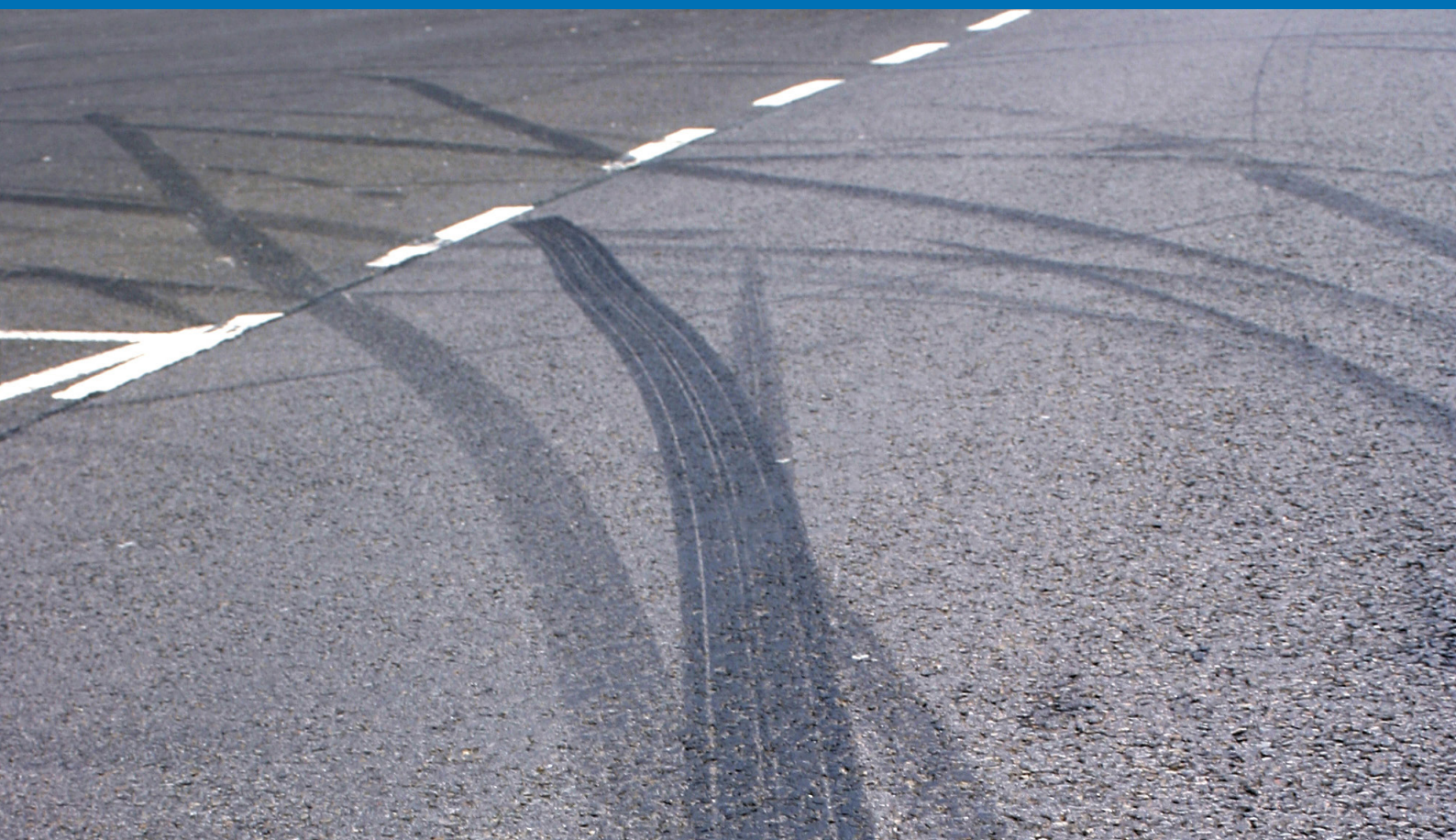


TIIG Lancashire Themed Report

Road Traffic Collisions across Lancashire
(January 2012 to December 2013)

June 2014



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With thanks to the emergency departments involved with the collection of the data used in this report and to the North West Ambulance Service for providing ambulance call out data. Thank you also to the Trauma and Injury Intelligence Group (TIIG) Lancashire Project Steering Group and Lancashire County Council Public Health Team for their continued involvement in TIIG. Finally, thank you to Jennifer Brizell, Stuart Cole and Jane Harris at the Centre for Public Health for their assistance in proof reading this report.

SUMMARY AND KEY FINDINGS

- Between January 2012 and December 2013, there were 19,145 accident and emergency department (AED) attendances across Lancashire due to injuries sustained by road traffic collisions (RTCs) across Lancashire. Of these, 17,466 were residents of Lancashire (91%).
- The number of attendances in 2013 decreased by 7% compared to 2012.
- Over three in ten (31%) attendances were to Royal Blackburn Hospital and Burnley General Hospital, while 26% attended Royal Preston Hospital.
- Crude rates per 100,000 resident population presenting with RTC-related injuries were significantly worse than the Lancashire average for those resident in Blackburn with Darwen, Burnley, Chorley, Pendle, Preston and South Ribble local/unitary authorities.
- There were 7,844 ambulance call outs across Lancashire for traffic/transportation accidents between January 2012 and December 2013. The crude rate of call outs to Blackburn with Darwen, Preston and South Ribble local/unitary authorities were significantly worse than the Lancashire average.
- There were more males than females presenting to an AED with RTC injuries (56%) and receiving an ambulance call out for traffic/transportation accidents (63%) in 2012 and 2013.
- Patients aged between 30 and 59 years accounted for the largest proportion of AED attendances (42%) and ambulance call outs (39%), followed by those aged between 15 and 29 years (AED attendances = 39%; ambulance call outs = 30%).
- The number of AED attendances and ambulance call outs fluctuated across the 24-month period. Both AED attendances and ambulance call outs peaked on Fridays.
- Seven in ten (70%) AED attendees self-referred while 21% were referred by the emergency services.
- Over half (51%) arrived to the AED by private transport and 25% arrived by ambulance.
- The majority (69%) of RTC attendees were discharged from hospital with no further treatment required.

INTRODUCTION

In 2012 there were 195,723 casualties in Great Britain as a result of road traffic collisions (RTCs), of which 1,754 people were killed^{A.1}. Although these figures have decreased by 4% and 8% respectively from the previous year, RTCs remain a major cause of preventable deaths and morbidity which can be avoided through education, awareness, road infrastructure and vehicle safety².

The World Health Organization's (WHO) definition of injuries sustained by RTCs is a *"fatal or non-fatal injury incurred as a result of a collision on a public road involving at least one moving vehicle"*³. RTCs are the leading cause of death among young people aged between 15 and 29 years and half of those dying are vulnerable road users (including children, pedestrians, cyclists and the elderly)⁴. Furthermore, Public Health England (PHE) reported higher mortality rates for road traffic accidents in children and men aged between 20 and 64 years in lower socioeconomic groups (2010-12)².

At a local level, one of PHE's Public Health Outcomes Framework (PHOF) indicators reported a rate of 54.1 casualties per 100,000 resident population killed or seriously injured on England's roads across Lancashire in 2010-12^{A.2}. This is significantly worse when compared to the average for England (40.5 per 100,000 population). Rates were significantly worse than the England average in nine of the 14 local/unitary authorities in Lancashire (64%), with rates highest in Ribbles Valley, Chorley and West Lancashire local authorities^B.

Nationally, the STATS19 system collects data on RTCs on public roads resulting in injury or death which are reported to the police, and these data are used by the Department for Transport and PHE for statistical reporting^C. However, RTCs not reported to the police are unlikely to be included in these figures and therefore STATS19 does not hold a complete record of all RTC-related injuries. In response to this, the National Institute for Health and Care Excellence recommends the monitoring and surveillance of injury data and sharing between organisations (including hospitals, the ambulance service and the police) to overcome gaps in knowledge.

The Trauma and Injury Intelligence Group (TIIG) Injury Surveillance System warehouses data collected by the accident and emergency departments (AEDs) across the north west of England and the North West Ambulance Service (NWAS). Using data collated by TIIG, this report provides an indication of the burden of RTCs on health services and residents of Lancashire during 2012 and 2013. It can be used by local partners to inform prevention strategies and to support local work in relation to the PHOF indicator, *killed and seriously injured casualties on England's roads*^D.

^A This is based on statistics published by the Department for Transport, using data reported to the police via the STATS19 system.

^B See Appendix 1 for a full list of the crude rates and confidence intervals.

^C The STATS19 dataset includes: coordinates of the location of the incident; severity of the accident; number of vehicles involved; number of casualties; date and time of the incident; road type; speed limit of the road; and light, weather and road surface conditions.

^D For more information on the Public Health Outcomes Framework, visit: www.phoutcomes.info.

The following data were extracted from the TIIG Injury Surveillance System:

- Road traffic collision injury attendances to the AEDs across Lancashire (see box below)^E between January 2012 and December 2013;
- Ambulance call outs across Lancashire between January 2012 and December 2013, categorised by traffic/transportation accidents (sourced through the North West Ambulance Service).

Hospitals included in analyses^E

Hospital	Service(s) (AED/UCC) [†]
Blackpool Victoria Hospital	AED
Burnley General Hospital	UCC
Chorley and South Ribble Hospital	AED
Ormskirk and District General Hospital	AED & UCC
Royal Blackburn Hospital	AED & UCC
Royal Albert Edward Infirmary, Wigan (<i>Lancashire residents only</i>)	AED
Royal Lancaster Infirmary	AED
Royal Preston Hospital	AED
Southport and Formby District General Hospital (<i>Lancashire residents only</i>)	AED

[†] AED = Accident and Emergency Department; UCC = Urgent Care Centre. For the purpose of this report, ‘AEDs’ refer to all the hospitals listed in this table, whether AED and/or UCC services are provided.

AED attendances and ambulance call outs were analysed to explore and report on the extent of RTCs across Lancashire in 2012 and 2013. Figures do not relate to individuals, but to the number of attendances and the number of ambulance call outs; for example, an individual could present to an AED more than once during the 24-month period but all attendances made by the individual have been included in the analyses. Where figures have been presented for Lancashire residents only presenting to an AED, this is based on the postcode of residency where complete and correct^F.

^E Due to a high volume of Lancashire residents (particularly West Lancashire) attending Royal Albert Edward Infirmary in Wigan, Greater Manchester (n=103), and Southport and Formby District General Hospital in Merseyside (n=535), attendances made by Lancashire residents to these two hospitals have been included in the analyses.

^F The following hospitals do not provide TIIG with the patients’ postcode, however, the Lower Super Output Area (LSOA) and Middle Super Output Area (MSOA) are reported: Ormskirk and District General Hospital, Royal Albert Edward Infirmary and Southport and Formby District General Hospital. Super Output Areas (SOAs) are used in the reporting of small area statistics; for more information visit: <http://www.ons.gov.uk/ons/guide-method/geography/beginner-s-guide/census/super-output-areas--soas-/index.html>

Crude rates were calculated for each local/unitary authority and Middle Super Output Area (MSOA) per 100,000 resident population across Lancashire (using Office for National Statistics mid-2012 population estimates). To identify where there were significant differences between areas, 95% confidence intervals (CIs)⁶ were calculated. A full list of the number, crude rate and CIs for each MSOA of residency and ambulance call out location are available upon request. Maps have been created using *InstantAtlas* software to illustrate these crude rates.

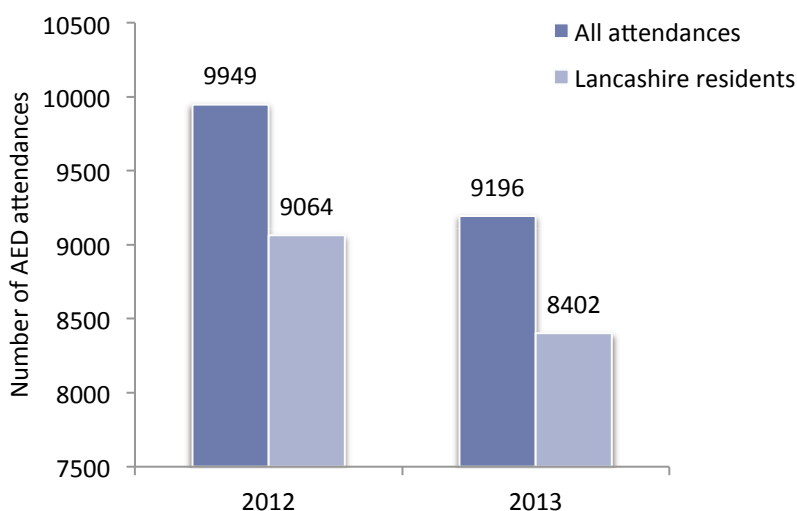
For all tables, numbers less than five have been suppressed (with ***) in line with patient confidentiality. If there is only one number less than five in a category then a second number has been suppressed to prevent back calculations from totals. Percentages may not add up to 100% due to rounding.

NUMBER OF ROAD TRAFFIC COLLISION AED ATTENDANCES

Between January 2012 and December 2013, there were 19,145 attendances to the AEDs across Lancashire (including Lancashire residents attending Royal Albert Edward Infirmary in Wigan, Greater Manchester, and Southport and Formby District General Hospital in Merseyside) due to injuries sustained by road traffic collisions (RTCs). Of these, 17,466 were residents of Lancashire (91%).

Between January and December 2012, there were a total of 9,949 RTC attendances. This figure decreased by 7% in the following year (n=9,196; Figure 1).

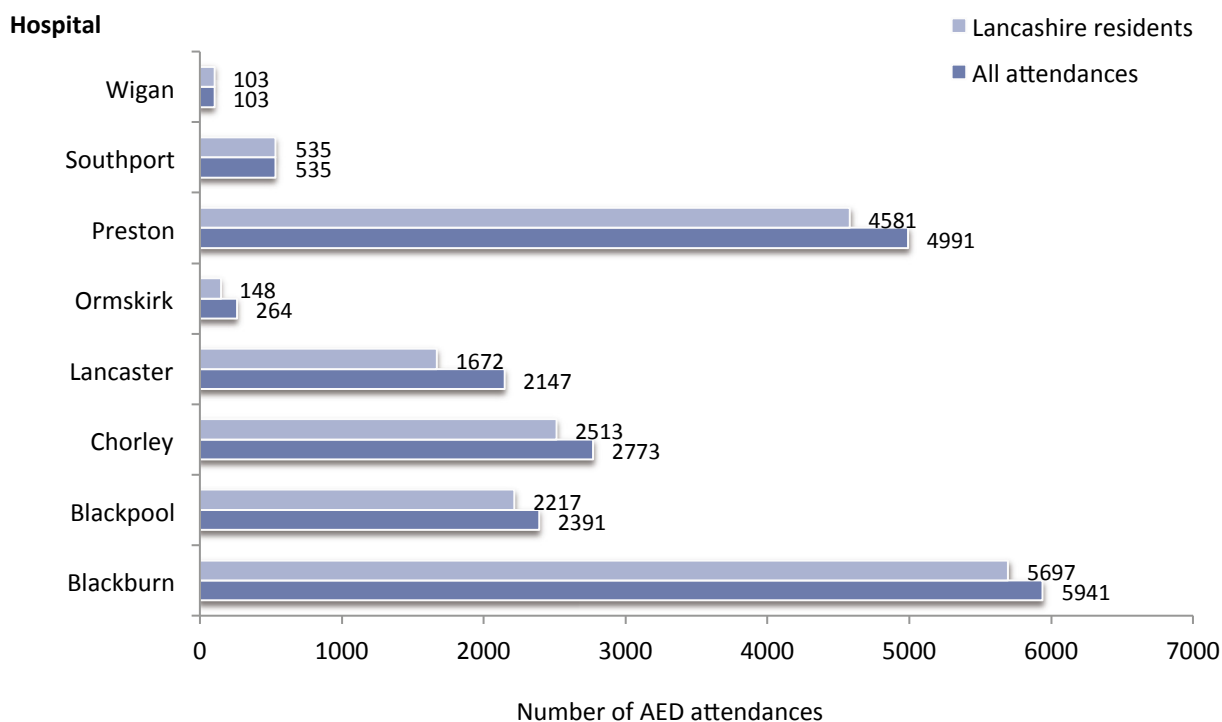
Figure 1: AED attendances for RTC injuries by year of attendance, January 2012 to December 2013



⁶ Confidence intervals (CIs) are a range of values indicating the uncertainty there is around the estimation of a calculated rate; the wider the CI, the more uncertainty there is. CIs are normally calculated at a 95% confidence level, representing the range in which the true population value will lie 95 out of 100 times⁶.

Figure 2 illustrates the number of RTC injury attendances to each AED. Over three in ten (31%) RTC attendances were to Blackburn (Royal Blackburn Hospital AED and UCC, and Burnley General Hospital UCC), followed by over a quarter (26%) to Preston (Royal Preston Hospital AED).

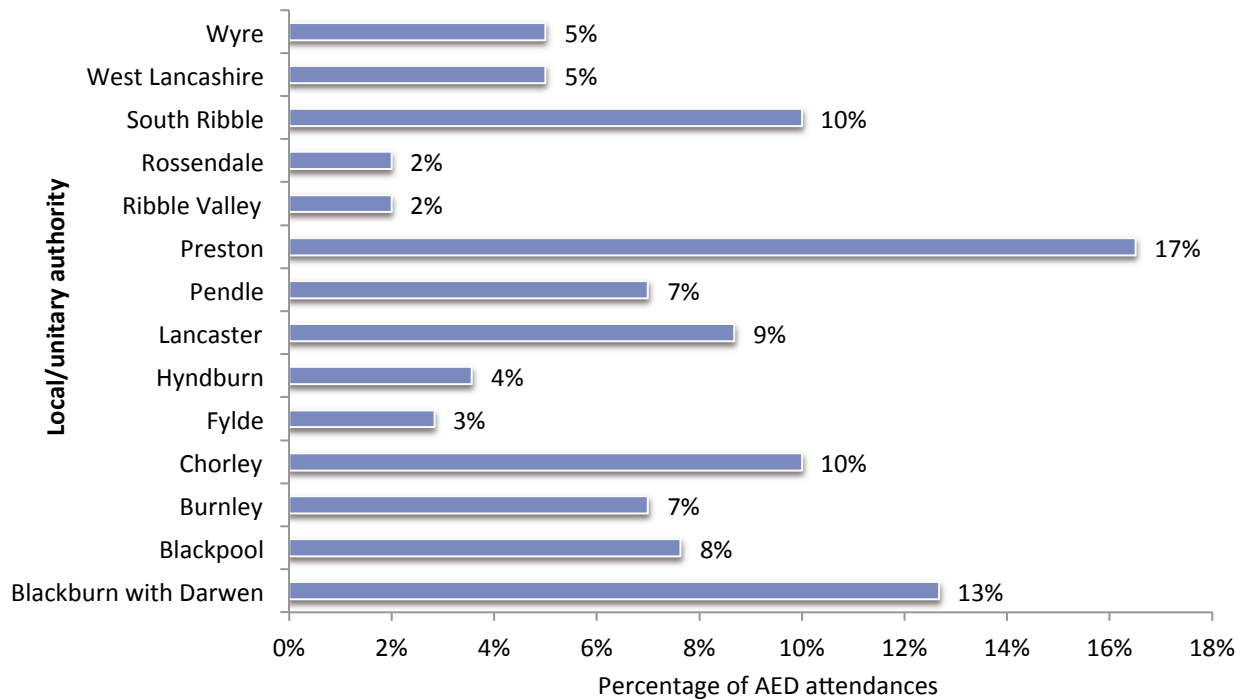
Figure 2: AED attendances for RTC injuries by hospital of attendance, January 2012 to December 2013



AREA OF RESIDENCY FOR ROAD TRAFFIC COLLISION AED ATTENDANCES

Figure 3 demonstrates the local/unitary authority of residency of the RTC injury attendees from Lancashire. Seventeen per cent of attendees were resident in Preston local authority (n=2,884), followed by 13% from Blackburn with Darwen unitary authority (n=2,213). Equal proportions (10% each) were from South Ribble (n=1,769) and Chorley (n=1,760) local authorities.

Figure 3: AED attendances for RTC injuries by local/unitary authority of residence (Lancashire residents), January 2012 to December 2013



AED attendances (Lancashire residents) = 17,466.

Crude rates per 100,000 resident population of RTC injury attendances have been calculated and presented in Table 1. The crude rate of Lancashire residents attending an AED with injuries sustained by RTCs was 1,192 (CI 1,174 to 1,209) per 100,000 resident population. Rates for Blackburn with Darwen, Burnley, Chorley, Pendle, Preston and South Ribble local/unitary authorities were significantly worse than the average for Lancashire.

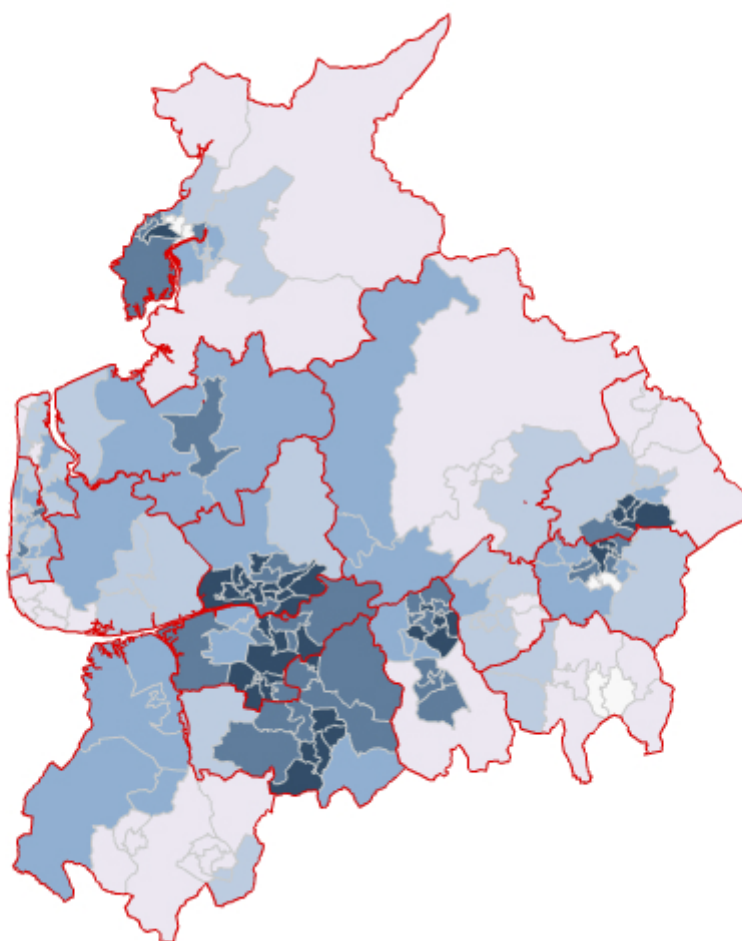
Table 1: Number and crude rates per 100,000 population of AED attendances for RTC injuries by local/unitary authority of residence (Lancashire residents), January 2012 to December 2013

Local/unitary authority	n	Crude rate per 100,000	95% confidence interval	
			Lower limit	Upper limit
Blackburn with Darwen	2213	1498	1436	1562
Blackpool	1334	940	890	991
Burnley	1174	1347	1271	1427
Chorley	1760	1614	1539	1691
Fylde	495	651	595	711
Hyndburn	623	777	717	840
Lancaster	1516	1085	1031	1142
Pendle	1195	1334	1259	1411
Preston	2884	2052	1978	2128
Ribble Valley	424	736	668	810
Rossendale	348	509	457	565
South Ribble	1769	1623	1549	1701
West Lancashire	801	722	673	774
Wyre	930	862	807	919
Lancashire	17466	1192	1174	1209

Map 1 illustrates the crude rates per 100,000 population of the MSOA of Lancashire residents for RTC attendances, overlaid by local/unitary authority boundaries. Fifty-five out of the 191 MSOAs in Lancashire were significantly worse than the average for the county (29%). The five MSOAs where rates were highest were Preston 014, Preston 009, Pendle 011, Preston 016 and Pendle 009^H.

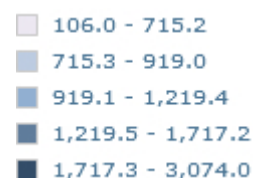
^H A full list is available upon request.

Map 1: Crude rates per 100,000 population of AED attendances for RTC injuries by MSOA of residence, overlaid by local/unitary authority boundaries (Lancashire residents), January 2012 to December 2013



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Key (rate per 100,000 population):



Five highest crude rates per 100,000 population (AED attendances)

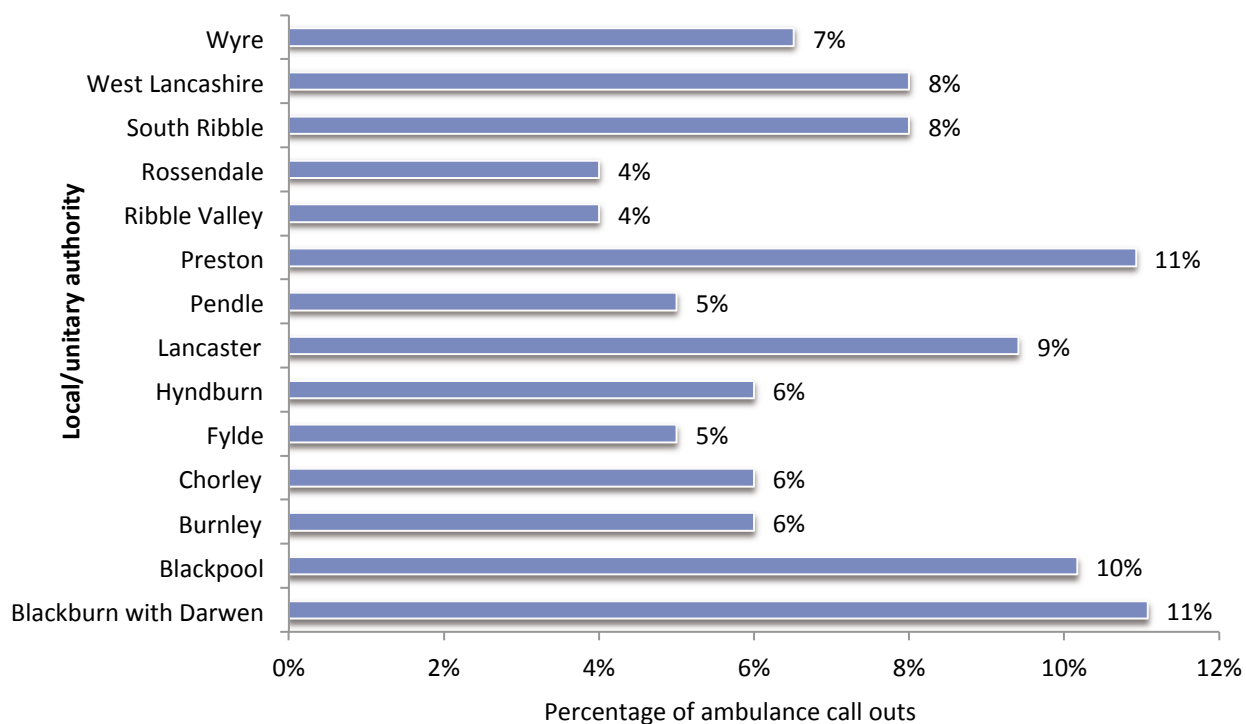
MSOA code	MSOA name	n	Crude rate per 100,000	95% confidence interval	
				Lower limit	Upper limit
E02005266	Preston 014	8197	3074	2706	3478
E02005261	Preston 009	10172	2831	2514	3178
E02005250	Pendle 011	7774	2688	2336	3079
E02005268	Preston 016	9359	2639	2320	2990
E02005248	Pendle 009	6519	2638	2259	3064
Lancashire		17466	1192	1174	1209

LOCATION OF AMBULANCE CALL OUTS FOR TRAFFIC/TRANSPORTATION ACCIDENTS

There were a total of 7,844 ambulance call outs across Lancashire for traffic/transportation accidents between January 2012 and December 2013. In 2012 there were 4,022 call outs compared to 3,822 in 2013; a 5% difference.

Figure 4 illustrates the local/unitary authority of the call out location¹. Ambulance call outs for traffic/transportation accidents were highest in Blackburn with Darwen unitary authority (n=869) and Preston local authority (n=857) (11% each). One in ten (10%) call outs were to Blackpool unitary authority (n=798), followed by 9% to Lancaster local authority (n=738).

Figure 4: Ambulance call outs for traffic/transportation accidents by local/unitary authority of call out location, January 2012 to December 2013



Ambulance call outs = 7,844.

¹ The North West Ambulance Service reports on the location of where the ambulance was requested to; it should be noted that this may not be the same location as where the incident occurred nor in the locality of where the patient resides.

Table 2 presents the crude rates per 100,000 resident population of ambulance call outs for traffic/transportation accidents in 2012 and 2013. The crude rate of ambulance call outs across Lancashire was 535 (CI 523 to 547) per 100,000 population. Blackburn with Darwen, Preston and South Ribble local/unitary authorities were significantly worse than the average for Lancashire.

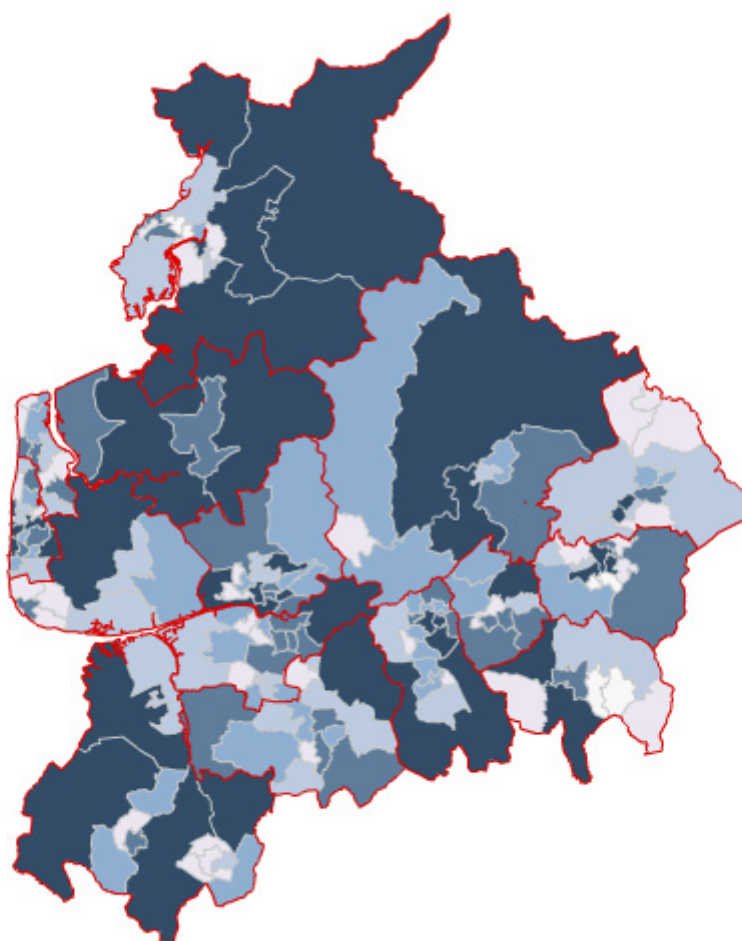
Table 2: Number and crude rates per 100,000 population of ambulance call outs for traffic/transportation accidents by local/unitary authority of call out location, January 2012 to December 2013

Local/unitary authority	n	Crude rate per 100,000	95% confidence interval	
			Lower limit	Upper limit
Blackburn with Darwen	869	588	550	629
Blackpool	798	562	524	602
Burnley	476	546	498	598
Chorley	480	440	402	481
Fylde	415	546	495	601
Hyndburn	445	555	505	609
Lancaster	738	528	491	568
Pendle	368	411	370	455
Preston	857	610	570	652
Ribble Valley	307	533	475	596
Rosendale	316	462	413	516
South Ribble	648	595	550	642
West Lancashire	616	555	512	601
Wyre	511	474	433	517
Lancashire	7844	535	523	547

Crude rates per 100,000 population of the MSOA of ambulance call out location for traffic/transportation accidents are illustrated in Map 2. Thirty-five out of the 191 MSOAs in Lancashire were significantly worse than the average for Lancashire (18%). The five MSOAs where rates were highest were South Ribble 002, Fylde 001, Blackburn with Darwen 006, West Lancashire 008 and Burnley 003^J.

^J A full list is available upon request.

Map 2: Crude rates per 100,000 population of ambulance call outs for traffic/transportation accidents by MSOA of call out location, overlaid by local/unitary authority boundaries, January 2012 to December 2013



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Key (rate per 100,000 population):



Five highest crude rates per 100,000 population (ambulance call outs)

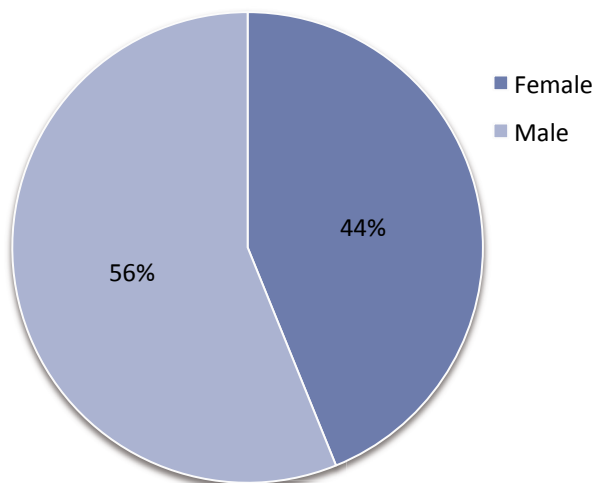
MSOA code	MSOA name	n	Crude rate per 100,000	95% confidence interval	
				Lower limit	Upper limit
E02005288	South Ribble 002	199	3303	2860	3796
E02005203	Fylde 001	178	2458	2110	2846
E02002620	Blackburn with Darwen 006	154	1825	1548	2137
E02005311	West Lancashire 008	97	1698	1377	2071
E02005178	Burnley 003	153	1684	1428	1974
Lancashire		7844	535	523	547

PATIENT DEMOGRAPHY

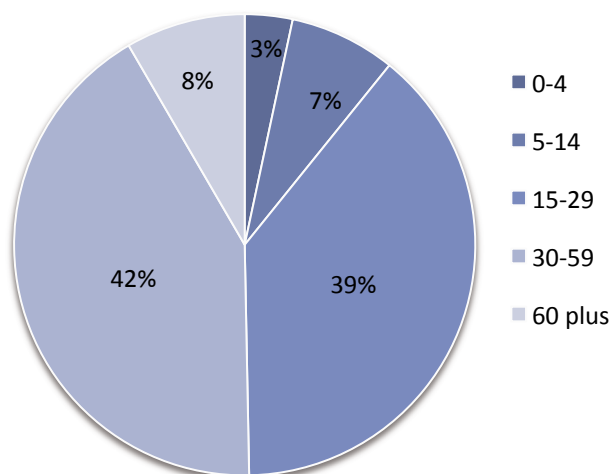
The gender and age groups of patients attending an AED in Lancashire with injuries sustained from RTCs are presented in Figure 5. In the 24-month period there were more males than females (males=10,746; 56%) (Figure 5a). Attendees aged between 30 and 59 years accounted for the highest proportion of RTC injury attendances (n=8,025; 42%) while just under two in five (39%) were aged between 15 and 29 years (n=7,445; Figure 5b).

Figure 5: AED attendances for RTC injuries by gender and age group, January 2012 to December 2013

a) Gender



b) Age group^K



AED attendances = 19,145.

^K There was one attendee without an age recorded; this has been omitted from the chart.

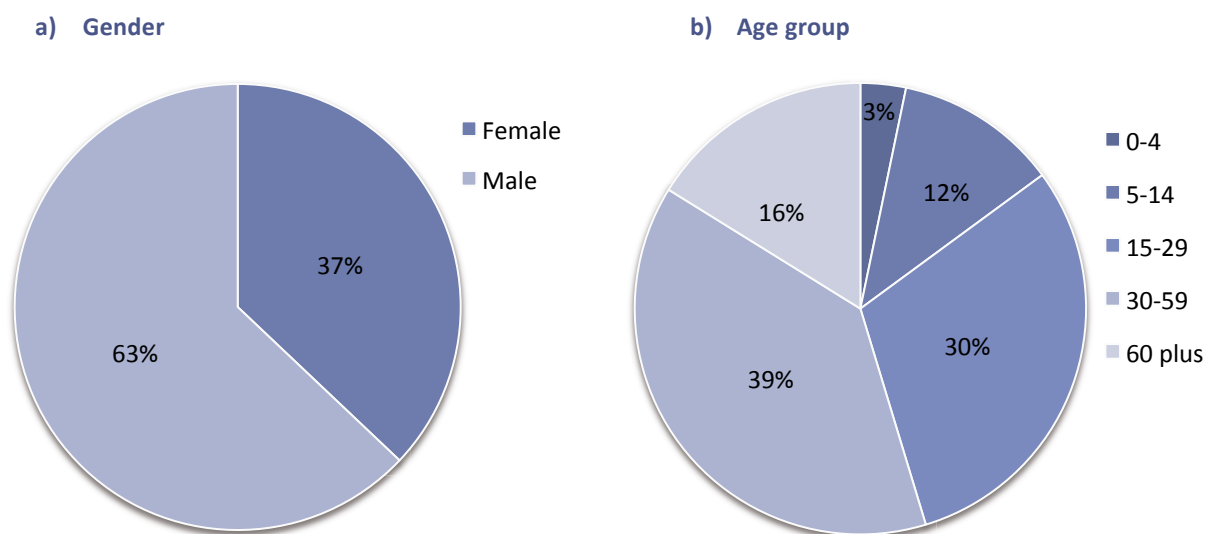
Table 3 presents the age group and gender of Lancashire residents attending AEDs for RTC injuries by five-year age categories. The largest proportion of Lancashire residents attending an AED for RTCs was the 20-24 years category (16%), followed by those aged between 25 and 29 years (13%). Attendees aged between 15 and 19 years and between 30 and 34 years accounted for 11% and 10% of RTC attendances respectively. There were similar proportions across both gender categories and more males than females across all five-year age groups. Males aged between 20 and 24 years accounted for the largest proportion of RTC attendances (n=1,492), followed by females of the same age group (n=1,249) and 25-29 year old males (n=1,241).

Table 3: AED attendances for RTC injuries by gender and five-year age groups (Lancashire residents), January 2012 to December 2013

Age group	Female		Male		Total	
	n	%	n	%	n	%
0-4	277	4%	291	3%	568	3%
5-9	264	3%	331	3%	595	3%
10-14	325	4%	358	4%	683	4%
15-19	871	11%	1051	11%	1922	11%
20-24	1249	16%	1492	15%	2741	16%
25-29	984	13%	1241	13%	2225	13%
30-34	734	10%	978	10%	1712	10%
35-39	534	7%	811	8%	1345	8%
40-44	589	8%	832	9%	1421	8%
45-49	561	7%	711	7%	1272	7%
50-54	414	5%	581	6%	995	6%
55-59	255	3%	355	4%	610	3%
60-64	188	2%	232	2%	420	2%
65-69	160	2%	179	2%	339	2%
70-74	102	1%	113	1%	215	1%
75+	189	2%	214	2%	403	2%
Total	7696	100%	9770	100%	17466	100%

The patient demographics, where provided, of ambulance call outs across Lancashire for traffic/transportation accidents are shown in Figure 6. Comparable with AED attendances, males accounted for the largest proportion of ambulance call outs, however with a slightly higher percentage (n=3,349; 63%) (Figure 6a). Patients aged between 30 and 59 years accounted for just under two in five (39%) call outs (n=1,575) followed by three in ten (30%) aged between 15 and 29 years (n=1,243; Figure 6b).

Figure 6: Ambulance call outs for traffic/transportation accidents by gender and age group, January 2012 to December 2013^L



Ambulance call outs = 7,844.

^L There were 2,379 records without the gender recorded and 3,755 records without the age recorded; these have been omitted from Figure 6.

Table 4 presents five-year age categories alongside gender for ambulance call outs for traffic/transportation accidents in 2012 and 2013. The largest proportion of call outs across Lancashire were for patients aged between 20 and 24 years (11%), followed by 15-19 year olds and 25-29 year olds (10% each). There were similar proportions across both gender categories and more males than females across all five-year age groups. Males aged between 20 and 24 years accounted for the largest proportion of ambulance call outs for traffic/transportation accidents (n=287), followed by males aged between 15 and 19 years (n=284) and males aged between 25 and 29 years (n=257).

Table 4: Ambulance call outs for traffic/transportation accidents by gender and five-year age groups January 2012 to December 2013^M

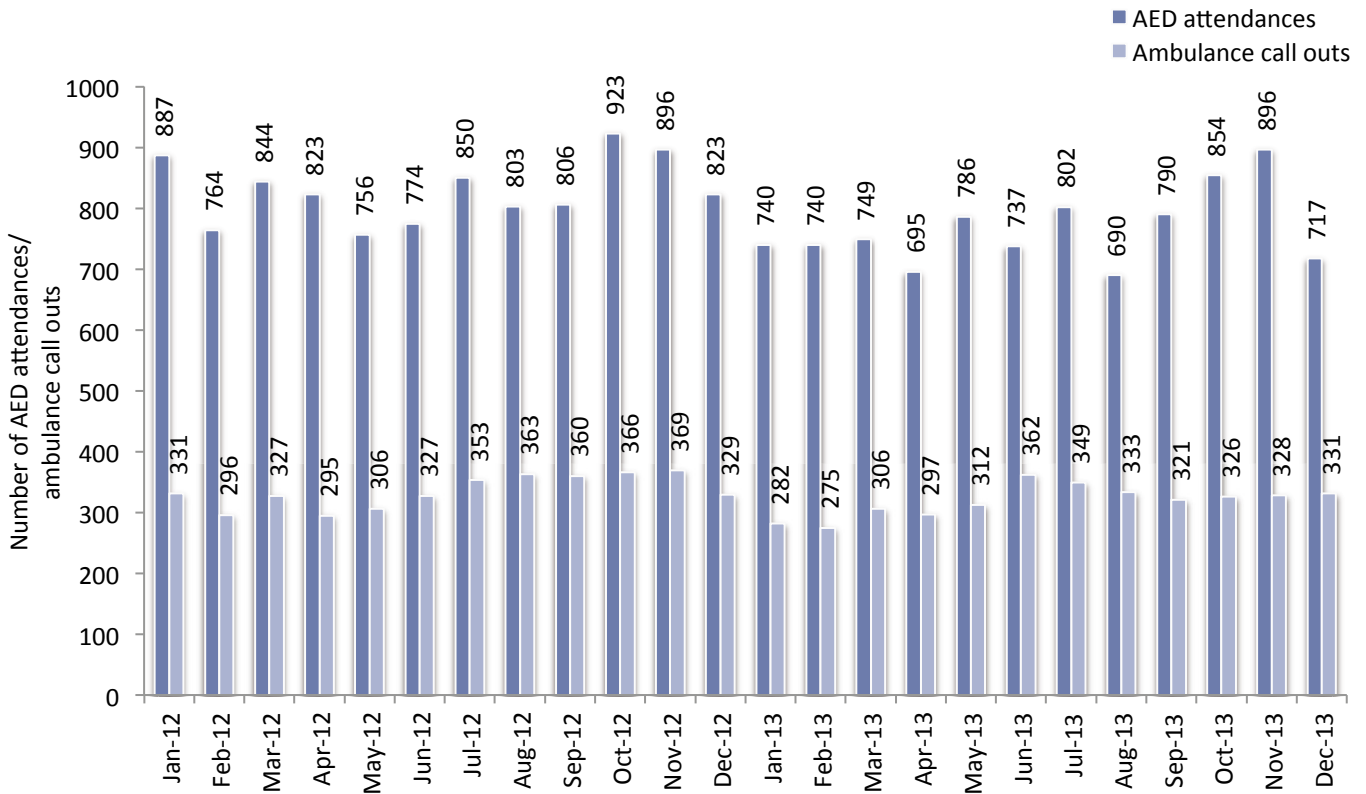
Age group	Female		Male		Total	
	n	%	n	%	n	%
0-4	41	3%	73	3%	114	3%
5-9	80	6%	130	5%	210	5%
10-14	85	6%	178	7%	263	6%
15-19	123	9%	284	11%	407	10%
20-24	150	10%	287	11%	437	11%
25-29	137	9%	257	10%	394	10%
30-34	117	8%	198	8%	315	8%
35-39	87	6%	161	6%	248	6%
40-44	103	7%	204	8%	307	8%
45-49	86	6%	204	8%	290	7%
50-54	88	6%	186	7%	274	7%
55-59	60	4%	77	3%	137	3%
60-64	56	4%	97	4%	153	4%
65-69	53	4%	73	3%	126	3%
70-74	61	4%	73	3%	134	3%
75+	119	8%	129	5%	248	6%
Total	1446	100%	2611	100%	4057	100%

^M There were 2,379 records without the gender recorded and 3,755 records without the age recorded; these have been omitted from Figure 6.

DATE AND TIME OF AED ATTENDANCES AND AMBULANCE CALL OUTS

Figure 7 shows that in the two-year period, AED attendances due to RTCs peaked in January 2012, October 2012, November 2012 and November 2013 (5% each). The months with the highest number of ambulance call outs for traffic/transportation accidents across Lancashire were August 2012, September 2012, October 2012, November 2012 and June 2013 (5% each).

Figure 7: AED attendances for RTC injuries and ambulance call outs for traffic/transportation accidents by month and year, January 2012 to December 2013



The day of the week with the highest number of RTC AED attendances was Friday (16%). Likewise, the highest proportion of ambulance call outs for traffic/transportation accidents was also Friday (16%; Figure 8).

Figure 8: AED attendances for RTC injuries and ambulance call outs for traffic/transportation accidents by day, January 2012 to December 2013

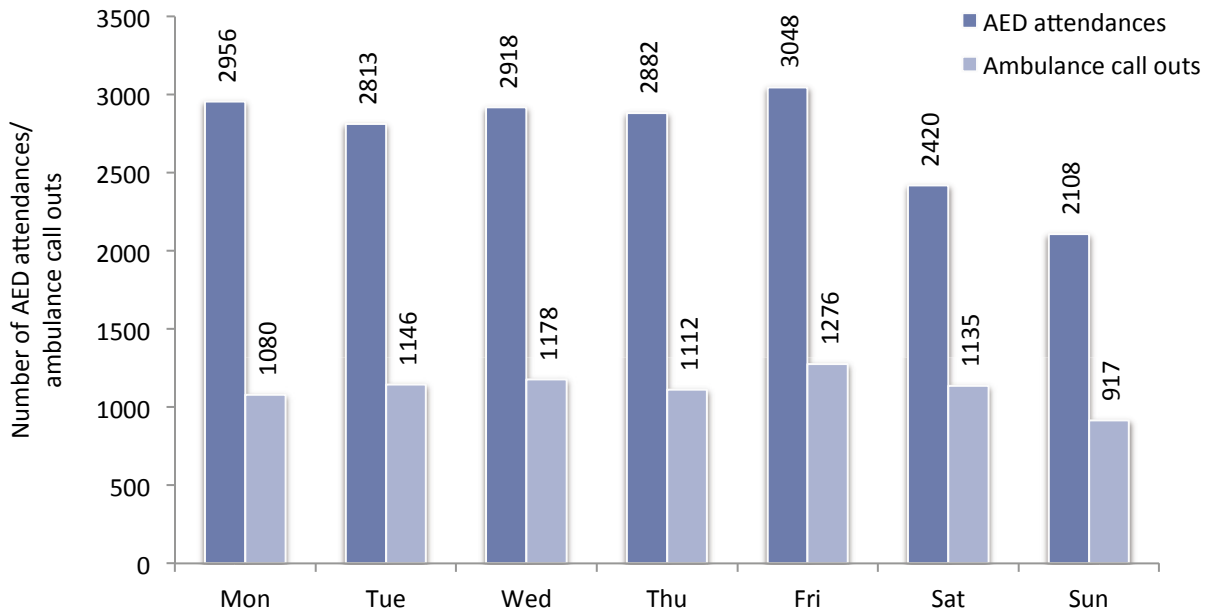
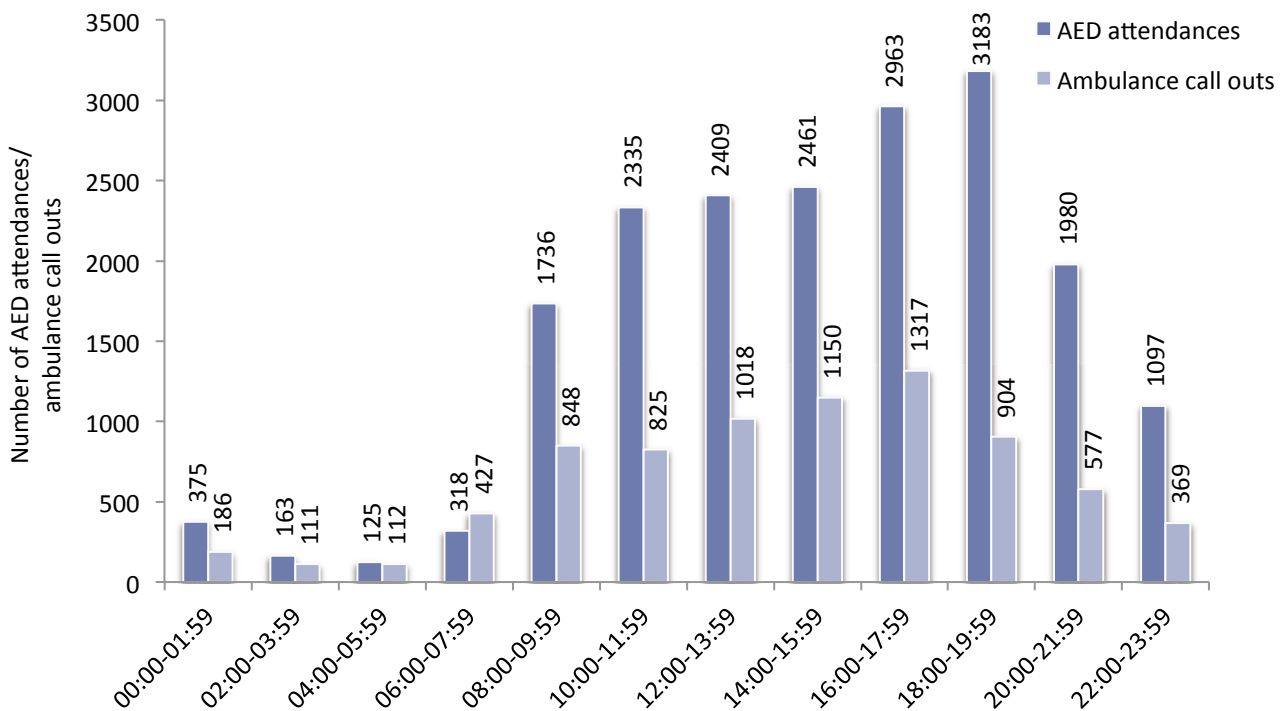


Figure 9 shows the time group of AED attendances due to RTCs and ambulance call outs for traffic/transportation accidents. AED attendances peaked between 18:00 and 19:59 (17%) and between 16:00 and 17:59 (15%). Ambulance call outs peaked between 16:00 and 17:59 (17%) and between 14:00 and 15:59 (15%).

Figure 9: AED attendances for RTC injuries and ambulance call outs for traffic/transportation accidents by time group, January 2012 to December 2013



REFERRAL SOURCE AND ARRIVAL MODE

Table 5 illustrates the source of referral and arrival mode to the AED for RTC-related injury attendances. Overall, seven in ten (70%) self-referred while 21% were referred by the emergency services (Table 5a). Over half (51%) of the RTC attendees arrived to the AED by private transport and a quarter (25%) arrived by ambulance (Table 5b).

Table 5: AED attendances for RTC injuries by referral source and arrival mode, January 2012 to December 2013

a) Referral source^N

Referral source	n	%
Self-referral	7328	70%
Emergency services	2225	21%
Other	545	5%
Health care provider: same or other	287	3%
General medical practitioner	62	1%
Work	9	<1%
Educational establishment	5	<1%
Total	10461	100%

b) Arrival mode^O

Arrival mode	n	%
Private transport	9341	51%
Ambulance	4579	25%
Other	1397	8%
Taxi/dropped off	1384	8%
On foot	1176	6%
Public transport	342	2%
Total	18219	100%

^N There were 8,684 records without the referral source recorded; these have been omitted from the table. Chorley and South Ribble Hospital and Royal Preston Hospital do not record the source of referral.

'Emergency services' includes accident and emergency; and, 'other' includes community dental service, local authority social services, penal establishment, court, police and other.

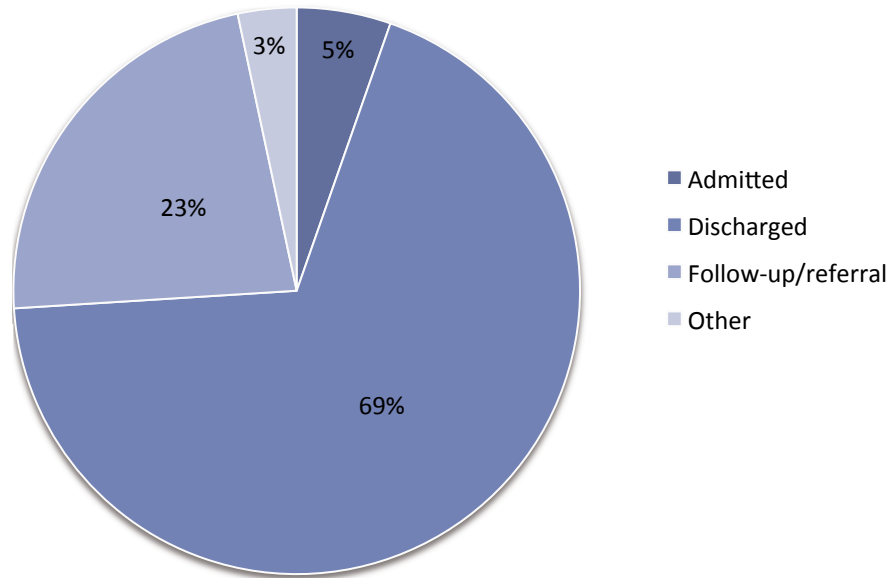
^O There were 926 records without the arrival mode recorded; these have been omitted from the table.

'Ambulance' includes helicopter and voluntary ambulance; 'private transport' includes car and motorcycle; and, 'other' includes police escort, prison escort and other.

PATIENT DISPOSAL

The majority (69%) of RTC injury attendees were discharged from hospital with no further treatment required, while under a quarter (23%) required a follow-up or referral for further treatment. More than one thousand attendees were admitted to hospital (5%; Figure 10).

Figure 10: AED attendances for RTC injuries by disposal method, January 2012 to December 2013^P



^P There were 23 records without the disposal method recorded; these have been omitted from the chart.

'Other' includes died in department, left department before being treated, left department having refused treatment and other.

Table 6 illustrates the disposal by age group and gender for Lancashire residents attending an AED between January 2012 and December 2013. More than seven in ten (72%) females were discharged from hospital, followed by 22% referred for further treatment and 4% admitted to hospital. The proportions for each disposal method were similar for females aged between five and 59 years; however there were some differences for those aged less than five years and aged 60 years and above. For 0-4 year olds, a larger proportion were discharged (78%) and a smaller proportion required follow-up treatment (13%). Conversely for patients aged 60 years and above, a smaller proportion were discharged (65%) while one in ten (10%) were admitted to hospital.

In comparison, a smaller proportion of males were discharged (67%) and a slightly higher proportion of males required further treatment (24%). Six per cent of males were admitted to hospital, a larger proportion of attendees when compared to females (Table 6). These proportions were similar for those aged between 15 and 59 years, while there were smaller proportions of males who required further treatment in those aged four years or less (13%) and between five and 14 years (19%). Within the 60 years plus age category, there was a larger proportion of males admitted (15%).

Table 6: AED attendances for RTC injuries by disposal method, age group and gender (Lancashire residents), January 2012 to December 2013^{Q,R}

Disposal method	Age group											
	0-4		5-14		15-29		30-59		60 plus		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
	Females											
Admitted	11	4%	28	5%	81	3%	84	3%	66	10%	270	4%
Discharged	216	78%	436	74%	2216	71%	2224	72%	411	65%	5503	72%
Follow-up/referral	35	13%	107	18%	694	22%	712	23%	145	23%	1693	22%
Other	14	5%	17	3%	111	4%	61	2%	15	2%	218	3%
Total	276	100%	588	100%	3102	100%	3081	100%	637	100%	7684	100%
	Males											
Admitted	9	3%	34	5%	183	5%	208	5%	110	15%	544	6%
Discharged	231	79%	515	75%	2516	67%	2836	66%	429	58%	6527	67%
Follow-up/referral	39	13%	129	19%	905	24%	1074	25%	173	23%	2320	24%
Other	12	4%	10	1%	173	5%	147	3%	26	4%	368	4%
Total	291	100%	688	100%	3777	100%	4265	100%	738	100%	9759	100%

^Q There were 23 records missing the disposal method; these have been omitted from the table.

'Other' includes died in department, left department before being treated, left department having refused treatment and other.

^R Numbers less than five have been suppressed (with ***) in line with patient confidentiality. Where there is only one number less than five in a category then a second number has been suppressed to prevent back calculations from totals.

Table 7 illustrates the transfer description of ambulance call outs for traffic/transportation accidents. Under six in ten (56%) call outs resulted in the patient being transferred to an AED within Lancashire. Of these transfers, over a third (34%) were taken to Royal Blackburn Hospital, followed by over a quarter (26%) transferred to Royal Preston Hospital and 22% taken to Blackpool Victoria Hospital.

Table 7: Ambulance call outs for traffic/transportation accidents by transfer description and AED attended, January 2012 to December 2013⁵

Transfer description	n	%
Transferred to AED/UCC in Lancashire	4360	56%
No transfer	2963	38%
Transferred outside Lancashire	494	6%
Transferred to other health care provider in Lancashire	27	<1%
Total	7844	100%
AED transferred to	n	%
Royal Blackburn Hospital	1474	34%
Royal Preston Hospital	1153	26%
Blackpool Victoria Hospital	944	22%
Royal Lancaster Infirmary	486	11%
Chorley and South Ribble Hospital	271	6%
Ormskirk District General Hospital	32	1%
Total	4360	100%

⁵ 'Transferred to other health care provider in Lancashire' includes other hospitals without an AED/UCC, walk-in centres and other health care providers within Lancashire; 'Transferred outside Lancashire' includes EDs and other health care providers outside of the county.

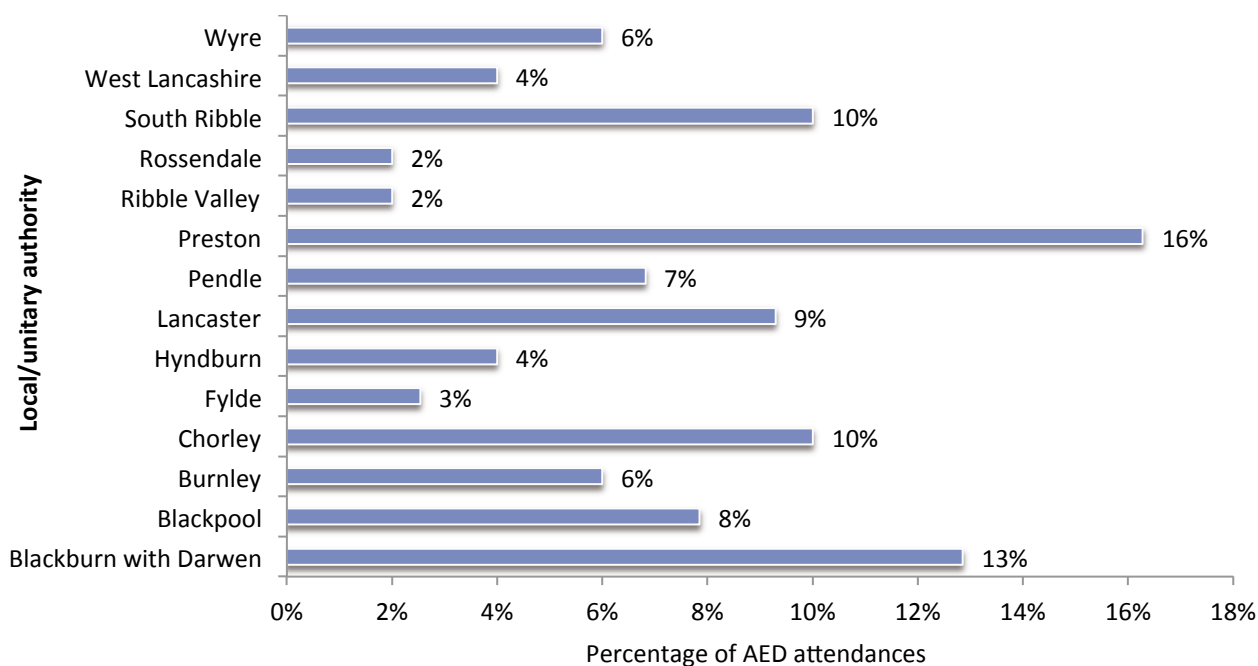
As evidenced in this report, AED attendances for RTC injuries were more prevalent in young people aged between 20 and 29 years (Table 3), and those aged between 15 and 29 years who received an ambulance call out for traffic/transportation accidents (Table 4). This next section of the report details RTC AED attendances made by Lancashire residents aged between 15 and 29 years^T.

NUMBER AND AREA OF RESIDENCY FOR ROAD TRAFFIC COLLISION AED ATTENDANCES

Between January 2012 and December 2013, 6,888 people aged between 15 and 29 years resident in Lancashire attended an AED due to injuries sustained by a RTC. This figure makes up 36% of the total number of RTC attendances in the 24-month period. There were more attendances due to RTCs in 2012 (n=3,630) compared to 2013 (n=3,258); a 10% decrease.

Figure 11 demonstrates the local/unitary authority of residency of the RTC injury attendees aged between 15 and 29 years from Lancashire. The largest proportion of 15-29 year olds were from Preston local authority (n=1,121; 16%), while 13% were from Blackburn with Darwen unitary authority (n=885) and one in ten (10%) were from Chorley (n=709) and South Ribble (n=662) local authorities.

Figure 11: AED attendances for RTC injuries by local/unitary authority of residence (Lancashire residents aged 15-29 years), January 2012 to December 2013



AED attendances (Lancashire residents aged 15-29 years) = 6,888.

^T Due to a large number of ambulance call outs without an age recorded, this section will look at AED attendances only and omit call outs for traffic/transportation accidents.

The crude rate of Lancashire residents aged between 15 and 29 years attending an AED with injuries sustained by RTCs was 2,449 (CI 2,391 to 2,507) per 100,000 resident population (Table 8). Rates for Blackburn with Darwen, Chorley, Preston and South Ribble local/unitary authorities were significantly worse than the average for Lancashire.

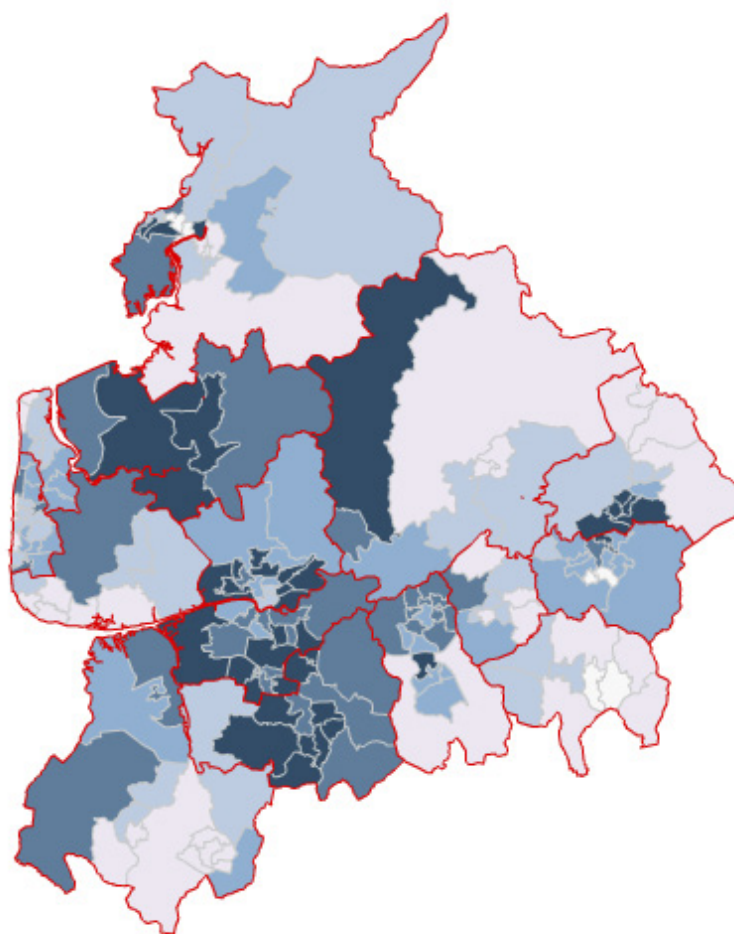
Table 8: Number and crude rates per 100,000 population of AED attendances for RTC injuries by local/unitary authority of residence (Lancashire residents aged 15-29 years), January 2012 to December 2013

Local/unitary authority	n	Crude rate per 100,000	95% confidence interval	
			Lower limit	Upper limit
Blackburn with Darwen	885	2914	2725	3113
Blackpool	541	2092	1919	2276
Burnley	407	2440	2209	2689
Chorley	709	3796	3522	4086
Fylde	175	1579	1354	1831
Hyndburn	263	1727	1524	1948
Lancaster	640	1914	1768	2068
Pendle	470	2749	2506	3009
Preston	1121	3168	2985	3359
Ribble Valley	170	1931	1652	2244
Rossendale	149	1249	1057	1467
South Ribble	662	3479	3219	3754
West Lancashire	295	1421	1264	1593
Wyre	401	2365	2139	2608
Lancashire	6888	2449	2391	2507

Map 3 illustrates the crude rates per 100,000 population by MSOA of Lancashire residents aged between 15 and 29 years attending AEDs for RTC injuries, overlaid by local/unitary authority boundaries. Forty-seven out of the 191 MSOAs in Lancashire were significantly worse than the average for the county (25%). The five MSOAs where rates were highest were Preston 009, Chorley 013, Pendle 010, Lancaster 010 and Preston 014^U.

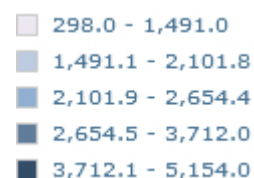
^U A full list is available upon request.

Map 3: Crude rates per 100,000 population of AED attendances for RTC injuries by MSOA of residence, overlaid by local/unitary authority boundaries (Lancashire residents aged 15-29 years), January 2012 to December 2013



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Key (rate per 100,000 population):



Five highest crude rates per 100,000 population (AED attendances)

MSOA code	MSOA name	n	Crude rate per 100,000	95% confidence interval	
				Lower limit	Upper limit
E02005332	Preston 009	112	5154	4244	6202
E02005330	Chorley 013	68	5041	3914	6390
E02005331	Pendle 010	104	4929	4027	5972
E02005326	Lancaster 010	50	4878	3621	6431
E02005329	Preston 014	104	4766	3894	5775
Lancashire		6888	2449	2391	2507

The gender and five-year age groups of patients from Lancashire aged between 15 and 29 years attending an AED with injuries sustained from RTCs are presented in Figure 12. Between January 2012 and December 2013 there were more males than females (males=3,784; 55%) (Figure 12a). Four in ten (40%) RTC attendees were aged between 20 and 24 years (n=2,741) while just under a third (32%) were aged between 25 and 29 years (n=2,225) and 28% were aged between 15 and 19 years (n=1,922; Figure 12b).

Figure 12: AED attendances for RTC injuries by gender and five-year age group (15-29 years), January 2012 to December 2013

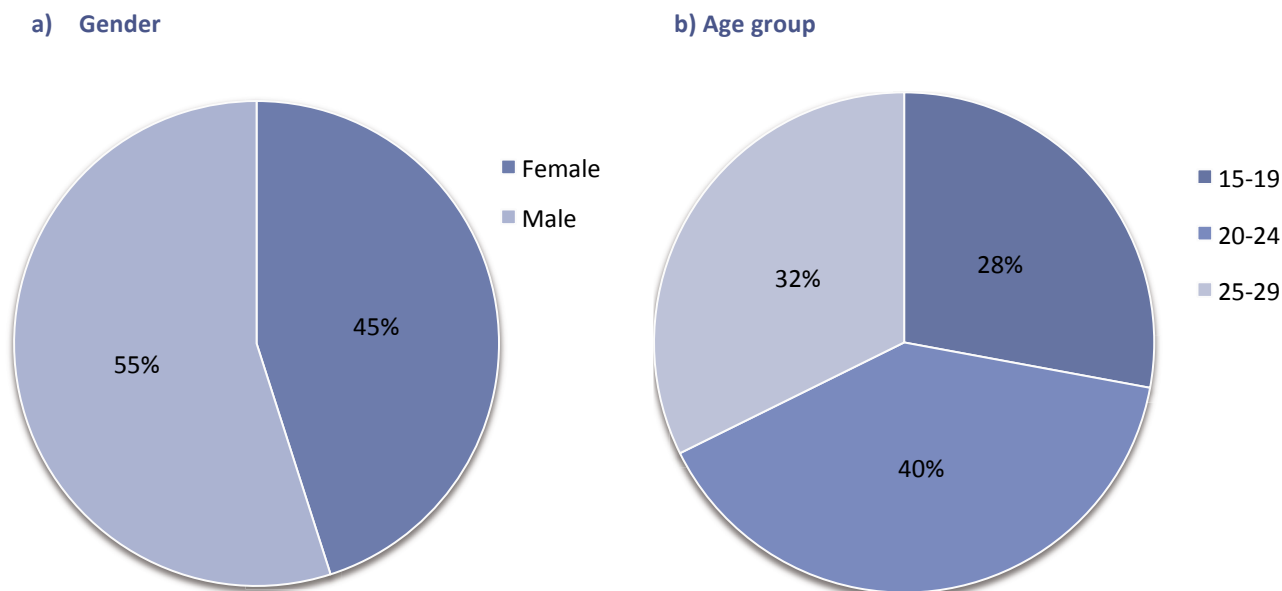


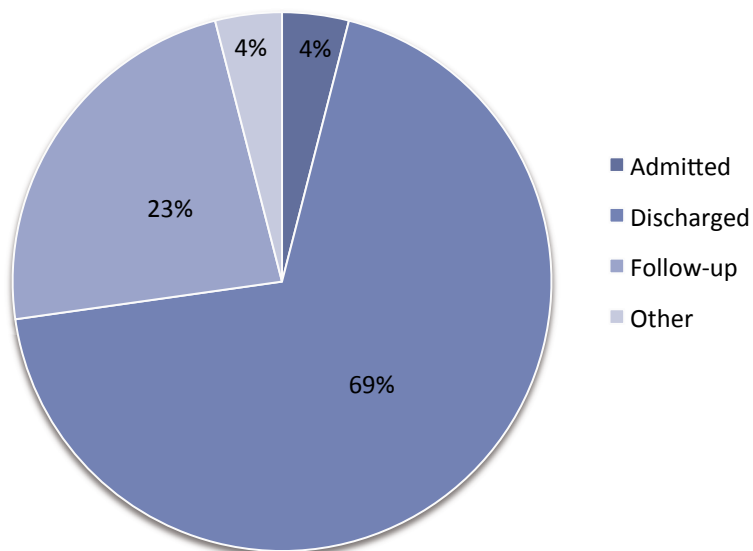
Table 9 presents AED attendances by gender and five-year age categories. There were similar proportions across both gender categories and more males than females across all five-year age groups. Males aged between 20 and 24 years accounted for the largest proportion of RTC attendances (n=1,492), followed by females of the same age group (n=1,249) and 25-29 year old males (n=1,241).

Table 9: AED attendances for RTC injuries by gender and five-year age groups (Lancashire residents aged 15-29 years), January 2012 to December 2013

Age group	Females		Males		Total	
	n	%	n	%	n	%
15-19	871	28%	1051	28%	1922	28%
20-24	1249	40%	1492	39%	2741	40%
25-29	984	32%	1241	33%	2225	32%
Total	3104	100%	3784	100%	6888	100%

The majority (69%) of RTC injury attendees from Lancashire aged between 15 and 29 years were discharged from hospital, while under a quarter (23%) required a follow-up or referral for further treatment. Two hundred and sixty-four attendees were admitted to hospital (4%; Figure 13).

Figure 13: AED attendances for RTC injuries by disposal method (Lancashire residents aged 15-29 years), January 2012 to December 2013^v



^v There were 9 records without the disposal method recorded; these have been omitted from the chart. 'Other' includes left department before being treated, left department having refused treatment and other; there were no 15-29 year olds who died in the department following an attendance between January 2012 and December 2013.

Table 10 illustrates the disposal method following a RTC injury attendance in 2012 and 2013 by five-year age group and gender for Lancashire residents aged between 15 and 29 years. More than seven in ten (71%) 15-29 year old females were discharged from hospital while over one-fifth (22%) were referred for further treatment. Three per cent of females aged between 15 and 29 years were admitted to hospital. A slightly smaller proportion of females aged between 15 and 19 years required follow-up treatment (20%) compared to a slightly larger proportion of 20-24 year olds (25%).

In comparison, a smaller proportion of males aged between 15 and 29 years were discharged from hospital (67%) whereas larger proportions required further treatment (24%) or admittance to hospital (5%; Table 10). These proportions were similar across all five-year age groups in males.

Table 10: AED attendances for RTC injuries by disposal method, five-year age group and gender (Lancashire residents aged 15-29 years), January 2012 to December 2013^w

Disposal method	15-19		20-24		25-29		Total	
	n	%	n	%	n	%	n	%
	Females							
Admitted	22	3%	35	4%	24	2%	81	3%
Discharged	641	74%	856	98%	719	73%	2216	71%
Follow-up/referral	171	20%	309	35%	214	22%	694	22%
Other	37	4%	48	6%	26	3%	111	4%
Total	871	100%	1248	143%	983	100%	3102	100%
	Males							
Admitted	65	6%	66	4%	52	4%	183	5%
Discharged	692	66%	996	67%	828	67%	2516	67%
Follow-up/referral	250	24%	357	24%	298	24%	905	24%
Other	39	4%	73	5%	61	5%	173	5%
Total	1046	100%	1492	100%	1239	100%	3777	100%

^w There were 9 records without the disposal method recorded; these have been omitted from the chart.

'Other' includes left department before being treated, left department having refused treatment and other.

There were no 15-29 year olds who died in the department following an attendance between January 2012 and December 2013.

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APPENDIX

Crude rates of people killed and seriously injured on England's roads per 100,000 resident population by local/unitary authority, 2010-12

Local/unitary authority	Crude rate per 100,000	95% confidence interval	
		Lower limit	Upper limit
Blackburn with Darwen	44.9	38.9	51.6
Blackpool	44.8	38.7	51.6
Burnley	58.6	49.7	68.7
Chorley	60.4	52.2	69.5
Fylde	53.0	44.0	63.3
Hyndburn	48.4	40.0	63.3
Lancaster	59.3	52.1	67.2
Pendle	42.0	34.7	50.6
Preston	48.6	42.1	55.7
Ribble Valley	69.2	57.4	82.9
Rossendale	45.1	36.3	55.3
South Ribble	50.7	43.3	59.0
West Lancashire	60.3	52.2	69.2
Wyre	54.5	46.7	63.1
Lancashire	54.1	51.7	56.6
England	40.5	40.2	40.9

Source: Public Health Outcomes Framework, Public Health England.

Local/unitary authority profiles and a full list of the number, crude rates and confidence intervals for each Middle Super Output Area of residence of AED attendances are available upon request.



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