

Assaults in Lancashire: 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 Lancashire 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 Lancashire, supplemented by assault data from Lancashire residents receiving treatment in Cumbria and Merseyside EDs.

Numbers of assault cases and trends

Over the three-year period, 27,250 assault attendances were recorded at Lancashire EDs. Of these, 24,784 were residents of Lancashire. A further 1,376 Lancashire residents with assault injuries attended EDs in Cumbria and Merseyside, meaning a total of 26,160 Lancashire residents were treated for assaults over the three-year period across Lancashire, Cumbria and Merseyside¹.

Figure 1 shows three-year trend data by local authority area of residence. The number of ED assault attendances made by Lancashire residents decreased by 8% over the three-year period, from 9,104 in 2007 to 8,421 in 2009. Assault attendances by Blackburn with Darwen residents had the greatest decrease (26%) but Ribble Valley residents increased by 10%. Between January 2007 and December 2009, there were 19,422 ambulance call outs for assaults² in Lancashire. There was a 1% increase in ambulance assault call outs in Lancashire from 6,470 in 2007 to 6,530 in 2009. This increase was most pronounced in South Ribble (25%) and Hyndburn (21%) (**Figure 2**).

Age and gender of assault patients

In 2009 the highest proportions of ED assault attendances by Lancashire residents were for persons aged 25-59 years (47%) and for all age groups the

majority of assault attendances were male (73%). Blackpool residents made the most attendances to EDs for an assault (19%), followed by residents of Preston (14%). and Blackburn with Darwen (13%) (**Table 1**). The highest number of ambulance call outs was in Blackpool (21%).

Location and type of assault

Most ED assault attendances by Lancashire residents occurred in a public place (35%) or the home (13%), however this figure changes for residents of Preston (public place 67%; home 17%) (**Table 2 and Figure 3**). Of all ambulance assault call outs, 6% were for stab/gunshot incidents. To improve the evidence

Box 1: Case Study TKAP Lancashire

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 Lancashire 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 Lancashire have agreed to collect the additional information. Royal Preston, and Chorley and South Ribble hospitals began collecting this information in July 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.

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

Assault attendances by Lancashire residents mainly occurred on Fridays, Saturdays and Sundays (57%) between the hours of 00:00 and 3:59 (32%). Most assault attendances to Burnley General, Royal Blackburn and Chorley and South Ribble Hospital occurred on Saturdays, Sundays and Mondays (57%). However, most ambulance call outs for assaults occurred on Fridays, Saturdays and Sundays (62%) between the hours of 22:00 and 1.59 (42%). On these days in Lancaster (47%), Preston (46%) and Blackpool (42%) calls were more common between the hours of 00:00 and 3:59.

Patient disposal

The disposal of a patient gives an indication of the severity of the injuries sustained. Most ED assault attendees from Lancashire were discharged (46%), whilst 35% had a follow-up/referral, and 8% were admitted to hospital. More ED assault attendances from Ribble Valley and West Lancashire were admitted (13% each) (Table 3).

Area of residence of ED assault attendances

Figure 4 shows crude rates of ED assault attendance by Lancashire 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 Lancashire residents as individuals may attend EDs outside Lancashire, Cumbria and Merseyside. This particularly affects authorities on county borders. Crude rates were greatest for residents of the following MSOAs: Blackpool 08 (n=515 [2,312.63 per 100,000 population]), Blackpool 07 (n=383 [2,226.49 per 100,000 population]), Blackpool 13 (n=369 [2,024.49 per 100,000 population]), Blackpool 10 (n=459 [2,014.22 per 100,000 population]), and Preston 09 (n=524 [2,013.68 per 100,000 population]).

Location of ambulance call outs

Crude rates for ambulance call outs for assaults were significantly higher in Blackpool 10 (n=1,068 [4,686.68 per 100,000 population]) than any other MSOA in Lancashire. Blackpool 10 covers the central nightlife area of Blackpool. Blackpool 06 also covers the central nightlife area and was the next highest with 704 call outs (3,694.96 per 100,000 population).

Table 1: Number of assault attendances to EDs by age and gender, January to December 2009³

	Age group and gender												
	0-9		10-17		18-24		25-59		60+		Total**		
	F	M	F	M	F	M	F	M	F	M	F	M	All
Total Lancashire ED attendances	19	38	412	1054	650	2188	1113	3023	55	123	2249	6430	8682
Total ED attendances: Lancashire residents only*	16	36	392	1024	653	2125	1112	2878	58	124	2231	6189	8421
Location of ED attended													
Lancashire	16	36	378	995	608	1982	1046	2699	54	116	2102	5830	7933
Cumbria and Merseyside	***	***	14	29	45	143	66	179	***	8	129	359	488
Local/unitary authority of residence													
<i>Blackburn with Darwen</i>	5	5	50	152	74	243	125	418	***	9	258	827	1085
<i>Blackpool</i>	***	***	79	172	125	407	202	542	13	26	420	1149	1569
<i>Burnley</i>	***	7	35	90	65	144	90	222	***	12	194	475	669
<i>Chorley</i>	***	***	21	57	39	141	75	164	***	11	139	375	514
<i>Fylde</i>	***	***	16	27	17	88	28	92	***	***	65	212	277
<i>Hyndburn</i>	***	5	26	47	25	107	48	180	***	7	104	346	450
<i>Lancaster</i>	***	***	18	51	42	108	57	116	***	***	119	281	400
<i>Pendle</i>	***	***	14	64	36	109	52	137	***	10	104	324	428
<i>Preston</i>	***	5	48	129	100	319	170	420	9	18	330	891	1221
<i>Ribble Valley</i>	***	***	7	23	10	35	16	46	***	***	33	106	139
<i>Rossendale</i>	***	***	2	13	7	36	16	35	***	***	27	86	113
<i>South Ribble</i>	***	***	29	84	46	124	93	165	***	***	172	375	547
<i>West Lancashire</i>	***	***	24	68	46	144	79	191	6	9	155	413	568
<i>Wyre</i>	***	***	23	47	21	120	61	150	6	11	111	329	441

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

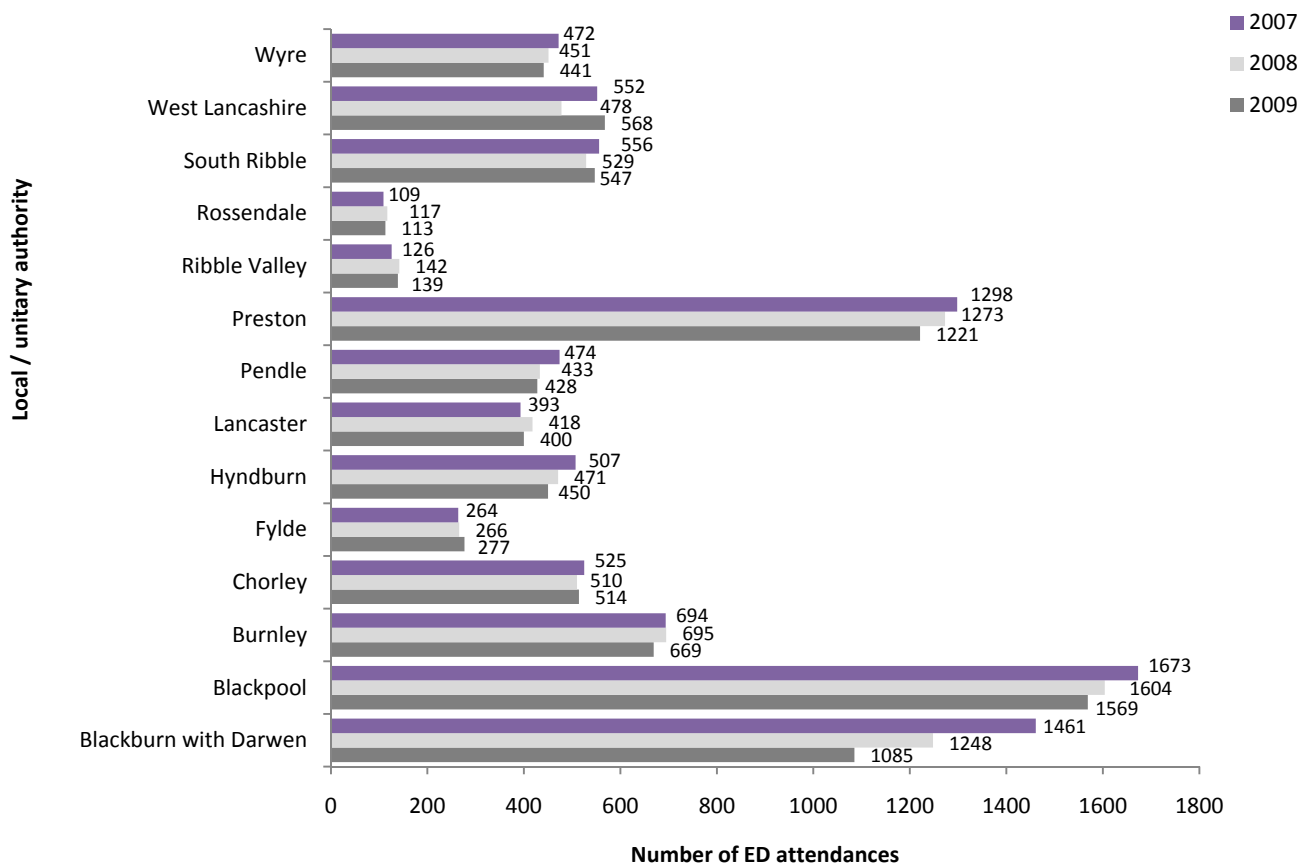


Figure 2: Number of ambulance assault calls by local / unitary authority of call out and year, January 2007 to December 2009

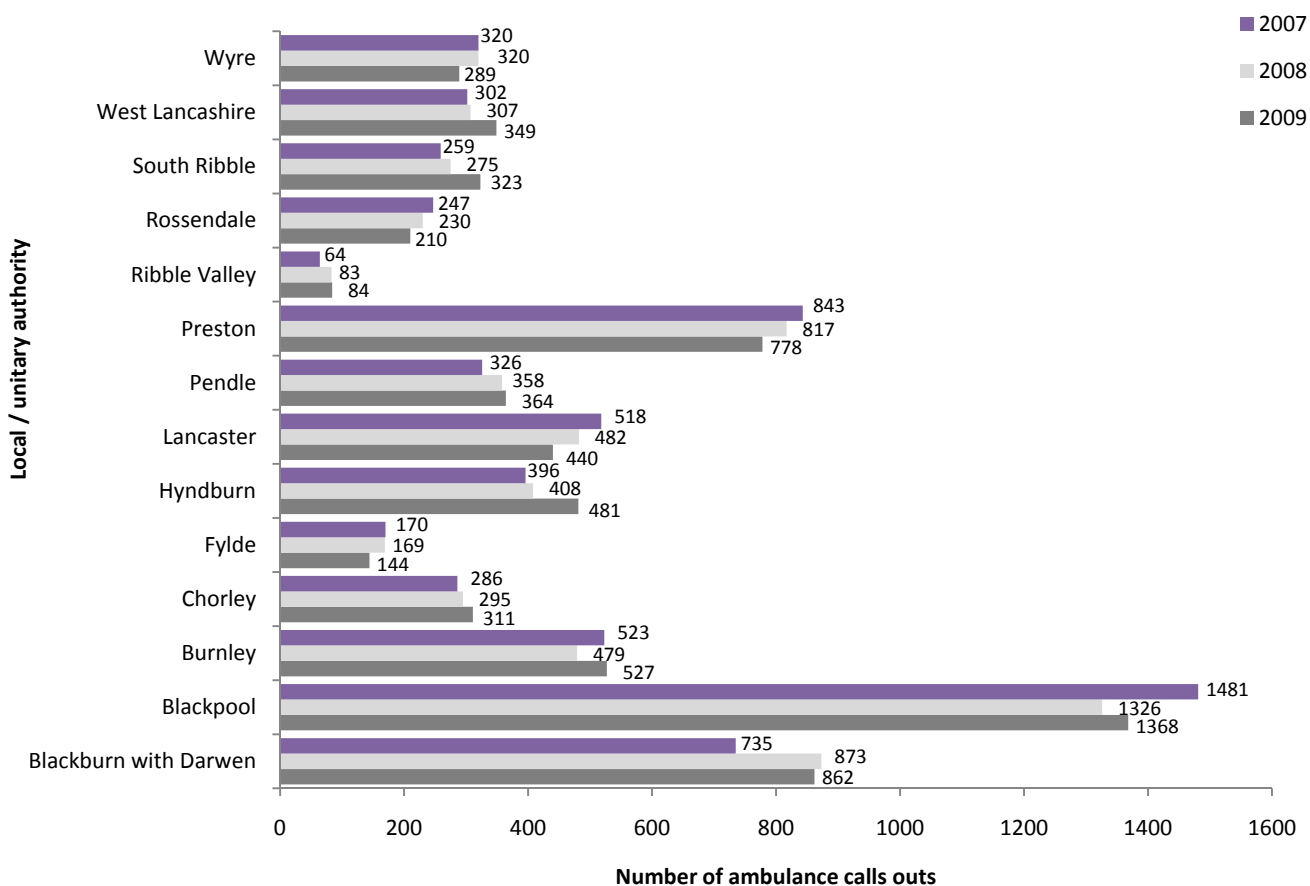


Table 2: Location of assault for assault attendances to all EDs for Lancashire residents and for all Lancashire EDs by age group and gender, January 2007 to December 2009 combined⁴⁵⁶

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: Lancashire residents only													
Educational establishment	***	10%	6%	8%	<1%	<1%	<1%	<1%	0%	***	1%	1%	1%
Home	20%	26%	9%	5%	18%	7%	29%	11%	45%	26%	22%	9%	13%
Other	***	***	14%	13%	14%	14%	11%	13%	8%	10%	13%	13%	13%
Public place	22%	14%	34%	36%	32%	44%	18%	37%	12%	28%	25%	39%	35%
Work	0%	***	<1%	<1%	2%	1%	6%	4%	4%	1%	4%	2%	2%
Unknown	45%	45%	37%	38%	33%	34%	35%	35%	31%	34%	35%	35%	35%
Total number	51	117	1364	3280	1991	6381	3374	9074	169	346	6949	19204	26160
Blackpool Victoria Hospital													
Educational establishment	***	17%	10%	11%	0%	<1%	<1%	0%	***	***	2%	2%	2%
Home	***	43%	18%	9%	24%	12%	42%	20%	60%	38%	33%	16%	20%
Other	***	17%	21%	18%	28%	22%	20%	22%	19%	14%	23%	21%	22%
Public place	***	23%	51%	62%	45%	64%	30%	54%	17%	47%	38%	58%	53%
Work	0%	0%	***	0%	3%	1%	7%	4%	***	***	4%	2%	3%
Unknown	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total number	9	30	366	821	509	1949	932	3020	53	111	1869	5942	7821
Chorley and South Ribble Hospital													
Educational establishment	***	***	13%	19%	***	<1%	***	0%	0%	0%	3%	4%	4%
Home	***	***	13%	6%	33%	9%	48%	17%	71%	38%	38%	12%	20%
Other	***	***	27%	35%	30%	36%	19%	29%	***	26%	23%	32%	30%
Public place	***	***	47%	40%	35%	54%	21%	47%	***	35%	30%	48%	42%
Work	0%	0%	0%	0%	***	1%	11%	7%	***	0%	6%	3%	4%
Unknown	0%	0%	0%	0%	0%	0%	***	0%	0%	0%	0%	0%	0%
Total number	8	11	128	364	201	568	360	730	17	34	714	1707	2421
Ormskirk General Hospital													
Educational establishment	***	***	11%	25%	0%	0%	0%	0%	0%	0%	6%	13%	11%
Home	***	***	5%	4%	32%	11%	21%	7%	***	***	15%	7%	10%
Other	0%	0%	13%	12%	***	***	21%	7%	0%	***	14%	9%	11%
Public place	***	***	71%	59%	64%	82%	28%	72%	***	***	56%	66%	62%
Work	0%	0%	0%	0%	0%	***	30%	15%	***	0%	10%	5%	7%
Unknown	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total number	***	9	93	175	22	55	53	121	***	6	176	366	542
Royal Preston Hospital													
Educational establishment	0%	***	7%	11%	***	<1%	<1%	<1%	0%	***	1%	2%	2%
Home	56%	48%	11%	6%	30%	7%	47%	13%	63%	35%	36%	10%	17%
Other	0%	***	11%	10%	10%	10%	10%	10%	***	14%	10%	10%	10%
Public place	***	24%	71%	72%	57%	81%	34%	71%	23%	47%	48%	74%	67%
Work	0%	***	0%	<1%	2%	1%	8%	6%	***	***	5%	3%	4%
Unknown	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total number	9	21	253	625	456	1509	686	1935	35	66	1439	4156	5598
Royal Lancaster Infirmary													
Educational establishment	0%	***	8%	6%	0%	0%	0%	0%	0%	0%	2%	1%	1%
Home	0%	***	***	4%	16%	5%	38%	10%	***	***	25%	7%	12%
Other	***	0%	72%	68%	45%	51%	34%	49%	***	47%	44%	53%	51%
Public place	***	0%	14%	22%	36%	42%	17%	36%	***	29%	23%	35%	32%
Work	0%	0%	0%	0%	***	***	11%	6%	0%	***	7%	3%	4%
Unknown	0%	0%	0%	0%	***	***	***	0%	0%	0%	<1%	<1%	<1%
Total number	***	***	71	190	128	349	193	458	5	17	399	1015	1414

⁴ Royal Blackburn Hospital and Burnley General Hospital EDs do not collect information on the location of incident.

⁵ 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.

⁶ Please also note percentages might not total one hundred due to rounding.

Figure 3: Lancashire residents: location of assault for assault attendances to all EDs by local authority / unitary authority, January 2007 to December 2009 combined⁷

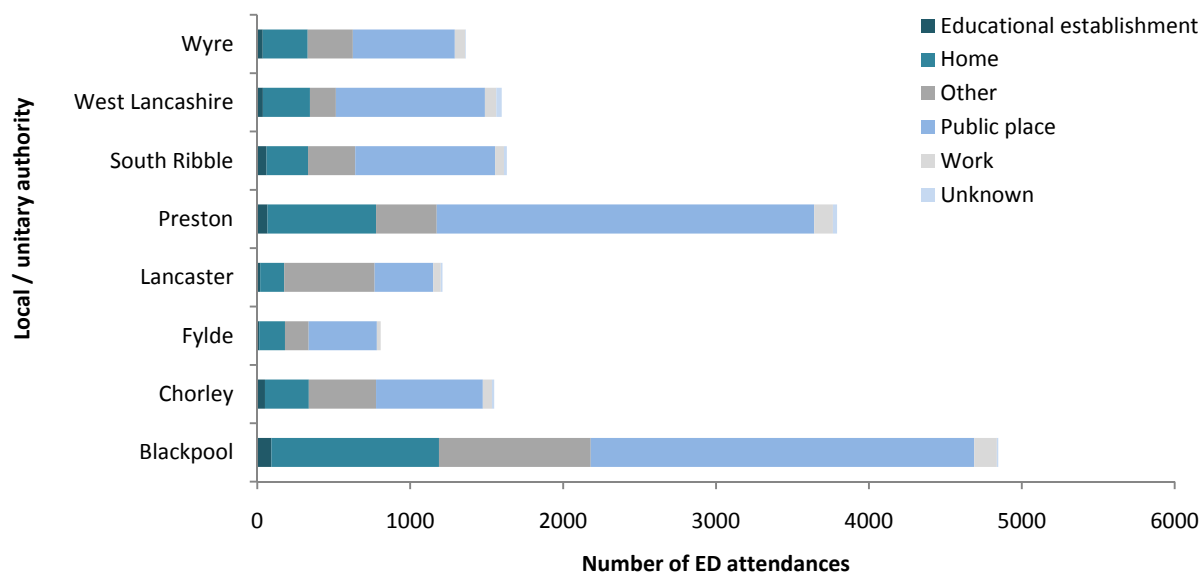


Table 3: Disposal method of assault attendances to all EDs for Lancashire residents and for all Lancashire EDs, January 2007 to December 2009 combined


	Disposal method										
	Admitted		Discharged		Follow-up/referral		Other		Unknown		Total
	n	%	n	%	n	%	n	%	n	%	n
Total Lancashire ED attendances	2061	8	12597	46	9468	35	3124	11	***	0	27250
<i>Burnley General Hospital</i>	147	5	1185	41	1491	52	71	2	***	0	2894
<i>Royal Blackburn Hospital</i>	774	12	3068	47	1837	28	881	13	***	0	6560
<i>Blackpool Victoria Hospital</i>	255	3	3346	43	3177	41	1043	13	***	0	7821
<i>Chorley and South Ribble Hospital</i>	131	5	1383	57	727	30	180	7	***	0	2421
<i>Ormskirk General Hospital</i>	29	5	283	52	224	41	6	1	***	0	542
<i>Royal Preston Hospital</i>	599	11	2693	48	1561	28	745	13	***	0	5598
<i>Royal Lancaster Infirmary</i>	126	9	639	45	451	32	198	14	***	0	1414
Total ED attendances: Lancashire residents only	2078	8	12089	46	9055	35	2919	11	19	0	26160
<i>Blackburn with Darwen</i>	364	10	1834	48	1092	29	502	13	***	0	3794
<i>Blackpool</i>	169	3	2043	42	1970	41	663	14	***	0	4846
<i>Burnley</i>	174	8	866	42	906	44	110	5	***	0	2058
<i>Chorley</i>	119	8	856	55	447	29	127	8	***	0	1549
<i>Fylde</i>	33	4	368	46	322	40	84	10	***	0	807
<i>Hyndburn</i>	178	12	646	45	414	29	189	13	***	0	1428
<i>Lancaster</i>	102	8	558	46	378	31	171	14	***	0	1211
<i>Pendle</i>	101	8	550	41	615	46	69	5	***	0	1335
<i>Preston</i>	355	9	1869	49	1043	28	524	14	***	0	3792
<i>Ribble Valley</i>	52	13	189	46	136	33	30	7	***	0	407
<i>Rossendale</i>	41	12	144	42	129	38	25	7	***	0	339
<i>South Ribble</i>	135	8	840	51	501	31	154	9	***	0	1632
<i>West Lancashire</i>	208	13	714	45	526	33	142	9	8	1	1598
<i>Wyre</i>	47	3	612	45	576	42	129	9	***	0	1364

⁷ Residents of Blackburn with Darwen, Burnley, Hyndburn, Pendle, Rossendale, Ribble Valley are excluded because the majority had an unknown location of incident. This is primarily due to the Royal Blackburn Hospital and Burnley General Hospital not collecting information on the location of incident.

Figure 4: Lancashire 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



 Emergency department

Top five MSOAs

MSOA	MSOA name	n	Crude rate/100,000 (- + 95% confidence intervals [CI])
E02002640	Blackpool 08	515	2312.63 (2117.18-2521.27)
E02002639	Blackpool 07	383	2226.49 (2009.06-2461.02)
E02002645	Blackpool 13	369	2024.36 (1823.05-2241.82)
E02002642	Blackpool 10	459	2014.22 (1834.14-2207.20)
E02005261	Preston 09	524	2013.68 (1844.93-2193.72)

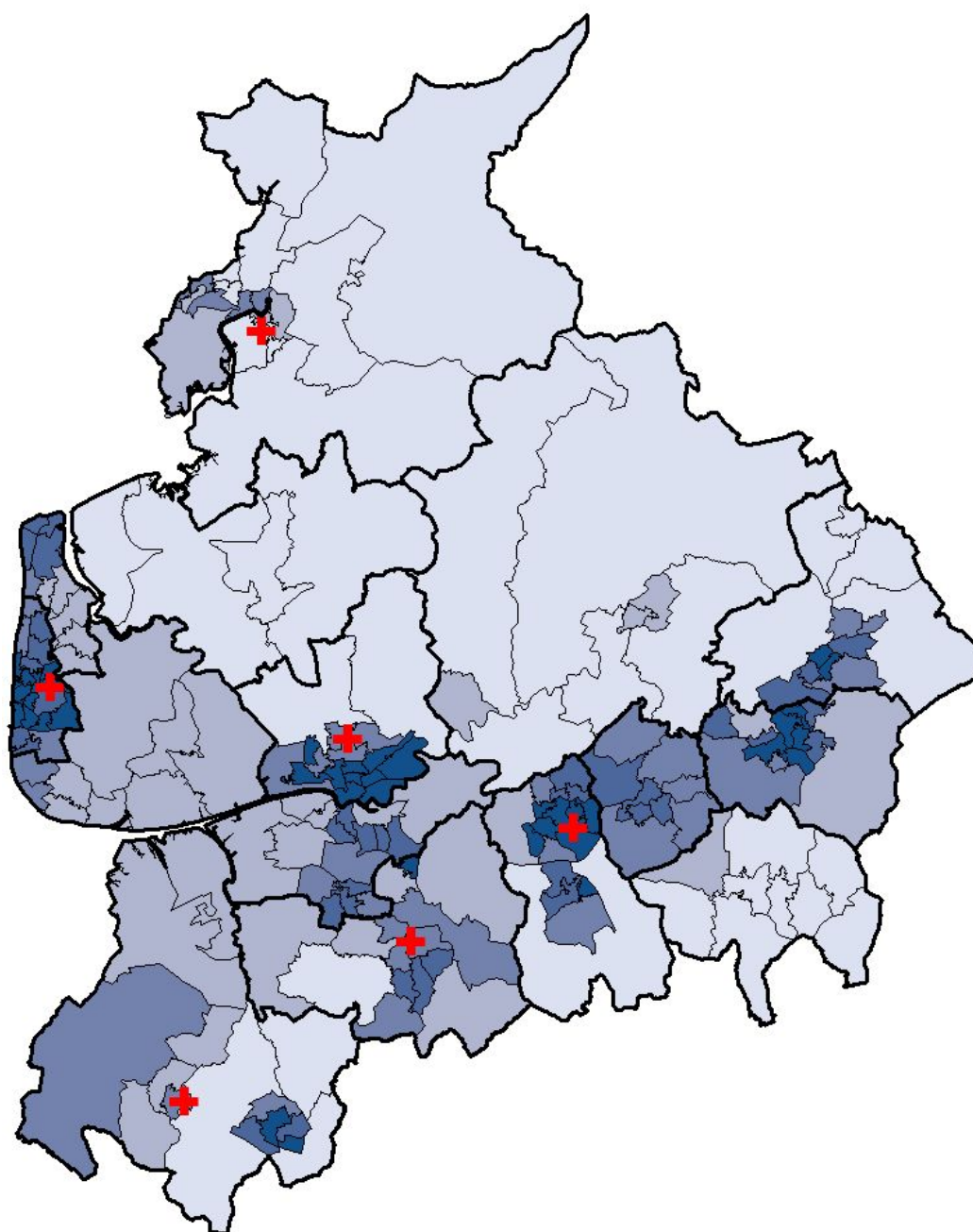


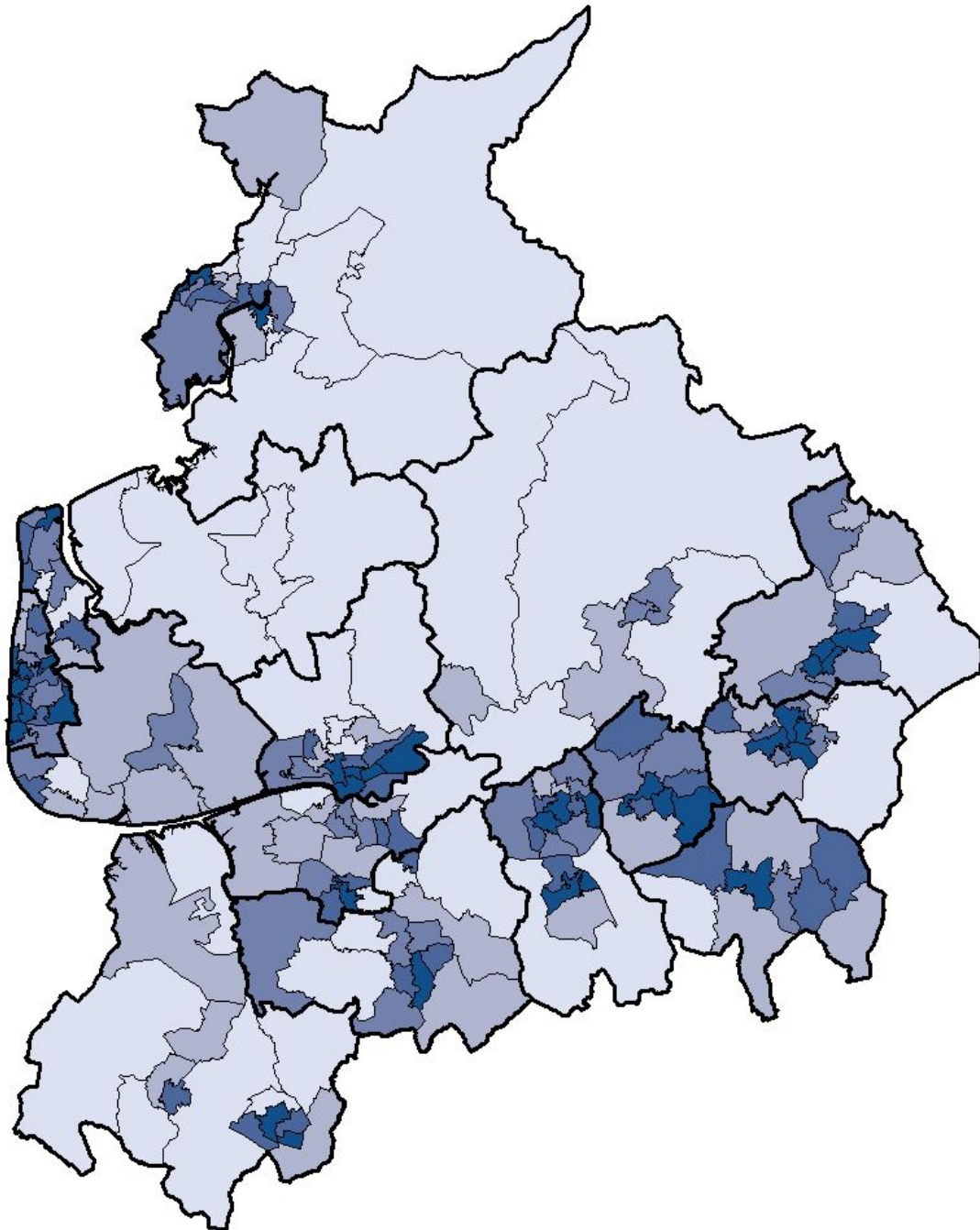
Figure 5: Lancashire residents: crude rate per 100,000 population for ambulance calls for an assault, by MSOA location of call out, January 2007 to December 2009 combined, with LA boundaries overlaid

Quintiles of crude rate per 100,000 population

1	(21.90 – 111.75)
2	(111.76 – 196.33)
3	(196.34 – 405.86)
4	(405.87 – 596.52)
5	(596.52 – 4686.68)

Top five MSOAs

MSOA	MSOA name	n	Crude rate/100,000 (-+ 95% CI)
E02002642	Blackpool 010	1068	4686.68 (4409.78-4976.41)
E02002638	Blackpool 06	704	3694.96 (3427.015-3978.28)
E02005269	Preston 017	787	3065 (2854.57-3286.83)
E02002645	Blackpool 013	542	2973.45 (2728.35-3234.65)
E02002620	Blackburn with Darwen 06	642	2789 (2577.40-3013.34)



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

Similar reports are available covering Cumbria and Lancashire (www.tiig.info)

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