	Copeland 004B	E01019263	10	9
	Copeland 004F	E01019267	10	8
	Copeland 002B	E01019280	11	8
Eden	Eden 003D	E01019335	5	3
	Eden 002A	E01019315	5	3
	Eden 003C	E01019333	***	2
South Lakeland	South Lakeland 012B	E01019389	***	2
	South Lakeland 012A	E01019388	***	2
	South Lakeland 012D	E01019392	***	2
Cumbria			1,260	3

Figure 11 shows the rate of assault-related ED attendances per 1,000 population against deprivation. Overall there is a positive association between deprivation and the rate of assault attendances, where increasingly deprived areas had increasing assault rates among its residents.

Figure 11. Rate of assault attendances per 1,000 population by deprivation score, April 2012 to March 2015 (three-year average)



DELIBERATE SELF-HARM

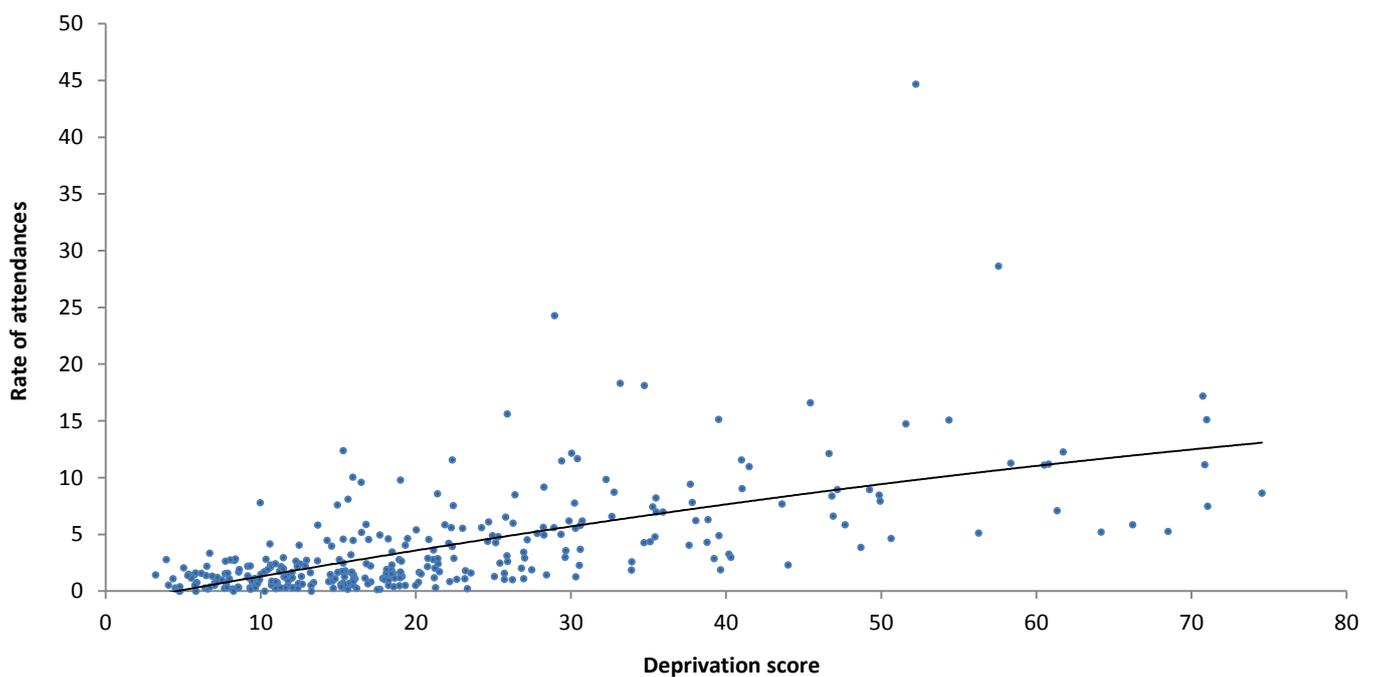
Calculated using the average number of attendances over the three-year period, the rate of DSH ED attendances across Cumbria was 4 per 1,000 population. Carlisle 012E had the highest rate (45 per 1,000 population), substantially higher than other LSOAs across the county. Thirteen out of the 20 LSOAs with highest rates of DSH were in Carlisle. Table 23 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 5 per 1,000 population (South Lakeland 012D).

Table 23. LSOAs with highest DSH attendance rates per 1,000 population for each LA, April 2012 to March 2015 (three-year average)

LA name	LSOA name	LSOA code	Number	Rate
Allerdale	Allerdale 009E	E01019121	32	17
	Allerdale 010C	E01019110	19	12
	Allerdale 009C	E01019113	20	11
Barrow-in-Furness	Barrow-in-Furness 010B	E01019139	22	17
	Barrow-in-Furness 008D	E01019157	16	11
	Barrow-in-Furness 004A	E01019156	15	11
Carlisle	Carlisle 012E	E01019248	52	45
	Carlisle 006A	E01019204	30	24
	Carlisle 006C	E01019234	28	18
Copeland	Copeland 002B	E01019280	41	29
	Copeland 005F	E01019301	26	15
	Copeland 005D	E01019295	23	15
Eden	Eden 003E	E01019336	13	8
	Eden 003C	E01019333	8	6
	Eden 003B	E01019332	8	6
South Lakeland	South Lakeland 012D	E01019392	9	5
	South Lakeland 004C	E01019364	6	3
	South Lakeland 012C	E01019390	6	3
Cumbria			1,845	4

The rate of DSH ED attendances per 1,000 population against deprivation is shown in figure 12. Overall there is a positive association between deprivation and the rate of DSH, where increasingly deprived areas had increasing DSH rates among its residents.

Figure 12. Rate of DSH attendances per 1,000 population by deprivation score, April 2012 to March 2015 (three-year average)



ROAD TRAFFIC COLLISIONS

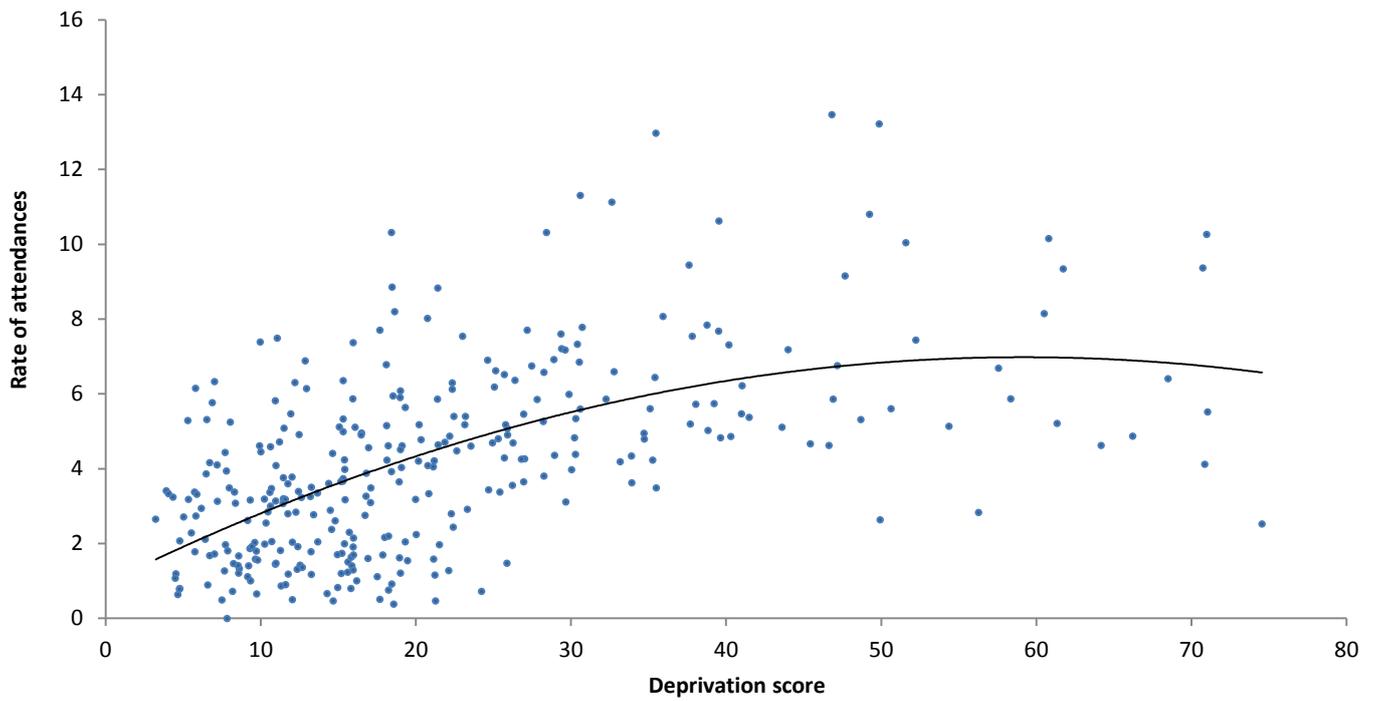
Using the average number of attendances between 2012/13 and 2014/15, there was a rate of 4 RTC ED attendances per 1,000 population across Cumbria. Thirteen out of the 20 LSOAs with the highest rates of ED attendances for RTCS were in Copeland. The highest rate was 13 per 1,000 population in Copeland 004B, Copeland 004H and Copeland 003C (table 24). The lowest rates were in Eden, with four being the highest rate in the district (Eden 006G).

Table 24. LSOAs with highest RTC attendance rates per 1,000 population for each LA, April 2012 to March 2015 (three-year average)

LA name	LSOA name	LSOA code	Number	Rate
Allerdale	Allerdale 009A	E01019111	17	11
	Allerdale 010A	E01019108	14	9
	Allerdale 009C	E01019113	15	8
Barrow-in-Furness	Barrow-in-Furness 010B	E01019139	12	9
	Barrow-in-Furness 002B	E01019149	12	8
	Barrow-in-Furness 004E	E01019166	10	8
Carlisle	Carlisle 009A	E01019193	16	10
	Carlisle 011F	E01019245	15	9
	Carlisle 008B	E01019207	11	8
Copeland	Copeland 004B	E01019263	15	13
	Copeland 004H	E01019277	17	13
	Copeland 003C	E01019284	16	13
Eden	Eden 006G	E01019337	6	4
	Eden 002A	E01019315	7	4
	Eden 003C	E01019333	***	3
South Lakeland	South Lakeland 012B	E01019389	11	5
	South Lakeland 014D	E01019391	8	5
	South Lakeland 012A	E01019388	8	4
Cumbria			2,039	4

The rates of RTC-related injury attendances per 1,000 population against deprivation are presented in figure 13. Overall there is a positive association between deprivation and the rate of RTC attendances, where increasingly deprived areas had increasing RTC rates among its residents.

Figure 13. Rate of RTC attendances per 1,000 population by deprivation score, April 2012 to March 2015 (three-year average)



SPORTS INJURIES

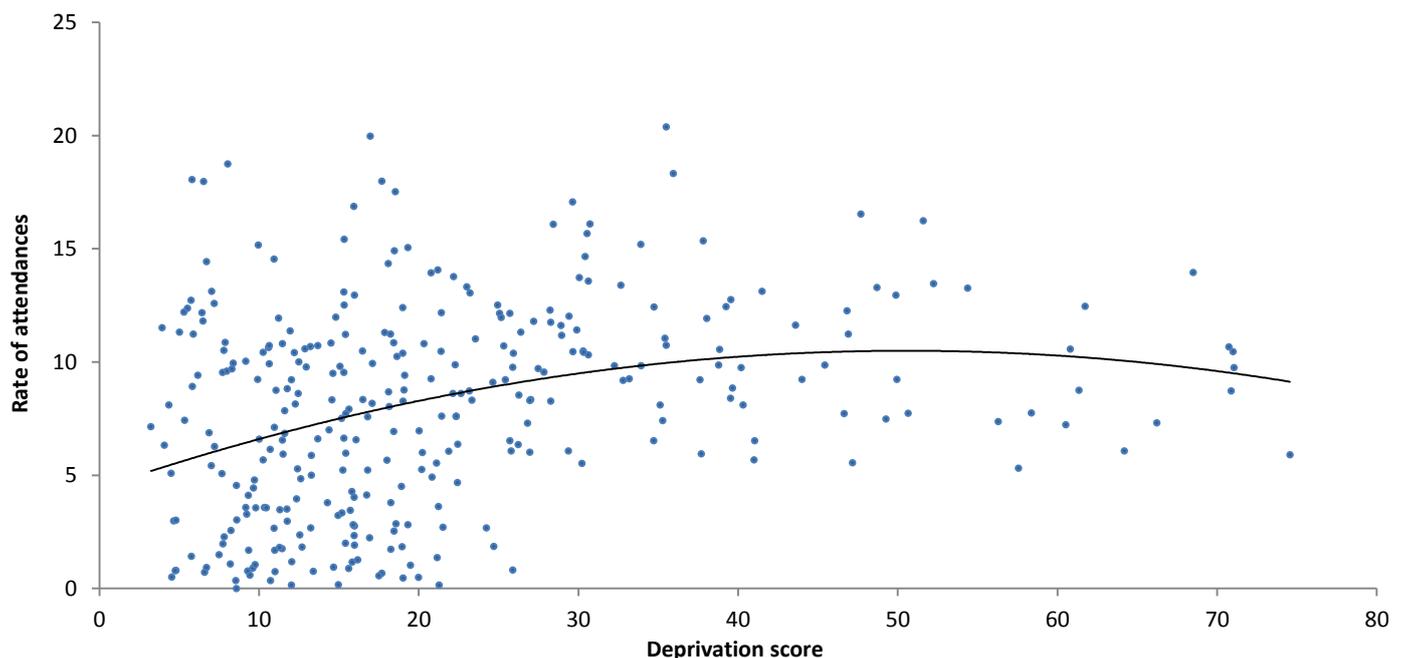
Table 25 shows the three LSOAs with highest rates for sport-related injury attendances for each LA, using the average number of attendances over the three-year period. Sixteen out of the 20 LSOAs with highest rates of sports-related ED attendances were in Copeland. Copeland 003C and Copeland 006E had the highest rates (20 per 1,000 population each). The rate overall for Cumbria was eight per 1,000 population.

Table 25. LSOAs with highest sports injury attendance rates per 1,000 population for each LA, April 2012 to March 2015 (three-year average)

LA name	LSOA name	LSOA code	Number	Rate
Allerdale	Allerdale 008E	E01019124	26	13
	Allerdale 011B	E01019100	20	13
	Allerdale 009D	E01019120	21	13
Barrow-in-Furness	Barrow-in-Furness 005E	E01019171	20	16
	Barrow-in-Furness 004B	E01019159	16	15
	Barrow-in-Furness 010C	E01019185	20	15
Carlisle	Carlisle 005E	E01019255	25	19
	Carlisle 006D	E01019235	22	15
	Carlisle 010A	E01019209	21	15
Copeland	Copeland 003C	E01019284	26	20
	Copeland 006E	E01019275	42	20
	Copeland 003D	E01019285	28	18
Eden	Eden 002A	E01019315	14	8
	Eden 004C	E01019328	7	5
	Eden 002B	E01019316	7	5
South Lakeland	South Lakeland 012B	E01019389	24	10
	South Lakeland 014D	E01019391	15	9
	South Lakeland 012A	E01019388	17	9
Cumbria			3,902	8

Figure 14 shows the rate of sports-related injury attendances per 1,000 population against deprivation. There is a positive association between deprivation and the rate of sports-related injury attendances but the effect was not as pronounced as other injury groups.

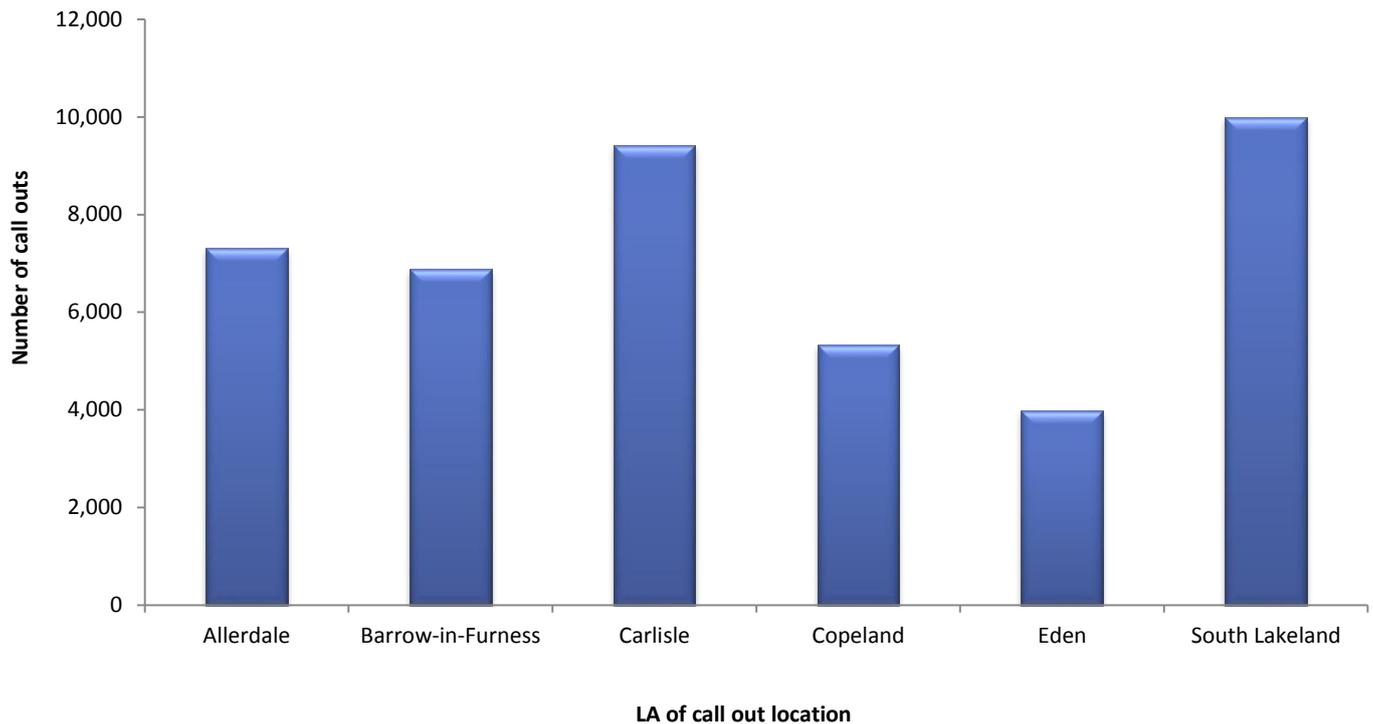
Figure 14. Rate of sports injury attendances per 1,000 population by deprivation score, April 2012 to March 2015 (three-year average)



LOCATION OF AMBULANCE CALL OUTS

Figure 15 presents the number of injury-related ambulance call outs by LA of call out location between April 2012 and March 2015. Ambulance data collected by NWAS 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=9,994; 23.3%) and Carlisle (n=9,425; 22.0%). Under one in five (17.0%) call outs were to Allerdale (n=7,305), followed by 16.0% to Barrow-in-Furness (n=6,879), 12.4% to Copeland (n=5,330) and 9.3% to Eden (n=3,973).

Figure 15. Number of injury call outs by LA of call out location, April 2012 to March 2015



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LINKS TO DATA SOURCES AND USEFUL WEBSITES

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

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

Clinical Commissioning Group Outcomes Indicator Set (NHS England):

<http://ccgtools.england.nhs.uk/ccgoutcomes/flash/atlas.html>

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): http://www.apho.org.uk/default.aspx?QN=P_HEALTH_PROFILES

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>

Local Health (Public Health England): <http://www.localhealth.org.uk/#v=map4;l=en>

Public Health Outcomes Framework (Public Health England): www.phoutcomes.info/

Segment Tool (Public Health England): http://www.lho.org.uk/LHO_Topics/Analytic_Tools/Segment/TheSegmentTool.aspx

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 2012 to March 2015¹¹

Referral source	Assault	DSH	Other injury	RTC	Sports injury	Total
Educational establishment	24	<15	557	***	288	883
Emergency services	1,612	3,699	13,852	2,196	466	21,825
General medical practitioner	67	108	12,446	120	241	12,982
Health care provider: same or other	24	94	1,248	36	82	1,484
Other	55	128	2,803	66	289	3,341
Self-referral	1,962	1,496	56,992	3,682	10,319	74,451
Work	35	<10	2,208	<15	22	2,278
Total	3,779	5,536	90,106	6,116	11,707	117,244

APPENDIX 2

Number of injury attendances by arrival mode and injury group, April 2012 to March 2015¹²

Arrival mode	Assault	DSH	Other injury	RTC	Sports injury	Total
Ambulance	1,512	3,985	20,860	2,444	583	29,384
By foot	364	271	10,144	961	2,649	14,389
Other	1,903	1,280	59,102	2,711	8,475	73,471
Total	3,779	5,536	90,106	6,116	11,707	117,244

APPENDIX 3

Number of injury attendances by incident location and injury group, April 2012 to March 2015

Incident location	Assault	DSH	Other injury	RTC	Sports injury	Total
Educational establishment	121	<35	2,944	***	1,542	4,641
Home	644	4,194	50,691	210	533	56,272
Other	1,898	1,127	24,927	4,227	7,822	40,001
Public place	1,037	183	6,866	1,667	1,804	11,557
Work	79	***	4,678	<10	6	4,773
Total	3,779	5,536	90,106	6,116	11,707	117,244

¹¹ "Other" includes general dental practitioner, local authority social services and other.

¹² "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 2012 to March 2015¹³

Disposal method	Assault	DSH	Other injury	RTC	Sports injury	Total
Admitted	334	2,538	19,952	489	314	23,627
Discharged	2,093	1,106	42,082	4,260	6,549	56,090
Follow-up	974	1,332	25,467	1,200	4,633	33,606
Other	378	560	2,605	167	211	3,921
Total	3,779	5,536	90,106	6,116	11,707	117,244

APPENDIX 5

Number and percent of assault attendances to FGH and RLI by month of incident, July to December 2015¹⁴

Month (2015)	N	%
Jul	23	17.3%
Aug	12	9.0%
Sep	15	11.3%
Oct	32	24.1%
Nov	24	18.0%
Dec	27	20.3%
Total	133	100.0%

APPENDIX 6

Number and percent of assault attendances to FGH and RLI by day of week of incident, July to December 2015¹⁴

Day of week	N	%
Monday	13	9.8%
Tuesday	17	12.8%
Wednesday	10	7.5%
Thursday	19	14.3%
Friday	24	18.0%
Saturday	21	15.8%
Sunday	29	21.8%
Total	133	100.0%

¹³ "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.

¹⁴ There were 44 records missing incident date; these have been omitted from the tables.

APPENDIX 7

Number and percent of assault attendances to FGH and RLI by time group of incident, July to December 2015¹⁵

Time group	N	%
00:00-01:59	18	21.2%
02:00-03:59	15	17.6%
04:00-05:59	***	4.7%
06:00-07:59	***	1.2%
08:00-09:59	***	4.7%
10:00-11:59	***	3.5%
12:00-13:59	5	5.9%
14:00-15:59	5	5.9%
16:00-17:59	***	2.4%
18:00-19:59	5	5.9%
20:00-21:59	6	7.1%
22:00-23:59	17	20.0%
Total	85	100.0%

APPENDIX 8

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

Incident location	N	%
Educational establishment	***	0.6%
Home	34	19.2%
Other	31	17.5%
Public place	96	54.2%
Work	<20	8.5%
Total	177	100.0%

APPENDIX 9

Number and percent of assault attendances to FGH and RLI by assault weapon, July to December 2015¹⁶

Assault weapon	N	%
Body part	98	73.7%
Pushed	6	4.5%
Unknown	10	7.5%
Weapon	19	14.3%
Total	133	100.0%

¹⁵ There were 92 records missing incident time; these have been omitted from the table.

¹⁶ There were 44 records missing assault weapon; these have been omitted from the table.

