

Assaults in Cumbria: an analysis of emergency department and ambulance data, January 2007 to December 2009

This report provides an indication of the burden of assaults on emergency departments (EDs), the ambulance service and residents of Cumbria over the three-year period January 2007 to December 2009. It uses data on assault call outs from the North West Ambulance Service and from all EDs in Cumbria, supplemented by assault data from Cumbria residents receiving treatment in Lancashire and Merseyside EDs.

Numbers of assault cases and trends

Over the three-year period, a total 7,366 assault attendances were recorded at Cumbria EDs. Of these, 6,618 were residents of Cumbria. A further 156 Cumbria residents with assault injuries attended EDs in Lancashire and Merseyside, meaning a total of 6,774 cumbria residents were treated for assaults over the three-year period across Cumbria, Lancashire and Merseyside¹.

Figure 1 shows three-year trend data by local authority area of residence. The number of ED assault attendances made by Cumbria residents decreased by 8% from 2,344 in 2007 to 2,145 in 2009. However, assault attendances by Allerdale and South Lakeland residents both decreased by 18%. Between January 2007 and December 2009 the number of ambulance assault call outs² in Cumbria increased by 5% from 1,132 in 2007 to 1,191 in 2009. This increase was most pronounced in Barrow-in-Furness (13%) (**Figure 2**). Conversely, assault call outs decreased by 20% in Eden.

Age and gender of assault patients

In 2009 the highest proportions of ED assault attendances by Cumbria residents were for persons aged 25-59 (48%) and for all age groups, the majority of assault attendances were male (74%). Carlisle residents made the most ED attendances for an assault (37%), followed by residents of Copeland (21%) (**Table 1**). The highest number of ambulance call outs was in Carlisle (31%).

Box 1: Case Study TKAP Cumbria

In July 2009 the Department for Health put together a national bidding programme to provide funding for partners in the government's Tackling Knives Action Programme (TKAP) priority areas to enhance or improve the sharing of data between EDs and local partners. In the North West, TKAP priority areas were Liverpool, Manchester and Preston. On behalf of Government Office North West and local partners, the Centre for Public Health at Liverpool John Moores University successfully bid and secured funds to enhance ED datasets and develop faster, routine data sharing between EDs and community safety partnerships across the North West. The first stage of the project was to engage with Cumbria area EDs to assess their potential to collect the nationally recommended violence dataset from assault patients (e.g. location, time and date of incident and assault type [e.g. weapon of use]) (see: [College of Emergency Medicine](#)). All EDs in Cumbria have agreed to collect the additional information. Cumberland Infirmary, and West Cumberland Hospital began collecting this information in September / November 2009; all other EDs will commence data collection this year.

¹ All EDs is used throughout and refers to all EDs in Merseyside, Lancashire and Cumbria.

² Assaults refer to those coded as assault/rape or stab/gunshot

Location and type of assault

The vast majority of ED assault attendances by Cumbria residents occurred in a public place (68%) or the home (13%), however this figure changes for residents of Carlisle (public place 83%; home 13%) (Table 2 and Figure 3). Of all ambulance call outs 6% were for stab/gunshot incidents. However, in Eden stab/gunshot accounted for 11% of assault call outs. To improve the evidence base on the circumstances associated with an assault, enhanced data collection is occurring at EDs across the North West (see Box 1).

Time of ED attendances and ambulance call outs

The majority of ED assault attendances by Cumbria residents occurred on Saturdays, Sundays and Mondays (61%) between the hours of 00:00 and 3:59 (41%). Most ambulance call outs for assaults occurred on Fridays, Saturdays and Sundays (65%) between the hours of 00:00 and 3:59 (48%). However, peak times for ambulance call outs were earlier (22:00 to 1.59) in Copeland (47%).

Patient disposal

The disposal of a patient gives an indication of the severity of the injuries sustained. Most ED assault attendees from Cumbria were discharged (52%),

whilst 29% had a follow-up / referral, and 9% were admitted to hospital. More ED assault attendances from Eden were admitted (22%) (Table 3).

Area of residence of EDs assault attendances

Figure 4 shows crude rates of ED assault attendance by Cumbria residents by Middle Super Output Area (MSOA), January 2007 to December 2009 combined. However, care should be taken when interpreting this data. It cannot be used to compare incidence of injuries in Cumbria residents as individuals may attend EDs outside of Cumbria, Lancashire and Merseyside. This particularly affects authorities on county borders. Crude rates were greatest for residents of MSOA Carlisle 11 (n=365 [1,793.68 per 100,000 population]), MSOA Carlisle 10 (n=343 [1,603.18 per 100,000 population]), and MSOA Carlisle 12 (n=275 [1,590.1 per 100,000 population]).

Location of ambulance call outs

Ambulance call outs for assaults were significantly higher in the following MSOAs than all other Cumbrian MSOAs: MSOA Barrow-in-Furness 08 (n=395 [1,909.87 per 100,000 population]), and MSOA Carlisle 06 (n=372 [1,533.14 per 100,000 population]) (Figure 5).

Table 1: Number of ED assault attendances by age and gender, January to December 2009 combined³

	Age group and gender												All
	0-9		10-17		18-24		25-59		60+		Total**		
	F	M	F	M	F	M	F	M	F	M	F	M	
Total Cumbria ED attendances	4	4	96	243	189	575	293	810	9	30	591	1662	2254
Total ED attendances: Cumbria residents only*	***	***	90	239	180	559	271	758	10	29	555	1589	2145
Location of ED attended													
<i>Cumbria</i>	***	***	89	234	180	535	269	735	9	28	551	1536	2088
<i>Lancashire and Merseyside</i>	***	***	***	5	0	24	***	23	***	***	***	53	57
Local authority of residence													
<i>Allerdale</i>	***	***	14	24	24	74	54	123	***	***	94	224	318
<i>Barrow-in-Furness</i>	***	***	15	51	31	91	44	138	***	9	94	289	383
<i>Carlisle</i>	***	***	37	70	72	228	89	271	***	12	201	581	783
<i>Copeland</i>	***	***	21	56	42	95	64	162	***	4	130	318	448
<i>Eden</i>	***	***	***	6	***	16	7	15	***	***	14	38	52
<i>South Lakeland</i>	***	***	***	32	7	55	13	49	***	***	22	139	161

* To all EDs in Merseyside, Lancashire and Cumbria.

**Totals may not add up as some age and gender fields have been recorded as blank or unknown .

³ Please note that all numbers less than five have been suppressed in line with patient confidentiality and if there is only one number less than five in a category then two numbers will be suppressed at the next level (e.g. <6) in order to prevent back calculations from totals.

Figure 1: Cumbria residents: number of assault attendances to all EDs by local / unitary authority of residence and year, January 2007 to December 2009

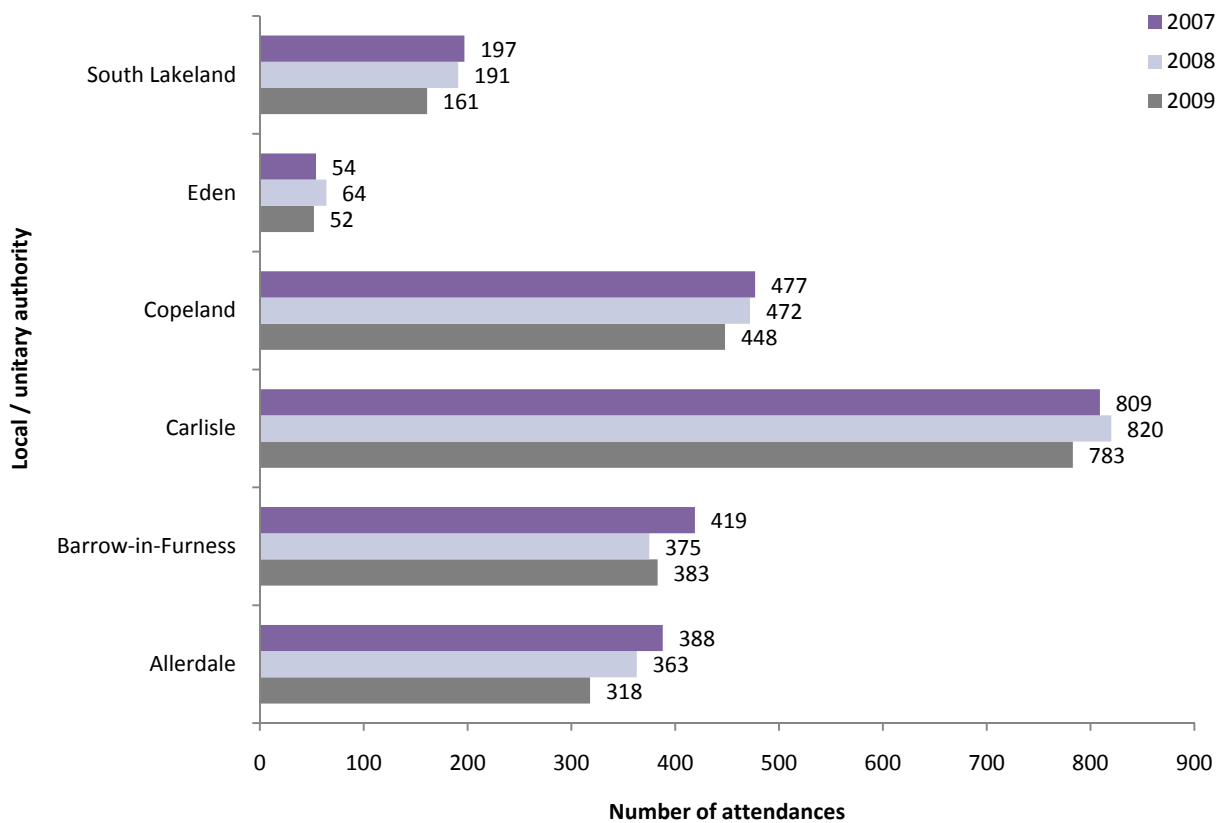


Figure 2: Number of ambulance assault calls by local / unitary authority of call out and year, January 2007 to December 2009

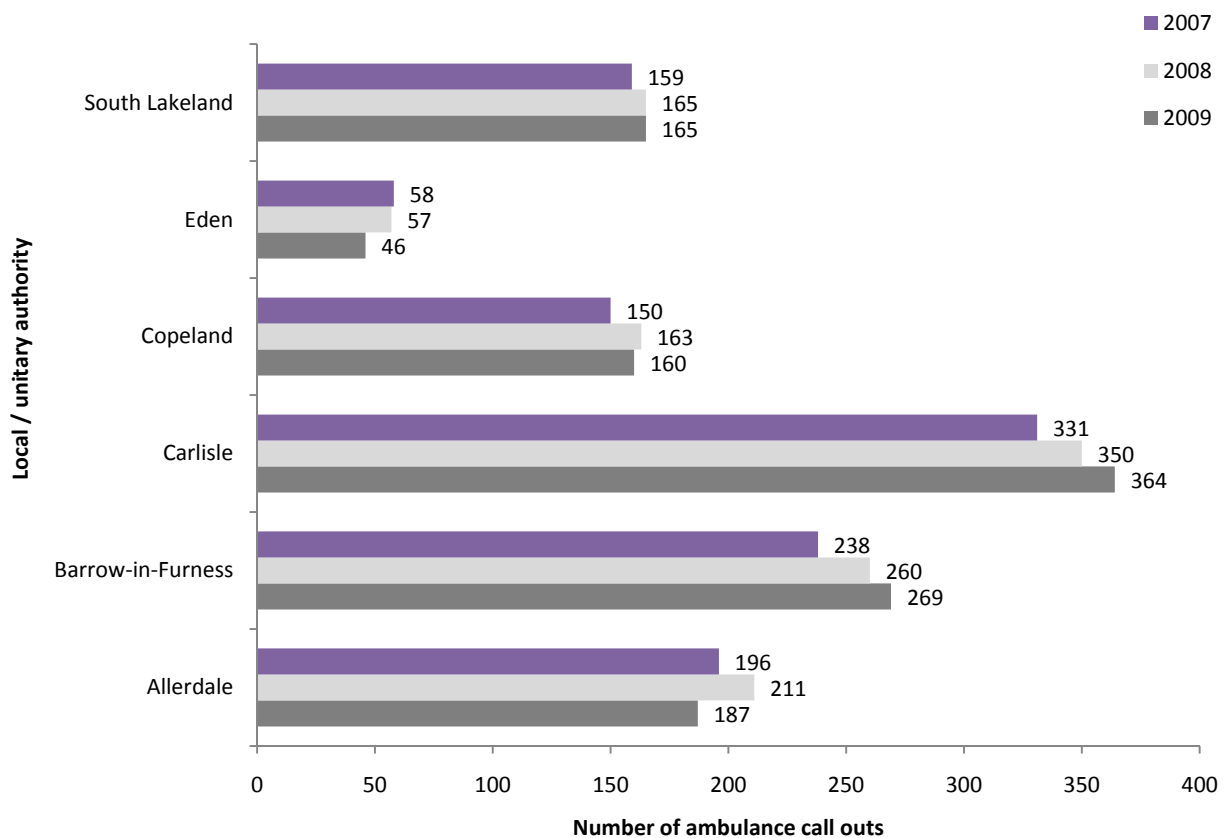


Table 2: Location of assault for assault attendances to all EDs for Cumbria residents and for all Cumbria EDs by age group and gender, January 2007 to December 2009 combined⁴⁵

Location	Age group and gender (%)												
	0-9		10-17		18-24		25-59		60 plus		Total		
	F	M	F	M	F	M	F	M	F	M	F	M	All
	All ED attendances: Cumbria residents only												
Educational establishment	***	26%	15%	20%	0%	<1%	<1%	<1%	0%	0%	3%	3%	3%
Home	***	***	12%	6%	18%	5%	37%	12%	56%	35%	26%	9%	13%
Other	0%	0%	10%	8%	14%	12%	10%	12%	***	12%	11%	11%	11%
Public place	***	63%	62%	65%	63%	80%	43%	71%	24%	51%	53%	73%	68%
Work	0%	***	***	0%	3%	1%	8%	3%	***	***	5%	2%	3%
Unknown	0%	0%	***	1%	***	2%	2%	2%	***	***	1%	2%	2%
Total number	11	19	345	826	526	1824	838	2280	25	75	1745	5024	6774
	Cumberland Infirmary												
Educational establishment	***	***	11%	18%	0%	<1%	0%	<1%	0%	0%	2%	3%	3%
Home	***	***	15%	6%	15%	6%	37%	12%	***	37%	26%	9%	13%
Other	0%	0%	9%	5%	12%	9%	7%	11%	0%	***	9%	9%	9%
Public place	***	***	65%	70%	70%	84%	50%	74%	60%	53%	60%	77%	73%
Work	0%	0%	0%	0%	3%	1%	5%	3%	0%	***	3%	2%	2%
Unknown	0%	0%	0%	0%	0%	<1%	<1%	<1%	0%	0%	<1%	<1%	<1%
Total number	***	***	156	361	258	921	373	1136	10	38	801	2462	3267
	Furness General Hospital												
Educational establishment	***	***	10%	14%	0%	***	0%	0%	0%	0%	2%	2%	2%
Home	***	***	10%	6%	12%	6%	32%	10%	***	24%	21%	8%	12%
Other	0%	***	18%	19%	28%	26%	21%	23%	***	***	22%	23%	23%
Public place	***	***	60%	60%	53%	65%	34%	62%	0%	62%	45%	62%	58%
Work	0%	***	0%	0%	5%	***	10%	4%	***	***	6%	2%	3%
Unknown	0%	***	<1%	<1%	<1%	3%	4%	1%	0%	0%	3%	2%	2%
Total number	***	***	83	178	109	359	175	539	6	21	377	1100	1477
	West Cumberland Hospital												
Educational establishment	***	***	20%	19%	0%	0%	***	***	0%	0%	4%	3%	4%
Home	***	***	11%	5%	26%	6%	37%	13%	83%	47%	29%	10%	15%
Other	0%	0%	5%	3%	5%	6%	9%	5%	***	***	7%	6%	6%
Public place	***	63%	61%	70%	67%	85%	43%	74%	***	29%	53%	77%	70%
Work	0%	0%	***	0%	***	1%	8%	3%	0%	***	4%	2%	2%
Unknown	0%	0%	***	2%	***	2%	2%	5%	0%	0%	2%	3%	3%
Total number	***	8	116	261	171	600	316	753	6	17	613	1639	2254
	Westmorland General Hospital												
Educational establishment	0%	***	***	41%	0%	***	0%	***	0%	0%	***	11%	10%
Home	0%	0%	***	***	25%	***	26%	14%	***	0%	25%	8%	11%
Other	0%	0%	***	8%	***	15%	***	7%	0%	0%	12%	10%	11%
Public place	0%	***	***	47%	40%	71%	43%	67%	0%	***	40%	63%	58%
Work	0%	0%	0%	***	***	5%	19%	8%	0%	0%	15%	5%	7%
Unknown	0%	0%	0%	0%	***	5%	***	***	0%	0%	***	3%	3%
Total number	0	***	12	74	20	100	47	108	***	***	81	287	368

⁴ Please note that where attendance numbers are less than five and can be back calculated from totals they have been suppressed (***). <1% represents cases where attendance numbers were less than five but back calculations are not possible. 0% is used where there were no attendances.

⁵ Please also note percentages might not total one hundred due to rounding.

Figure 3: Cumbria residents: location of assault for assault attendances to all EDs by local authority / unitary authority, January 2007 to December 2009 combined

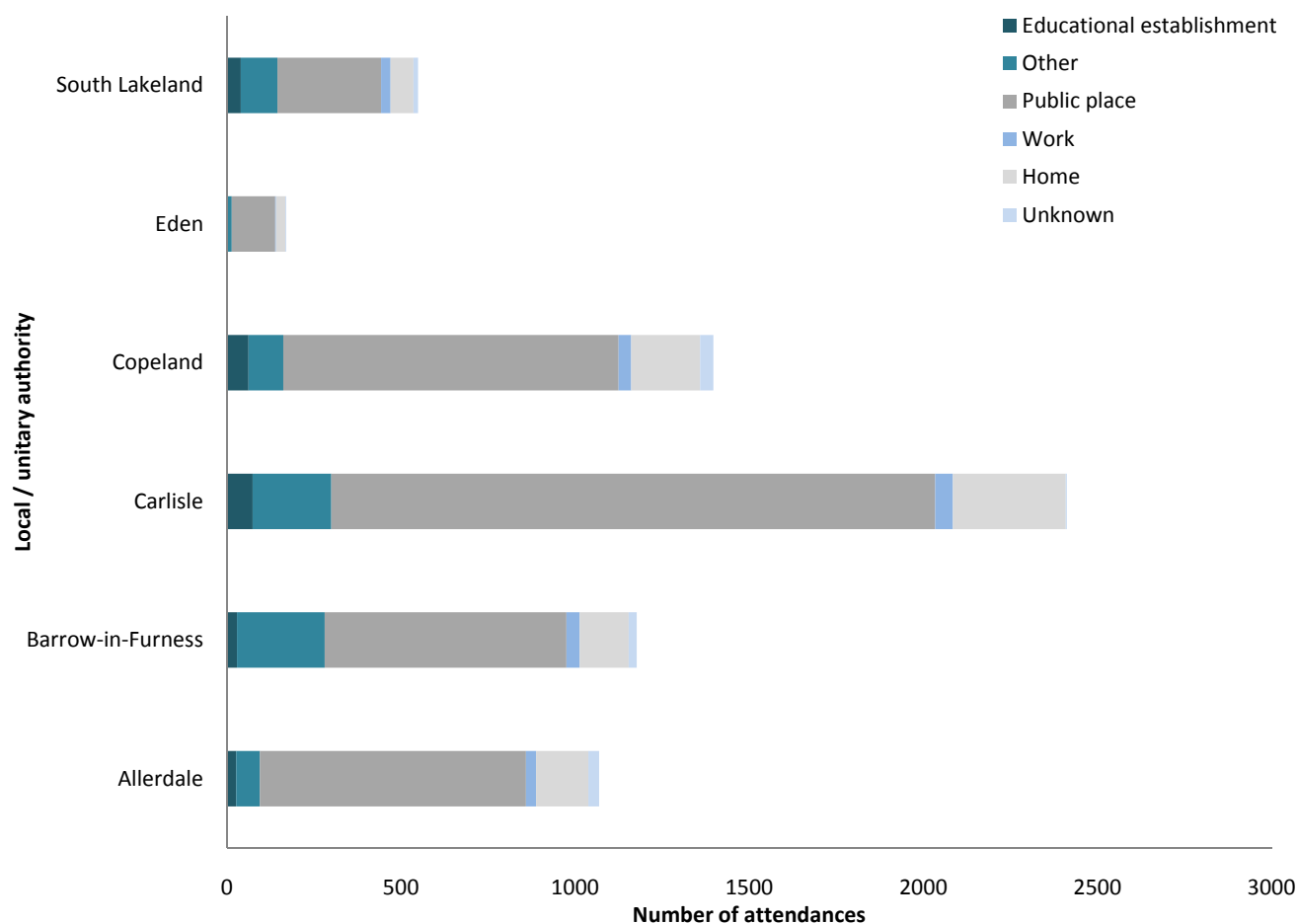
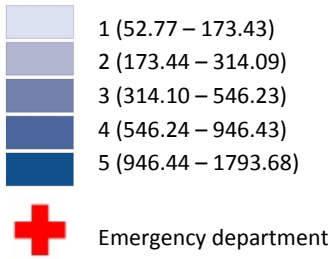


Table 3: Disposal method of assault attendances to all EDs for Cumbria residents and for all Cumbria EDs, January 2007 to December 2009 combined

	Disposal method										
	Admitted		Discharged		Follow-up/ referral		Other		Unknown		Total n
	n	%	n	%	n	%	n	%	n	%	
Total Cumbria ED attendances	695	9	3817	52	2093	28	726	10	35	0	7366
<i>Cumberland Infirmary</i>	381	12	1711	52	770	24	397	12	8	0	3267
<i>Furness General Hospital</i>	98	7	698	47	533	36	148	10	***	0	1477
<i>West Cumberland Hospital</i>	214	9	1288	57	553	25	172	8	27	1	2254
<i>Westmorland General Hospital</i>	***	1	120	33	237	64	9	2	***	0	368
Total ED attendances: Cumbria residents only	607	9	3517	52	1959	29	658	10	33	0	6774
<i>Allerdale</i>	115	11	614	57	272	25	64	6	***	0	1069
<i>Barrow-in-Furness</i>	73	6	546	46	438	37	120	10	***	0	1177
<i>Carlisle</i>	244	10	1308	54	557	23	299	12	***	0	2412
<i>Copeland</i>	117	8	762	55	368	26	128	9	22	2	1397
<i>Eden</i>	37	22	66	39	48	28	17	10	***	1	170
<i>South Lakeland</i>	21	4	221	40	276	50	30	5	***	0	549

Figure 4: Cumbria residents: crude rate per 100,000 population for assault attendance to all EDs, by MSOA of residence, January 2007 to December 2009 combined, with LA boundaries overlaid

Quintiles of crude rate per 100,000 population



Top five MSOAs

MSOA	MSOA name	n	Crude rate/100,000 (+ 95% confidence intervals [CI])
E02003997	Carlisle 11	365	1793.67 (1637.25-1961.00)
E02003996	Carlisle 10	343	1603.18 (1454.87-1762.50)
E02003998	Carlisle 12	275	1590.10 (1421.90-1772.72)
E02003995	Carlisle 09	309	1582.74 (1433.75-1743.00)
E02004004	Copeland 05	326	1452.35 (1315.31-1599.78)

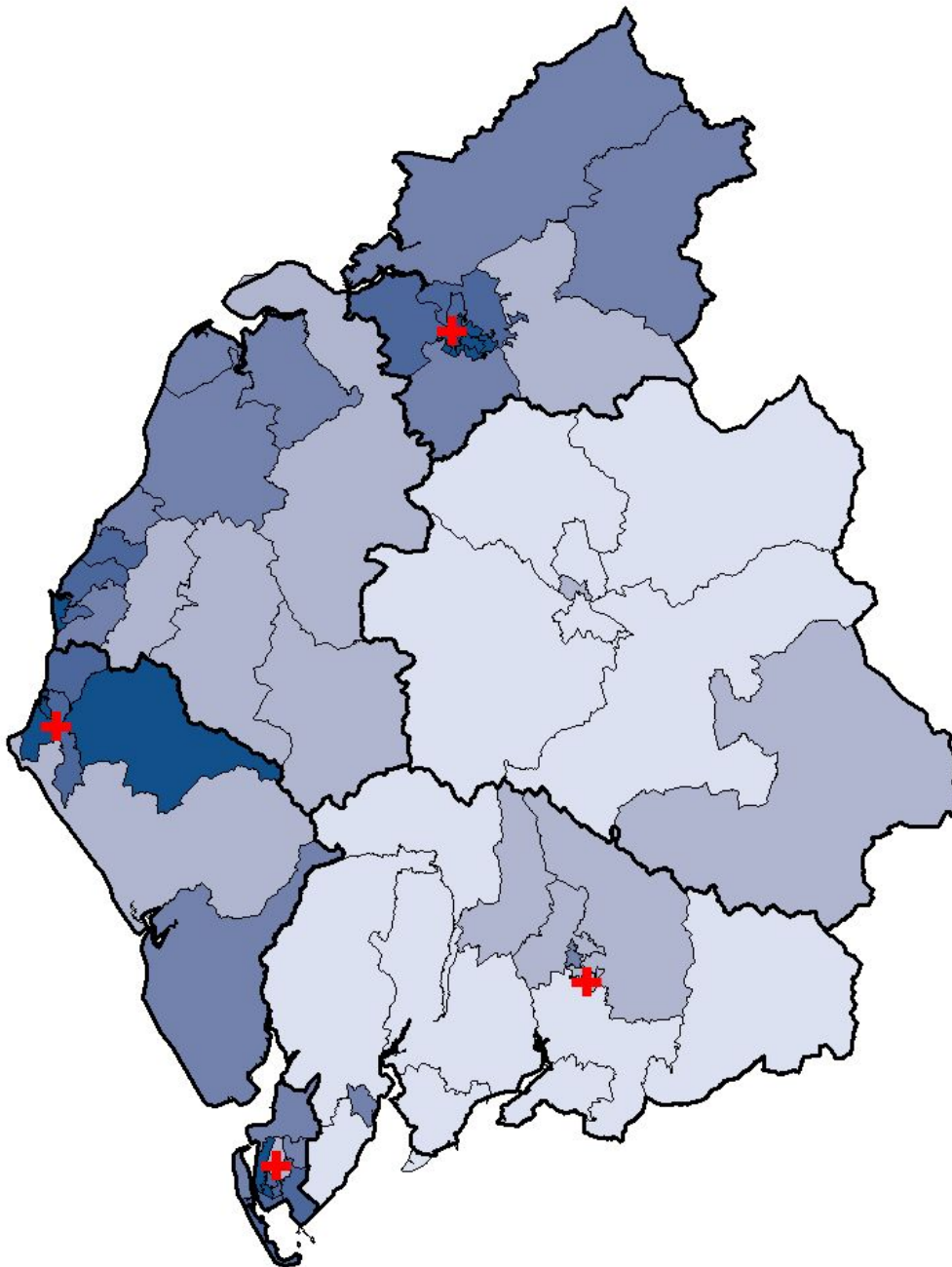
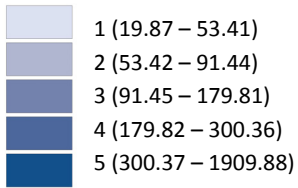


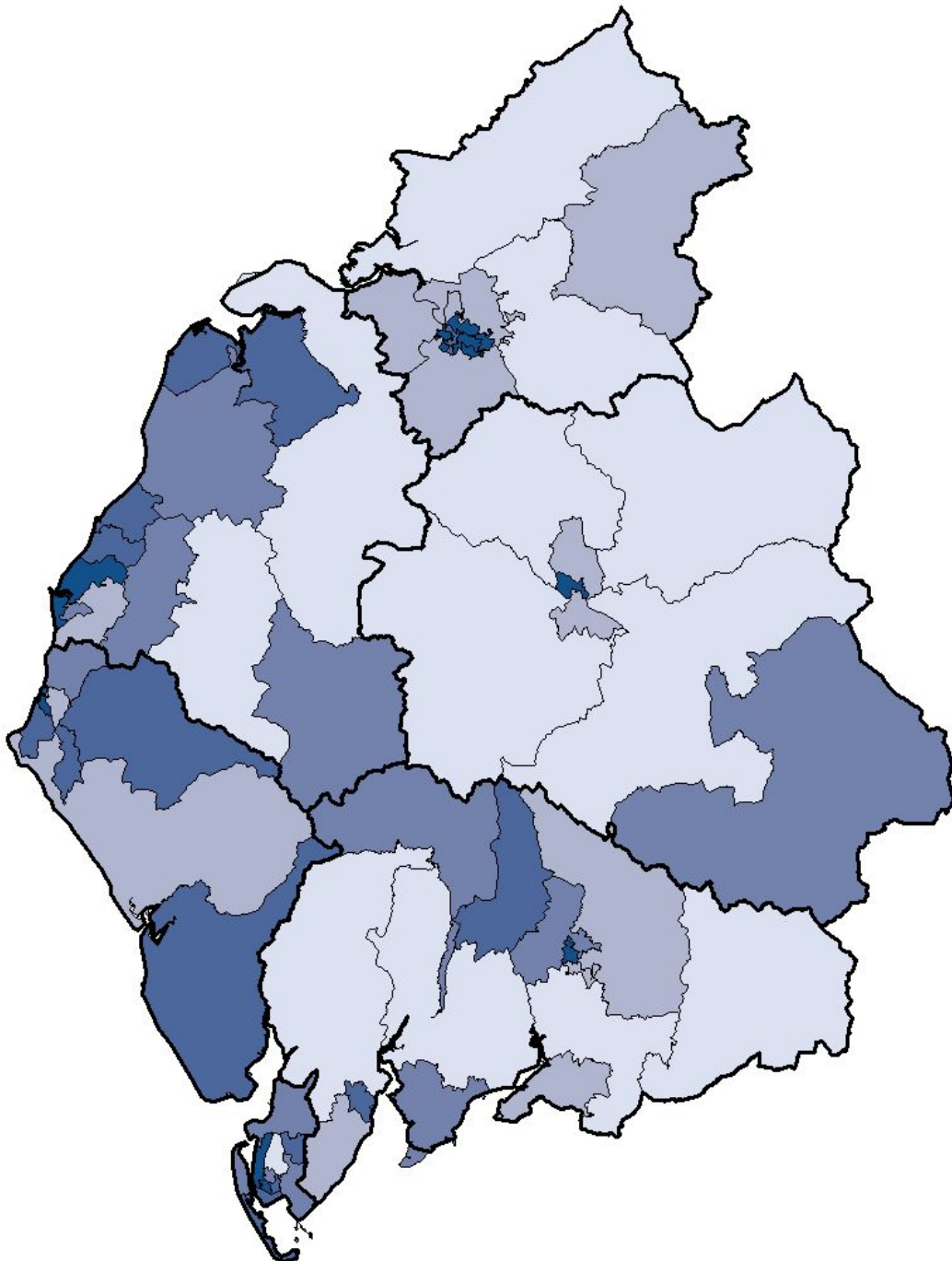
Figure 5: Crude rate per 100,000 population for ambulance calls for an assault, by MSOA location of call out, January 2007 to December 2009 combined, with LA boundaries overlaid

Quintiles of crude rate per 100,000 population



Top five MSOAs

MSOA	MSOA name	n	Crude rate/100,000 (- + 95% CI)
E02003984	Barrow-in-Furness 08	395	1909.87 (1726.15-2107.83)
E02003992	Carlisle 06	372	1533.14 (1381.29-1697.13)
E02003996	Carlisle 10	218	816.57 (711.77-932.46)
E02004001	Copeland 02	127	762.21 (635.43-906.89)
E02004018	South Lakeland 04	145	633.63 (534.70-745.56)



This report was produced as part of the North West project to support violence prevention through enhanced ED data sharing.

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