



Injuries Leading to a Hospital Admission in 0-14 Year Olds in Warwickshire – A Review of Hospital Episode Statistic Data - Addendum October 2019

Summary

Additional analysis carried out since the Needs Assessment published in June 2018 has shown a change in hotspot areas within Warwickshire for injuries. There is a recommendation for a targeted approach to accident prevention, focussing on the new higher ranking Lower Super Output Areas (LSOAs) for attendance at A&E.

Background

Following the Warwickshire Joint Strategic Needs Assessment *'Injuries leading to a Hospital Admission in 0-14 year olds in Warwickshire'* report written in 2018, a multi-agency Warwickshire Child Accident Prevention (CAP) Steering Group was set up with direct accountability to the Warwickshire Health & Wellbeing Board.

The Warwickshire CAP Steering Group oversees an agreed 3-year action plan (2018-2021) which includes three priority work streams. One of these is focused on building local intelligence and is led by a dedicated 'Data and Insight' Task and Finish Group. This group has undertaken further interrogation of hospital attendance and admissions data, in order to understand variations in the conversion of children with injuries from attendance to admissions episodes.

This short report has been written as an addendum to the 2018 *'Injuries leading to a Hospital Admission in 0-14 year olds in Warwickshire'* report, as it provides new intelligence on attendance to admissions conversions, which suggest different hospital processes may have a role in higher than average admissions for unintentional injuries in some settings.

Rates of Attendance at A&E and Admission to a hospital ward

Analysis conducted in 2019 used Hospital Episode Statistics (HES) data over a four year period from April 2014 to March 2018, which was more up to date than the data available for the Needs Assessment. It shows a picture of hospital attendance and admissions linked to deprivation. The conversion rate from attendance at A&E for injury to admission to a ward has also been calculated. The data used is based on the district of residence as shown in the HES data. Within Warwickshire, this shows that the rate of attendance is highest in Nuneaton and Bedworth Borough, however the rate of admission is higher in Rugby. Coventry is also included for comparison (Figure 1).





Figure 1. Rates of Attendance and Admission for Injury by District / Borough, ages 0-14.

Crude rates per 10,000 population aged 0-14

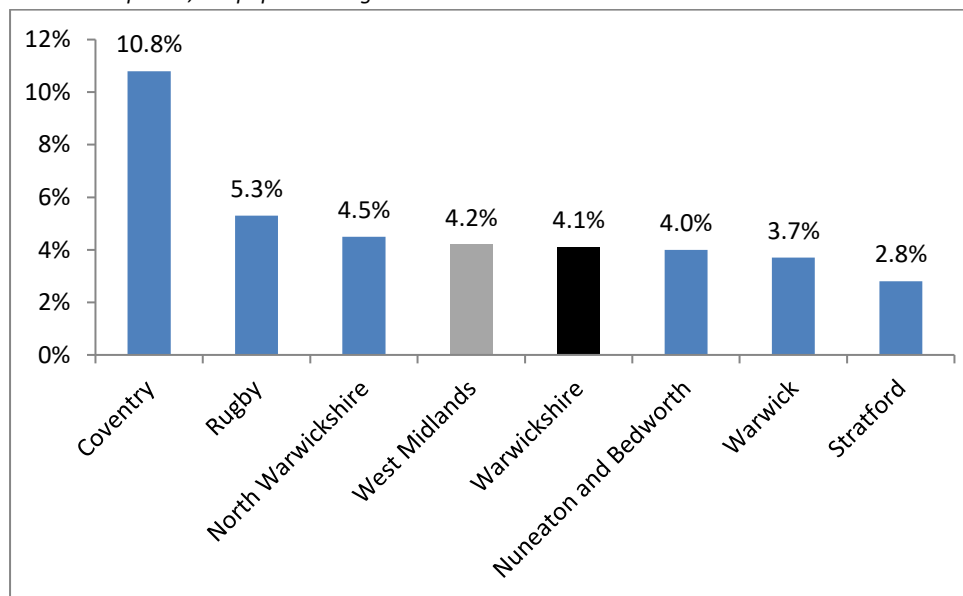
Area	Rate of Attendance	Rate of Admission (through A&E)	Conversion A&E to Admission
Nuneaton and Bedworth	2,148	86	4.0%
Rugby	1,918	101	5.3%
North Warwickshire	1,683	75	4.5%
Stratford	1,524	43	2.8%
Warwick	1,353	50	3.7%
Warwickshire	1,733	71	4.1%
Coventry	1,311	141	10.8%
West Midlands	1,472	62	4.2%

Source: Hospital Episode Statistics (HES), March 2019

There are varied conversion rates from A&E to admissions (Figure 2), with Coventry having by far the highest rate. Indeed, Stratford District is showing almost half the conversion rate of Rugby Borough. This could be due to differing hospital processes, particularly at UHCW in Coventry. Both Rugby Borough and North Warwickshire Borough are above the Warwickshire and West Midlands averages and residents of these areas (particularly Rugby) are likely to be attending or being admitted to UHCW in Coventry. Within the wider West Midlands region, Coventry has the highest percentage conversion from attendance at A&E to admission to a hospital ward, and Rugby is ranked third out of 30 local authorities.

Figure 2. Conversion Rates from Attendance to Admission for Injury, ages 0-14

Crude rates per 10,000 population aged 0-14



Source: Hospital Episode Statistics (HES), March 2019





A&E Attendances by Lower Super Output Areas (LSOA)

By LSOA, most of the areas with the highest rate for attendance at A&E (crude rates per 1,000 0-14 year olds, April 2014 to March 2018) are in the Nuneaton and Bedworth Borough (15 of the top 20 LSOAs for 0-14 year olds, with four being in the Rugby Borough and one in Stratford District), with the highest being the Hill Top LSOA, which is between Nuneaton and Bedworth towns.

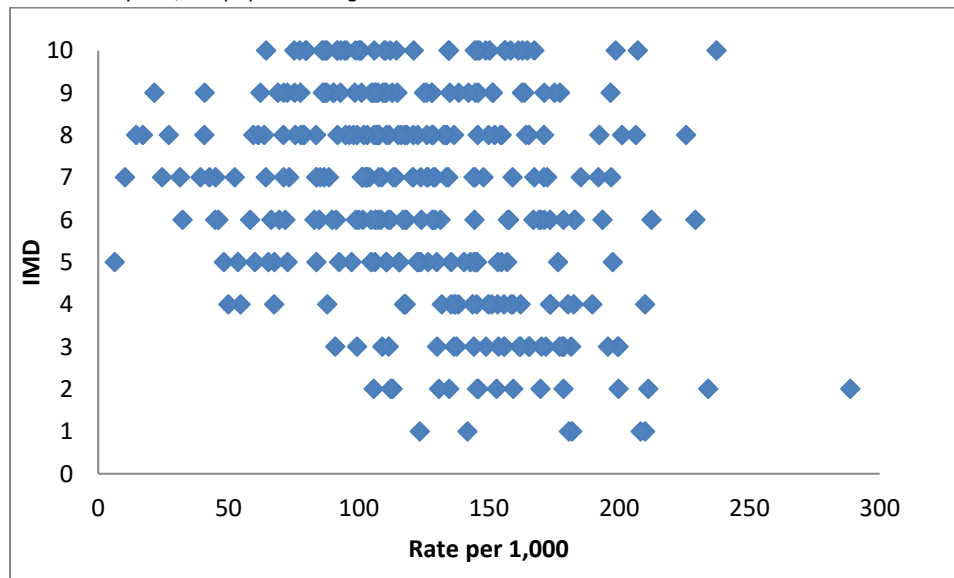
Similarly, when looking at attendance for the age group 0-4 (crude rates per 1,000 0-4 year olds, April 2014 to March 2018), 17 of the top 20 LSOAs are in Nuneaton and Bedworth Borough (one in Rugby Borough, one in North Warwickshire Borough and one in Stratford District).

This more recent data, at LSOA rather than ward level, may appear to show a different picture to that previously presented in the 2018 Needs Assessment, which presented wards with high admissions (rather than attendance) from 2013/14 to 2015/16, of which most were located in Warwick District rather than Nuneaton and Bedworth Borough.

The 2018 Needs Assessment did not identify a correlation between attendance and admissions for injury and deprivation. However, the HES data from April 2014 to March 2018 shows there is a very weak correlation between IMD and attendance at A&E, for both the 0-14 and 0-4 age groups (with a slightly stronger correlation for deciles 1 to 8) (Figures 3 and 4)¹. This aligns with national evidence that childhood injuries have a disproportionately large effect on those living in deprived communities.

Figure 3. Rates of Attendance at A&E for each LSOA by IMD, ages 0-14

Crude rates per 1,000 population aged 0-14



Source: Hospital Episode Statistics (HES), March 2019; Indices of Multiple Deprivation, 2019

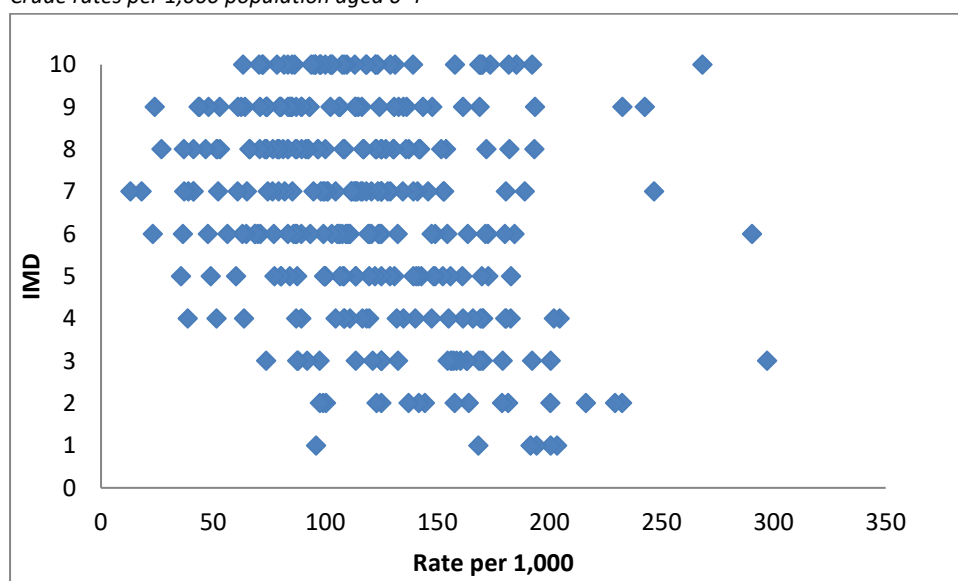
¹ LSOAs with fewer than 5 A&E attendances in the four year period have been excluded from the graphs





Figure 4. Rates of Attendance at A&E for each LSOA by IMD, ages 0-4

Crude rates per 1,000 population aged 0-4



Source: Hospital Episode Statistics (HES), March 2019; Indices of Multiple Deprivation, 2019

Extensive analysis has been carried out at LSOA level on the 2017/18 and 2018/19 annual data. Using this and the four year data already analysed at age groups 0-4 and 0-14, 13 priority LSOAs have been identified, 11 in Nuneaton and Bedworth Borough, one in Rugby Borough and one in Stratford District (Figure 5).

Figure 5. LSOAs of Focus for Child Accident Prevention

District / Borough	LSOA Local Name
Nuneaton and Bedworth	Kingswood Grove Farm and Rural
Nuneaton and Bedworth	Hill Top
Rugby	Eastlands South
Nuneaton and Bedworth	Arbury Heath End
Stratford	Bridgetown South East
Nuneaton and Bedworth	Camp Hill East and Quarry
Nuneaton and Bedworth	Kingswood North East
Nuneaton and Bedworth	St Nicholas North and College
Nuneaton and Bedworth	Bulkington Village
Nuneaton and Bedworth	Kingswood Stockingford
Nuneaton and Bedworth	Whitstone East and Rural
Nuneaton and Bedworth	Attleborough Central
Nuneaton and Bedworth	Weddington North

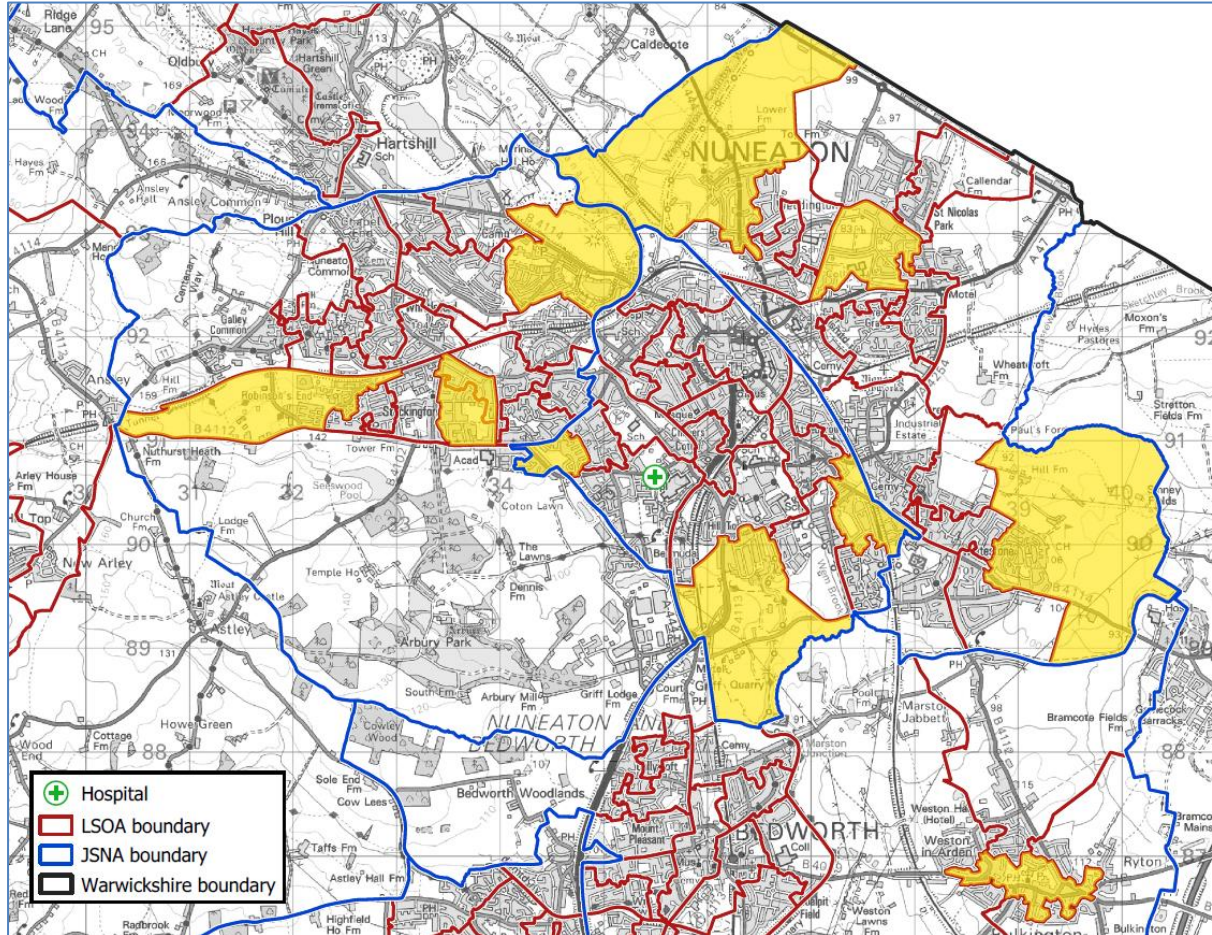
Source: Hospital Episode Statistics (HES), March 2019





These LSOAs are also shown on the three maps below; split by district / borough (Figures 6, 7 and 8).

Figure 6: LSOAs of Interest - Nuneaton

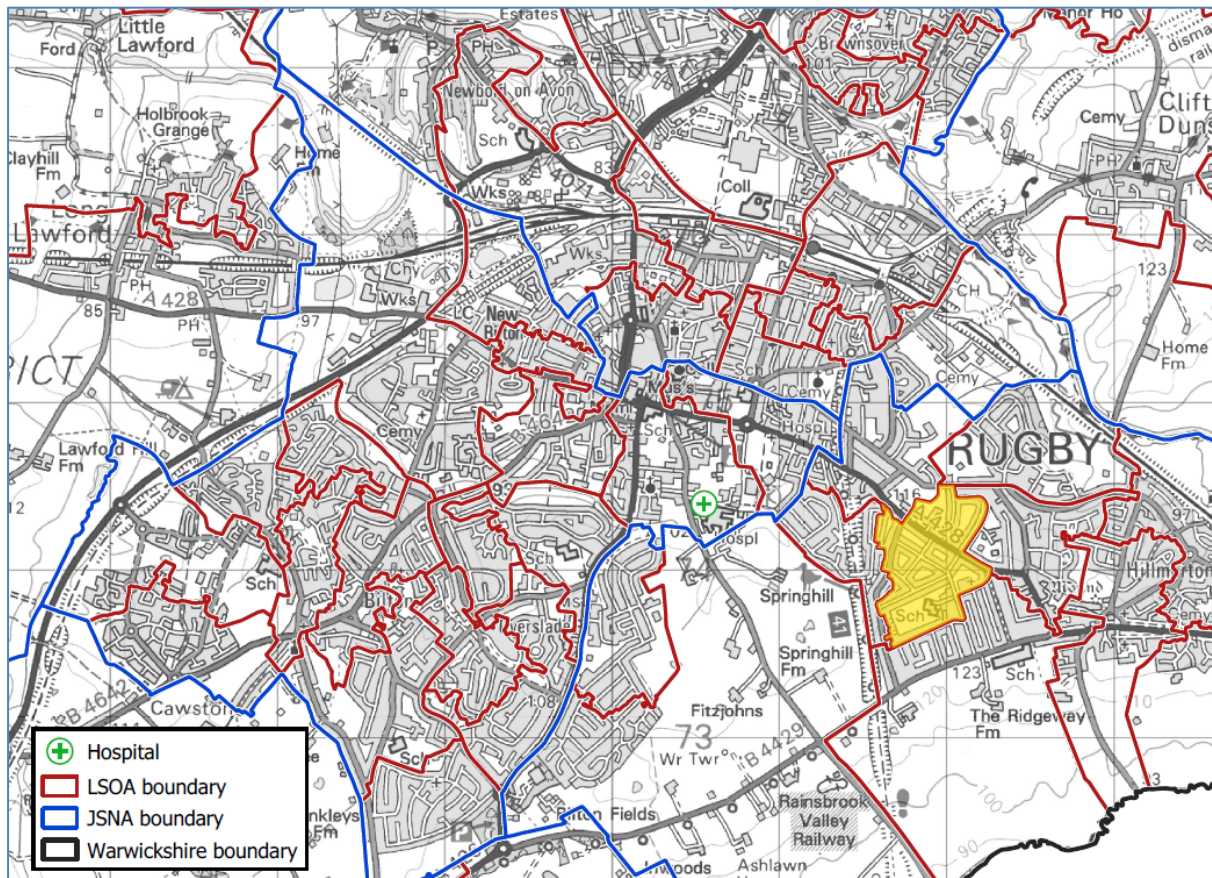


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Figure 7: LSOAs of Interest - Rugby

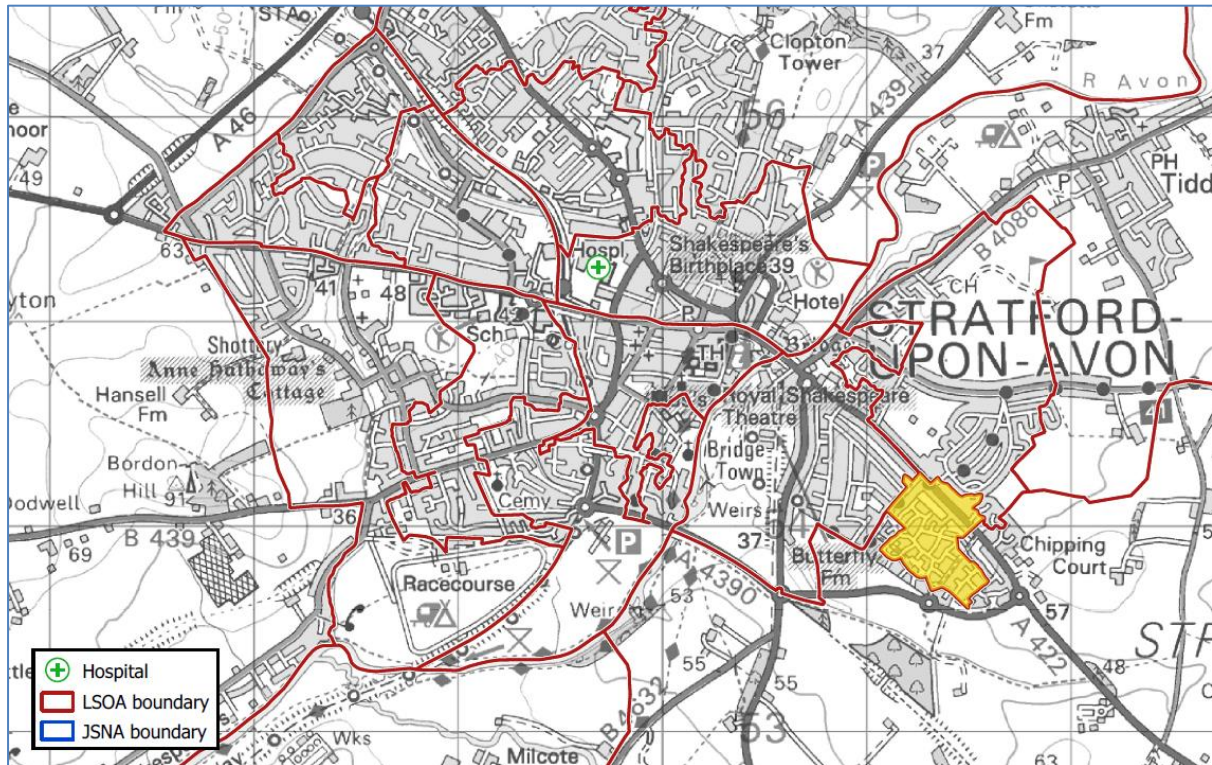


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Figure 8: LSOAs of Interest – Stratford



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