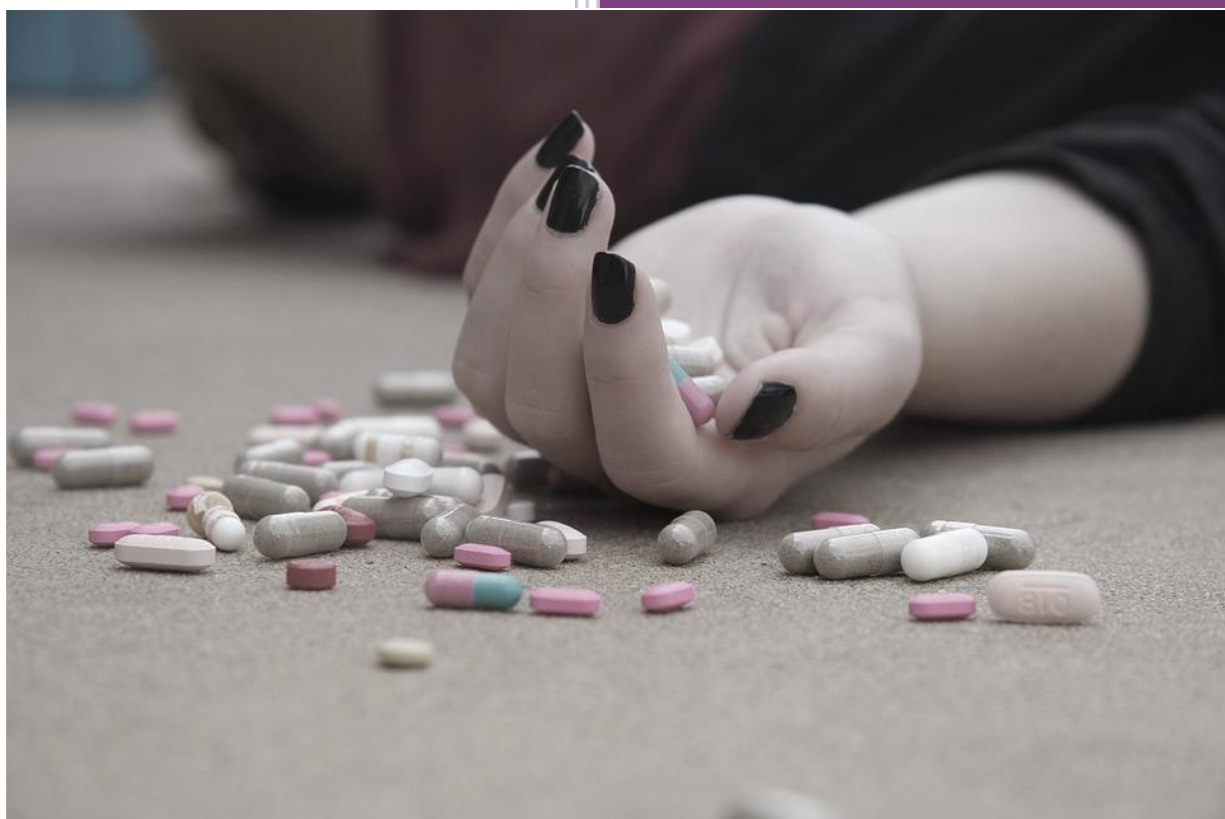


Hospital admissions as a result of self-harm for 10-24 year olds living in Derbyshire



May 2017

This report investigates the scale and nature of hospital admissions as a result of self-harm amongst children and young people aged 10-24 years living in Derbyshire, via secondary analysis of Hospital Episode Statistics.

VERSION CONTROL

Confidentiality
PUBLIC

Version	Publishing Date	Comments	Author
1.0	17/05/2017	Final version	<p>Ashley King Principal Public Health Analyst Public Health Derbyshire County Council County Hall Matlock Derbyshire DE4 3AG</p> <p>☎ Tel: (01629) 536178 ✉ Email: ashley.king@derbyshire.gov.uk</p>

① Understanding Statistical Terms used in this Report

Number and Rate

Number is the most basic measure; this may be a count of events such as the number of admissions to hospital or a count of the number of people with a particular attribute e.g. the number of children who are obese. However, in order to make comparisons between populations and over time we need to take into account the size of the population as numbers are likely to be higher in larger populations and may change over time. We do this by expressing the number as a rate per given number of the population (e.g. number of teenage conceptions per 1,000 females aged 15-17 years)

Age Standardised Rate

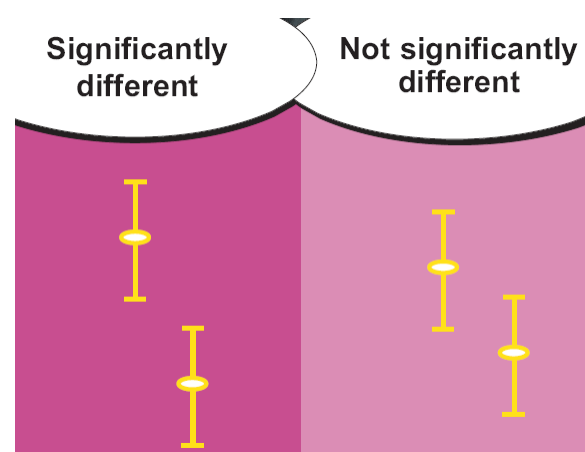
If the likelihood of particular event or attribute may vary by age, we need to take account of the population structure to enable us to make accurate comparisons between areas. For example, consider two areas A & B with equal size populations and identical <18 alcohol admission rates. At first glance they appear to have a similar experience. However, suppose that area A has a much younger age structure than B. Given that older children are more likely to be admitted, one would expect area B to have more admissions (a higher rate). The fact that the two areas have identical rates means that the younger population in area A must have a relatively worse rate of admission. We therefore need to age standardise rates to take these differences into account.

Confidence Intervals

Let's say two similar products A & B are released onto the market. The TV advertising campaign for both products state that all (100%) people surveyed would recommend them to a friend. Both sound just as good? But what if you found out that for product A only 2 people were surveyed, compared to product B where 100,000 people were surveyed? Which product would you have the most confidence in?

....Product B because a lot more people were surveyed. For product A only 2 people were surveyed, so there's a higher degree of uncertainty surrounding the recommendation i.e. it may just be by chance (natural variation) that these two people liked the product. In statistics we refer to this measure of uncertainty surrounding a value as a confidence interval i.e. we are confident that the true value lies somewhere within this range.

In general, where confidence intervals surrounding two comparable values (e.g. teenage conception rates between districts) overlap, we say the difference is not statistically significant. When values do not overlap, the difference is significant.



Source: Association of Public Health Observatories (APHO)

SUMMARY

Self-harm is when somebody deliberately damages or injures their body; commonly as a way to help relieve extreme negative emotions. Nationally, it is estimated that up to 1 in 5 children will have self-harmed at some point in their life by the time they reach their 16th birthday.

In the absence of routine and robust incidence and prevalence data on self-harm in children and young people both nationally and within Derbyshire, we can look at hospital admission data to help provide insights in to the scale and nature of self-harm. During 2015/16 there were 760 people living in Derbyshire aged between 10 and 24 years admitted to hospital as a result of self-harm. This equated to a rate of 585.8 admissions per 100,000 young people, which was statistically, significantly higher than both England and East Midlands. The rate of self-harm in Derbyshire and nationally has been increasing. It has been suggested that this may be attributable to emerging new stressors for young people and/or a greater willingness to disclose and seek treatment.

In Derbyshire, as nationally, girls (particularly older teenage girls) and those living in the most deprived neighbourhoods of Derbyshire (particularly those in the North Eastern parts) are more likely to be admitted to hospital for self-harm. While such gender differences may reflect variation in incidence or prevalence, boys may also be less reluctant to admit and seek help for self-harm. Links between deprivation and factors such as parental illness, family instability, child exploitation and substance misuse, put young people at a greater risk of self-harming.

Self-poisoning through drug use, where the intent was specifically to cause bodily harm was the main reason for self-harm admissions in Derbyshire, which reflects hospital based studies elsewhere (including A&E based studies – the main route of admission). In contrast, surveys have shown self-cutting to be the most frequently used method of self-harm. However, such incidents may not be physically serious enough to warrant hospital admission and therefore remain under represented in hospital data. Around 1 in 5 individuals admitted to hospital for self-harm were re-admitted again later in the year, reflecting the nationally reported risk of self-harm repetition.

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1 INTRODUCTION

1.1 What is self-harm?

Self-harm is when a person deliberately damages or injures their body. Some of the most common ways in which people self-harm include:

- Cutting or burning of the skin.
- Punching or hitting.
- Poisoning with tablets or toxic substance.
- Misuse of alcohol or drugs.
- Starvation (anorexia nervosa) or binge eating (bulimia nervosa).
- Excessively exercising.¹

1.2 Why do some people self-harm?

Studies suggest that most young people who self-harm do so as a way to help relieve extreme negative emotions^{1,2,3}. This may be due to:

- **Social problems** – e.g. bullying, difficulties at school or work, relationship difficulties (family, friends or partner), coming to terms with their sexuality or coping with cultural expectations.
- **Trauma** – e.g. bereavement, physical or sexual abuse, miscarriage.
- **Psychological issues** - e.g. voices telling someone to self-harm or borderline personality disorder.^{1,2}

Although for many of us, it may be difficult to understand how self-harming would make life more bearable, physiologically, pain has been shown to cause a reduction in activity levels in the brain associated with negative emotions⁴.

For some, self-harming may be a cry for help, perhaps best described by Hill and Dallos (2012)² as “a means of communication where words are not available”. For example, the physical presence of a cut on the skin may signal to those around, that something is wrong. However Thornton (2015)⁴ argues that most self-harmers tend to hide, rather than display their wounds; primarily due to the lack of understanding from others². Indeed, results from the longitudinal West of Scotland 16+ Study of Health and Lifestyles (LWSSHS)³ showed that only 5.4% of males and 13.5% of females aged 18 to 24 years who had self-harmed did so in order for someone to take notice. Most self-harmed in order to relieve anger (59.5% of males and 46.2% of females), wanting to forget about something (24.3% of males and 46.2% of females) or relieve anxiety (13.5% of males and 36.5% of females); typically in combination.

While on average young people who self-harm may be at increased risk of suicidal thoughts (particularly if self-harm continues into adulthood)⁴, research shows that the majority of self-harm acts are performed without suicidal intent. For example, the LWSSHS³ showed that only 18.9% of males and 23.1% of females who had ever self-harmed cited suicidal intentions.

1.3 How prevalent is self-harm among children and young people?

Studies which have looked at the prevalence of self-harm in the population are limited, often out-dated and have generally reported a varying prevalence between 7-14%^{3,4}. More recent findings from the 2014 Health Behaviour in School-Aged Children Study (HBSC) for England⁵ suggest that just over one fifth (22%) of 15 year olds in England had ever self-harmed in their lifetime, with girls (32%) nearly 3 times more likely to have self-harmed than boys (11%). In part, these higher figures may be reflective of a rising prevalence of self-harm among young people in recent years.

Unfortunately, accurate estimates of the prevalence of self-harm in Derbyshire are not available. However, routine data are available both locally within Derbyshire and nationally on children and young people who have been admitted to hospital as a result of self-harm. We can therefore use this data as a proxy to provide insights into scale and nature of self-harm in Derbyshire and look at how this compares to England.

It is important to note that given some of the secrecy surrounding self-harm^{2,3,4}, compounded with the fact that many episodes of self-harm will not be serious enough to warrant hospital presentation^{3,6}, hospital admissions are likely to reflect only a small portion of self-harm. Results from the Avon Longitudinal Study of Parents and Children (ALSPAC)⁷ (a population-based study investigating health and development in children in South-West England) showed that only 12.4% of children aged 16-17 years, who had self-harmed, sought any form of medical help following their most recent episode.

Where self-harm requires emergency hospital treatment, in most cases people are likely to present at the Accident and Emergency (A&E) departments in the first instance⁸, where some cases may not result in admission at all (particularly if it is not ascertained that the injury was intentionally self-inflicted). Unfortunately it is not possible to identify those children and young people who present at A&E within Derbyshire from routine data. However, current National Institute for Health and Clinical Excellence (NICE) guidance⁹ states that all children and young people under the age of 16, who present at A&E as a result of self-harm, should be admitted over night as a minimum. This suggests that, at least for children under 16 years the number of children admitted to hospital is likely to reflect all those who attended A&E (where intent was known). For people aged over 16 years, this may not be the case.

1.4 Aim of this report

To investigate the scale and nature of hospital admissions as a result of self-harm amongst children and young people aged 10-24 years living in Derbyshire, to inform health commissioners and service providers.

1.5 Methods used

This report presents findings from the secondary analysis of data extracted from a routine hospital activity dataset known as Hospital Episode Statistics (HES). Further information about the methodology used to extract the data can be found in appendix A. Details of the statistical methods used can be found on page ii towards the beginning of this document.

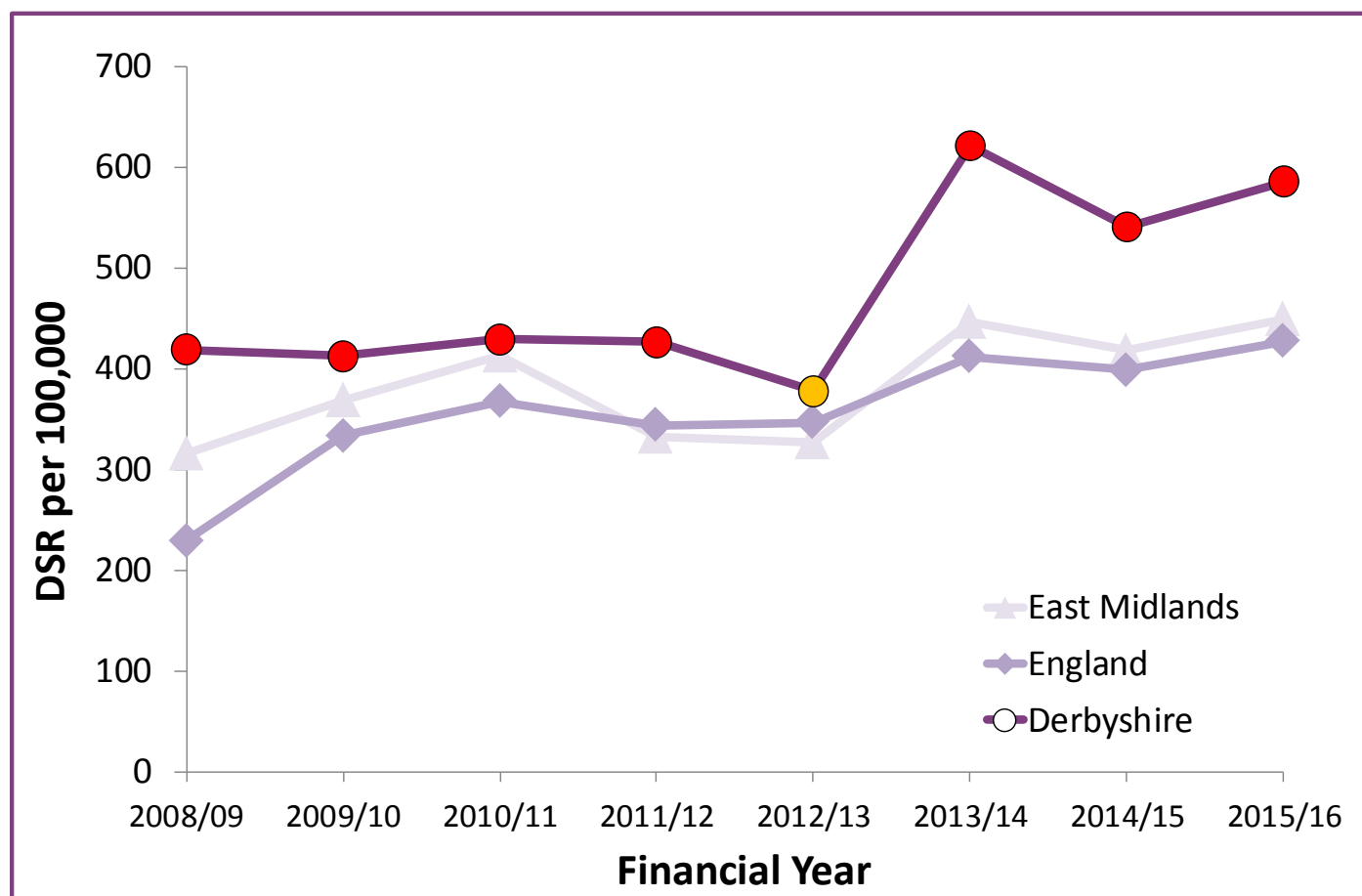
2 ANALYSIS

2.1 Current and past self-harm admissions

During the financial year 2015/16 there were 760 children and young people living in Derbyshire aged 10 to 24 years admitted to hospital as a result of self-harm. This equates to a rate of 585.8 admissions per 100,000 people aged 10-24 years and statistically, was significantly higher than both the England (427.5 per 100,000) and East Midlands average (449.3 per 100,000).

Since 2012/13 the rate of hospital admissions for self-harm in Derbyshire has been increasing, as it has both nationally and regionally; although Derbyshire has seen a much greater increase. While the cause of this increase is unclear, it may reflect a greater willingness among young people to disclose and seek treatment for their problems, a real increase in prevalence, or a combination of the two. Thornton (2015)⁴ argues that there is evidence to suggest that teenagers are more stressed than they were a decade ago due to continuing economic pressures and changes to the way in which young people interact through social media adding new stressors.

Figure 1.0 Hospital admissions as a result of self-harm (10-24 years) in Derbyshire, by financial year



Derbyshire compared to England (95% confidence): ● Better ● Similar ● Worse
Data Source: Hospital Episode Statistics (HES)

Table 1.0 Hospital admissions as a result of self-harm (10-24 years) in Derbyshire, by financial year

Financial Year	Derbyshire			England Rate	East Midlands Rate
	Number	Rate per 100,000	95% CI		
2008/09	538	419.1	[384.0 to 456.6]	229.4	315.8
2009/10	540	412.3	[377.9 to 449.0]	333.4	368.9
2010/11	555	428.9	[393.7 to 466.5]	367.6	412.9
2011/12	559	426.1	[391.3 to 463.2]	344.1	332.9
2012/13	495	377.5	[344.9 to 412.5]	346.3	327.4
2013/14	818	621.1	[579.1 to 665.3]	412.1	446.3
2014/15	708	541.1	[501.9 to 582.6]	398.8	418.3
2015/16	760	585.8	[544.8 to 629.0]	427.5	449.3

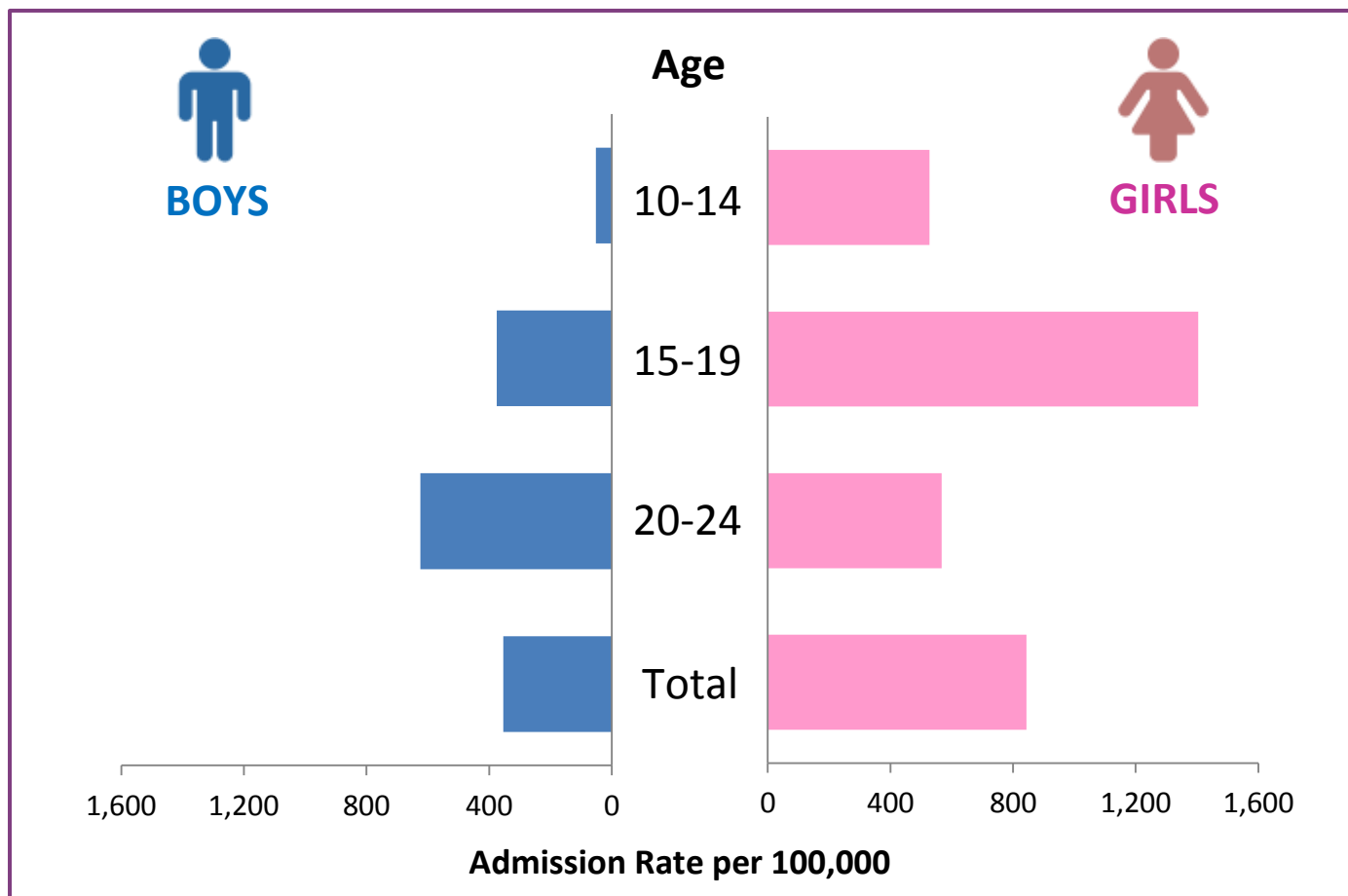
Data Source: Hospital Episode Statistics (HES)

2.2 Age & gender

In Derbyshire, during 2015/16, the admission rate for girls (843.9 per 100,000) was just over two times higher than that of boys (354.2 per 100,000). This reflects national prevalence findings, where girls are typically around three times more likely to report self-harming than boys^{4,5,7}. However, some experts argue that rather than an accurate reflection of prevalence, this might be because boys are more reluctant than girls to admit self-harm⁴. In addition, methods of self-harm more commonly used by boys (e.g. head butting or punching walls) may be easier to pass off as accidents; thus deflating hospital statistics⁴.

While overall, rates of hospital admission from self-harm were higher among girls, for young adults in their early twenties (20-24 years) the rate of admission was actually higher among males (624.7 per 100,000) compared to females (567.3 per 100,000), although statistically, the difference was not significant. Teenage girls aged between 15 and 19 years however, were nearly four times likely to be admitted to hospital for self-harm than boys (see table 1.1). This relationship reflects national findings from elsewhere; for example the LWSSHS showed that girls were more likely to start self-harming at an earlier age than boys⁷.

Figure 1.1 Hospital admissions as a result of self-harm (10-24 years) in Derbyshire, by age & gender (2015/16 Financial Year)



Data Source: Hospital Episode Statistics (HES)

Table 1.1 Hospital admissions as a result of self-harm (10-24 years) in Derbyshire, by age & gender (2015/16 financial year)

Age Band	Males			Females		
	Number	Rate per 100,000	95% CI	Number	Rate per 100,000	95% CI
10-14	11	52.5	[26.2 to 93.9]	106	527.0	[431.5 to 637.5]
15-19	86	375.2	[300.1 to 463.4]	304	1,404.0	[1,250.6 to 1,571.1]
20-24	135	624.7	[523.8 to 739.4]	118	567.3	[469.6 to 679.4]
Total	232	354.2	[310.1 to 402.8]	528	843.9	[773.5 to 919.1]

Data Source: Hospital Episode Statistics (HES)

2.3 Deprivation

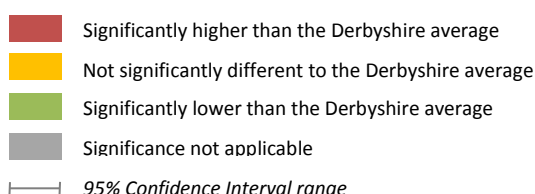
Based upon where the children and young people admitted to hospital lived, we were able to allocate them to one of five groups, ranging from those living in the most deprived areas of Derbyshire to those living in the most affluent. These five groups are known as deprivation quintiles and are based upon the 2015 index of multiple deprivation (IMD) scores by small area geographies known as Lower Super Output Areas (LSOAs). IMD is the official measure of relative deprivation in England and combines outcomes from several domains (income, employment, education, health, crime, housing and environment) to produce an overall deprivation score¹⁰.

There was a strong relationship between self-harm admissions and deprivation (see table 1.2). During 2015/16 the rate of admissions by children and young people living in the most deprived quintile in Derbyshire (985.4 per 100,000) was more than three times higher than those living in the most affluent quintile (287.6 per 100,000). Ayton et al (2003)¹¹ suggests that such discrepancies are likely to be accountable to links between higher levels of deprivation and factors such as parental mental illness, family instability, child abuse/neglect /exploitation, violence, problems at school, smoking and substance misuse; all of which may increase the risk of depressive and suicidal symptoms.

Table 1.2 Hospital admissions as a result of self-harm (10-24 years) in Derbyshire, by deprivation quintile (2015/16 financial year)

Local IMD2015 Deprivation Quintile	Number	Rate per 100,000	95% CIs	Chart
Derbyshire Total	760	585.8	[544.8 to 629.0]	
1 (Most Deprived)	285	985.4	[874.2 to 1,106.7]	
2	171	639.0	[546.7 to 742.4]	
3	141	549.4	[462.4 to 648.1]	
4	93	378.5	[304.9 to 464.3]	
5 (Least Deprived)	70	287.6	[223.3 to 364.5]	

The admission rates in the above table, which are represented in the column chart are colour coded based upon the statistical significance (95% confidence level) compared to the Derbyshire average:



Data Source: Hospital Episode Statistics (HES)

2.4 Ethnicity

Over the three year period from April 2013 to March 2016, children and young people of 'non-white British' ethnicity accounted for only 2.2% of self-harm admissions in Derbyshire (see table 1.3). This is likely to be reflective of the population structure of Derbyshire, where at the time of the last census (2011), only 4.9% of the population aged 10-24 years were 'non-white British'¹². Unfortunately, due to the relatively low numbers of admissions of 'non-white British' in Derbyshire, it was not possible to robustly compare the differences in admission rates across the ethnic groups.

There are a limited number of robust national studies which attempt to quantify the prevalence of self-harm among children and younger people by differing ethnic groups and most of these have presented conflicting findings. Results from a study by Kidger et al (2012)⁷ which is based on the ALSPAC birth cohort (see chapter 1.3), showed that the proportion of white children aged 16-17 years that had ever self-harmed (18.9%) was slightly higher than their non-white contemporaries (15.5%). However, statistically, the difference was not significant and these results were limited by a relatively small sample size (white n = 4,223, non-white n = 253) which only covered two broad ethnic categories and was not split by gender.

A 2015 systematic review of the UK literature¹³ found that Black females were the most likely to self-harm, with Asian males being the least likely to. These findings were heavily based on a 2010 study¹⁴ which looked at A&E attendances at five hospitals in three English cities (including Derby City Hospital, one of the main providers to Derbyshire residents – see chapter 2.7). It is suggested that such discrepancies may be accountable to a combination of complex socio-economic factors (the results were not adjusted for deprivation) and cultural pressures¹⁴. For South Asian males, the low rates may reflect a reluctance to report such behaviours, which culturally, could be seen as inappropriate¹⁵. However, it is important to note that these findings were based on persons aged 16+ years, so it is not clear how reflective this is of children and young adults aged 10-24 years only.

Table 1.3 Hospital admissions as a result of self-harm (10-24 years) in Derbyshire, by ethnicity (2013/14 - 2015/16, 3 year pooled data)

Ethnicity	Number	Proportion of admissions
		(where ethnicity known)
White British	2,103	97.8%
Mixed	24	1.1%
White (Non-British)	13	0.6%
Asian/Asian British	5	0.2%
Other	6	0.3%
<i>Unknown</i>	<i>135</i>	-

Data Source: Hospital Episode Statistics (HES)

2.5 District

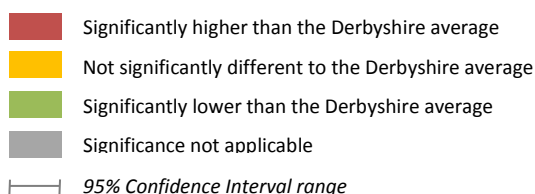
The county of Derbyshire consists of eight lower (tier two) councils known as districts or boroughs. Self-harm admission rates for Derbyshire districts were pooled over the three year period between April 2013 and March 2016 in order to improve statistical reliability at this lower level geography, by reducing the impact of natural variation (chance).

The admission rate for residents of Chesterfield (939.1 per 100,000) was statistically, significantly higher than the Derbyshire average over the same period (582.6 per 100,000). The rate of admissions by residents of South Derbyshire (420.2 per 100,000) and North East Derbyshire (453.6 per 100,000) were statistically, significantly lower than the Derbyshire average – see table 1.4. While such discrepancies between districts can reflect real variation in incidents and prevalence (likely to be heavily accountable to geographic socio-economic variation), it may also be partially influenced by variation in local referral and hospital admission practices (see chapter 2.7).

Table 1.4 Hospital admissions as a result of self-harm (10-24 years) in Derbyshire, by Derbyshire District (2013/14 -2015/16, 3 year pooled data)

District	Number	Rate per 100,000	95% CIs	Chart
Derbyshire Total	2,286	582.6	[558.9 to 607.1]	
Chesterfield	504	939.1	[858.7 to 1,025.0]	
Bolsover	265	667.5	[589.4 to 753.1]	
Amber Valley	363	584.7	[525.9 to 648.2]	
Erewash	310	536.1	[478.0 to 599.3]	
High Peak	248	515.9	[453.6 to 584.4]	
Derbyshire Dales	161	500.3	[424.8 to 585.1]	
North East Derbyshire	218	453.6	[395.3 to 518.1]	
South Derbyshire	217	420.2	[365.8 to 480.3]	

The admission rates in the above table, which are represented in the column chart are colour coded based upon the statistical significance (95% confidence level) compared to the Derbyshire average:



Data Source: Hospital Episode Statistics (HES)

2.6 Multi-Agency Team

Multi-Agency Teams (MATs) bring together workers at a sub-district, local level, from a range of different backgrounds who can help children, young people and families to overcome difficult situations. They offer information, advice and support, including - how to improve poor attendance at school, challenging behaviour or other relationship difficulties, and more.

As per districts (chapter 2.5), self-harm admission rates for MATs were pooled over the three year period between April 2013 and March 2016 in order to improve statistical reliability at this lower level geography. Seven of the twenty-five MATs had admission rates which were statistically, significantly higher than the Derbyshire average (see table 1.5). These MAT areas are all located around the north-easterly areas of the county (see figure 1.2). As noted in chapter 2.5, while this may reflect real variation in incidents and prevalence, it may also be partially influenced by variation in local referral and hospital admission practices (see chapter 2.7).

Table 1.5 Hospital admissions as a result of self-harm (10-24 years) in Derbyshire, by Multi-Agency Team (2013/14 -2015/16, 3 year pooled data)

Multi-Agency Team	Number	Rate per 100,000	95% CIs	Chart
Derbyshire Total	2,286	582.6	[558.9 to 607.1]	
Chesterfield North	147	1,098.6	[927.7 to 1,291.7]	
Chesterfield South	142	1,057.7	[890.4 to 1,247.3]	
Bolsover	86	940.4	[752.0 to 1,161.7]	
Chesterfield Central	120	834.0	[691.0 to 997.8]	
Alfreton	116	797.5	[658.9 to 956.7]	
Staveley and Brimington	95	762.2	[616.3 to 932.1]	
Clay Cross	120	748.4	[620.4 to 894.9]	
Shirebrook	74	730.6	[573.5 to 917.5]	
Sandiacre	91	634.6	[510.7 to 779.5]	
Buxton	95	617.7	[499.5 to 755.3]	
Matlock and North Dales	126	601.4	[499.7 to 717.6]	
Belper & Ripley North	117	589.6	[487.3 to 706.9]	
Glossopdale	102	588.4	[479.4 to 714.7]	
Kirk Hallam	65	561.1	[432.8 to 715.4]	
South Normanton	80	559.5	[443.0 to 697.1]	
Long Eaton	89	552.6	[443.6 to 680.2]	
Heanor	72	550.3	[430.5 to 693.1]	
Swadlincote	81	498.0	[395.5 to 619.0]	
Clowne	48	460.2	[338.9 to 610.7]	
Woodville & Newhall	92	452.0	[363.9 to 555.0]	
Ilkeston	65	409.6	[315.8 to 522.5]	
Belper & Ripley South	58	384.3	[291.1 to 497.7]	
High Peak	51	330.9	[245.8 to 435.7]	
Ashbourne & Etwall	79	296.0	[233.1 to 370.3]	
Eckington & Dronfield	75	272.5	[214.1 to 341.8]	

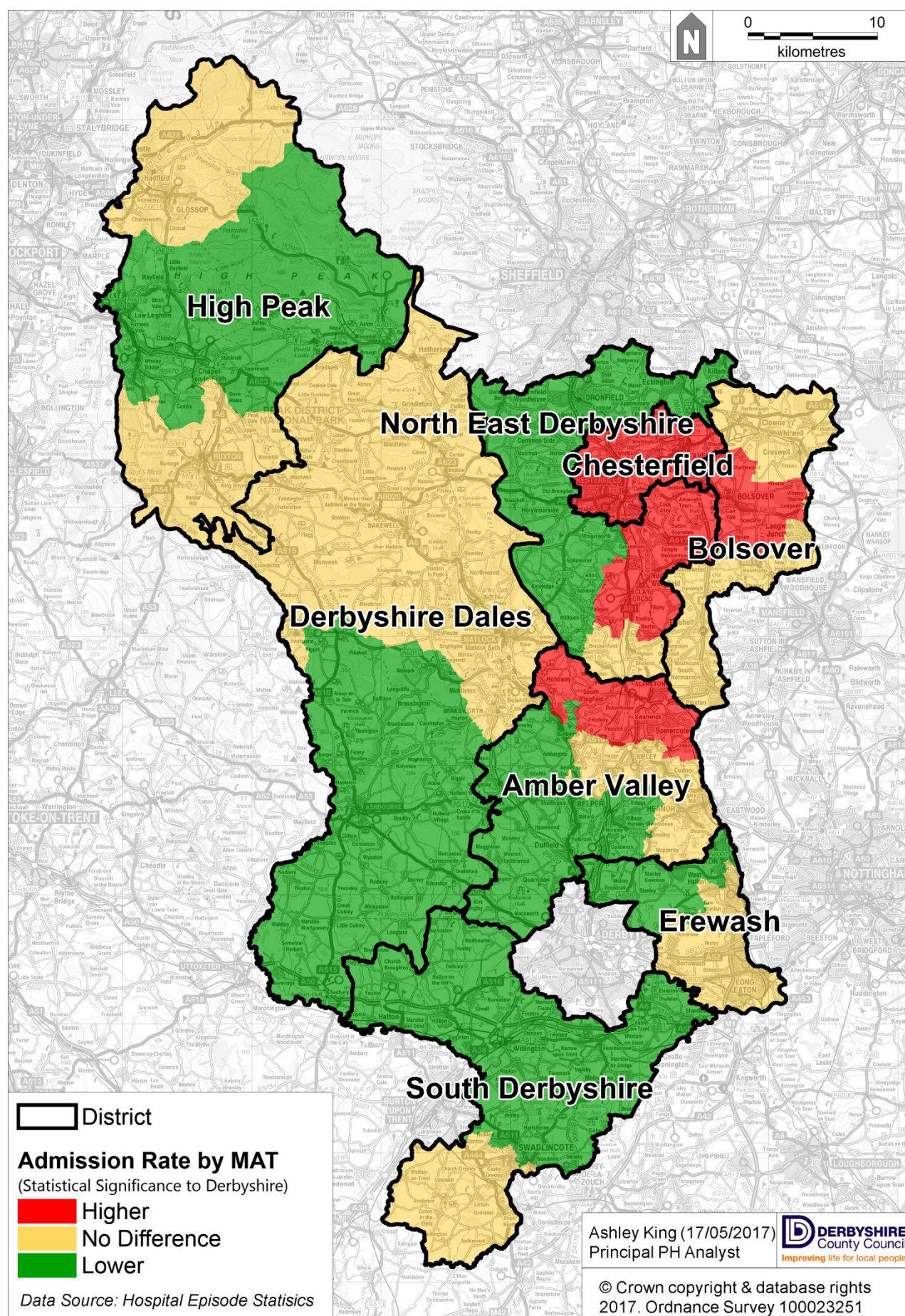
The admission rates in the above table, which are represented in the column chart are colour coded based upon the statistical significance (95% confidence level) compared to the Derbyshire average:

- Significantly higher than the Derbyshire average
- Not significantly different to the Derbyshire average
- Significantly lower than the Derbyshire average
- Significance not applicable

95% Confidence Interval range

Data Source: Hospital Episode Statistics (HES)

Figure 1.2 Hospital admissions as a result of self-harm (10-24 years), by Multi-Agency Team (2013/14 – 2015/16, 3 Year Pooled Data)


















2.7 Provider

Of the 2,286 self-harm admissions in Derbyshire over the three year period between April 2013 and March 2016, 42.5% were admitted to Chesterfield Royal Hospital, followed by 23.1% to Derby Teaching Hospitals (see table 1.6). Derbyshire residents accounted for 96.6% of all self-harm admissions at Chesterfield Royal Hospital over the three year period and the overall admission rate at Chesterfield Royal (Derbyshire residents or not) was just over double that of the England provider average (see table 1.7), which was significantly higher at the 95% confidence level. Other NHS Trusts with admission rates significantly higher than the England provider average included Tameside, East Cheshire and Sherwood Forest.










It is important to note that while the provider rates may reflect local incidents and prevalence, they may also be partially influenced by variation in referral and hospital admission practices at each NHS Trust. However, as previously discussed in chapter 1.3, current NICE guidance⁹ states that all children and young people under the age of 16, who present at A&E as a result of self-harm, should be admitted over one night as a minimum. This suggests that at least for children aged under 16 admitted via A&E, the admission procedure would be standardised across the trusts.

Table 1.6 Number of hospital admissions from Derbyshire residents (10-24 years) as a result of self-harm, by provider (2013/14 – 2015/16, 3 year pooled data)

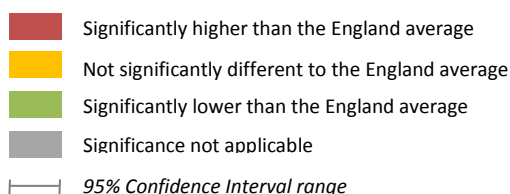
Provider	Number	% of Derbyshire	
		Total	Chart
Chesterfield Royal Hospital NHS Foundation Trust	971	42.5%	
Derby Teaching Hospitals NHS Foundation Trust	527	23.1%	
Nottingham University Hospitals NHS Trust	186	8.1%	
Sherwood Forest Hospitals NHS Foundation Trust	141	6.2%	
Burton Hospitals NHS Foundation Trust	124	5.4%	
Stockport NHS Foundation Trust	100	4.4%	
Tameside Hospital NHS Foundation Trust	84	3.7%	
East Cheshire NHS Trust	27	1.2%	
Derbyshire Healthcare NHS Foundation Trust	22	1.0%	
Pennine Care NHS Foundation Trust	17	0.7%	
Nottinghamshire Healthcare NHS Foundation Trust	15	0.7%	
Sheffield Teaching Hospitals NHS Foundation Trust	13	0.6%	
Doncaster & Bassetlaw Hospitals NHS Foundation Trust	12	0.5%	
Sheffield Children's NHS Foundation Trust	11	0.5%	
<i>Other</i>	36	1.6%	

Data Source: Hospital Episode Statistics (HES)

Table 1.7 Hospital admissions as a result of self-harm (10-24 years) for all residents in England, by provider (2013/14 -2015/16, 3 year pooled data)

Provider	Number	Rate per 100,000	95% CIs	Chart
England*	122,920	411.3	[409.0 to 413.6]	
Chesterfield Royal Hospital NHS Trust	1,005	837.2	[786.0 to 890.9]	
Tameside Hospital NHS Foundation Trust	685	710.3	[658.1 to 765.6]	
East Cheshire NHS Trust	442	618.1	[561.5 to 678.8]	
Sherwood Forest Hospitals NHS Foundation Trust	916	613.0	[537.9 to 654.1]	
Stockport NHS Foundation Trust	756	519.9	[483.4 to 558.4]	
Burton Hospitals NHS Foundation Trust	617	516.9	[476.9 to 559.4]	
Derby Teaching Hospitals NHS Foundation Trust	1,388	489.9	[464.5 to 516.4]	
Nottingham University Hospitals NHS Trust	2,063	383.3	[366.8 to 400.3]	

The admission rates in the above table, which are represented in the column chart are colour coded based upon the statistical significance (95% confidence level) compared to the England provider average:
















Data Source: Hospital Episode Statistics (HES)

2.8 Method of self-harm

Self-poisoning through drug use, where the intent was specifically to cause bodily harm (rather than an unintentional side effect) accounted for 84.6% of self-harm admissions in Derbyshire over the three year period between April 2013 and March 2016, of which the majority were via the use of pain killers (see table 1.8). These findings are reflective of other hospital based self-harm studies elsewhere in both young people and adults. In their A&E based study across five hospitals in three English cities, Cooper et al (2010)¹⁴ found that 85.3% (95% CIs: 84.8%, 85.9%) of all self-harm A&E admissions for 16-64 year olds were due to self-poisoning via drug use.

In contrast, robust cross-sectional survey based studies outside of the hospital setting, such as those based on the ALSPAC⁷ and LWSSHS³ longitudinal cohorts found that self-cutting was the most common method of self-harm. For example, in their ALSPAC based study, Kidger et al (2012)⁷ found that self-cutting accounted for 64.1% of previous self-harm episodes of the children aged 16-17 years surveyed, who had ever self-harmed. Hospital admissions as a result of self-cutting via the use of a sharp object in Derbyshire only accounted for 10.6% of self-harm admissions (see table 1.8). This suggests that many episodes of self-harm involving cutting of the skin are likely not to be physically serious enough to warrant hospital presentation, with more serious incidents (such as those involving drug over-dose) more likely to be flagged through hospital data.

Table 1.8 Number of hospital admissions from Derbyshire residents (10-24 years) as a result of self-harm, by method of self-harm (2013/14 – 2015/16, 3 year pooled data)












Method	Number	%	95% CI	Chart
Drugs	1,916	84.6%	[83.1% to 86.1%]	
<i>Nonopioid analgesics [pain killers], antipyretics & antirheumatics</i>	1,056	46.6%	[44.6% to 48.7%]	
<i>Antiepileptic, sedative-hypnotic, antiparkinsonism & psychotropic drugs</i>	508	22.4%	[20.8% to 24.2%]	
<i>Narcotics and psychodysleptics [hallucinogens]</i>	166	7.3%	[6.3% to 8.5%]	
<i>Other Drugs</i>	186	8.2%	[7.2% to 9.4%]	
Sharp Object	240	10.6%	[9.4% to 11.9%]	
Chemicals and Noxious Substances	45	2.0%	[1.5% to 2.6%]	
Hanging, Strangulation and Suffocation	26	1.1%	[0.8% to 1.7%]	
Alcohol	7	0.3%	[0.1% to 0.6%]	
Jumping or Lying before a Moving Object	6	0.3%	[0.1% to 0.6%]	
Blunt Object	5	0.2%	[0.1% to 0.6%]	
Jumping from a High Place	5	0.2%	[0.1% to 0.5%]	
Other Specified Means e.g. Electrocutation	14	0.6%	[0.4% to 1.0%]	

Data Source: Hospital Episode Statistics (HES)

2.9 Admission method

The vast majority (98.1%) of all self-harm hospital admissions between April 2013 and March 2016 were emergency admissions, with most being admitted via A&E (see table 1.8).

Table 1.8 Number of hospital admissions from Derbyshire residents (10-24 years) as a result of self-harm, by method of admission (2013/14 – 2015/16, 3 year pooled data)

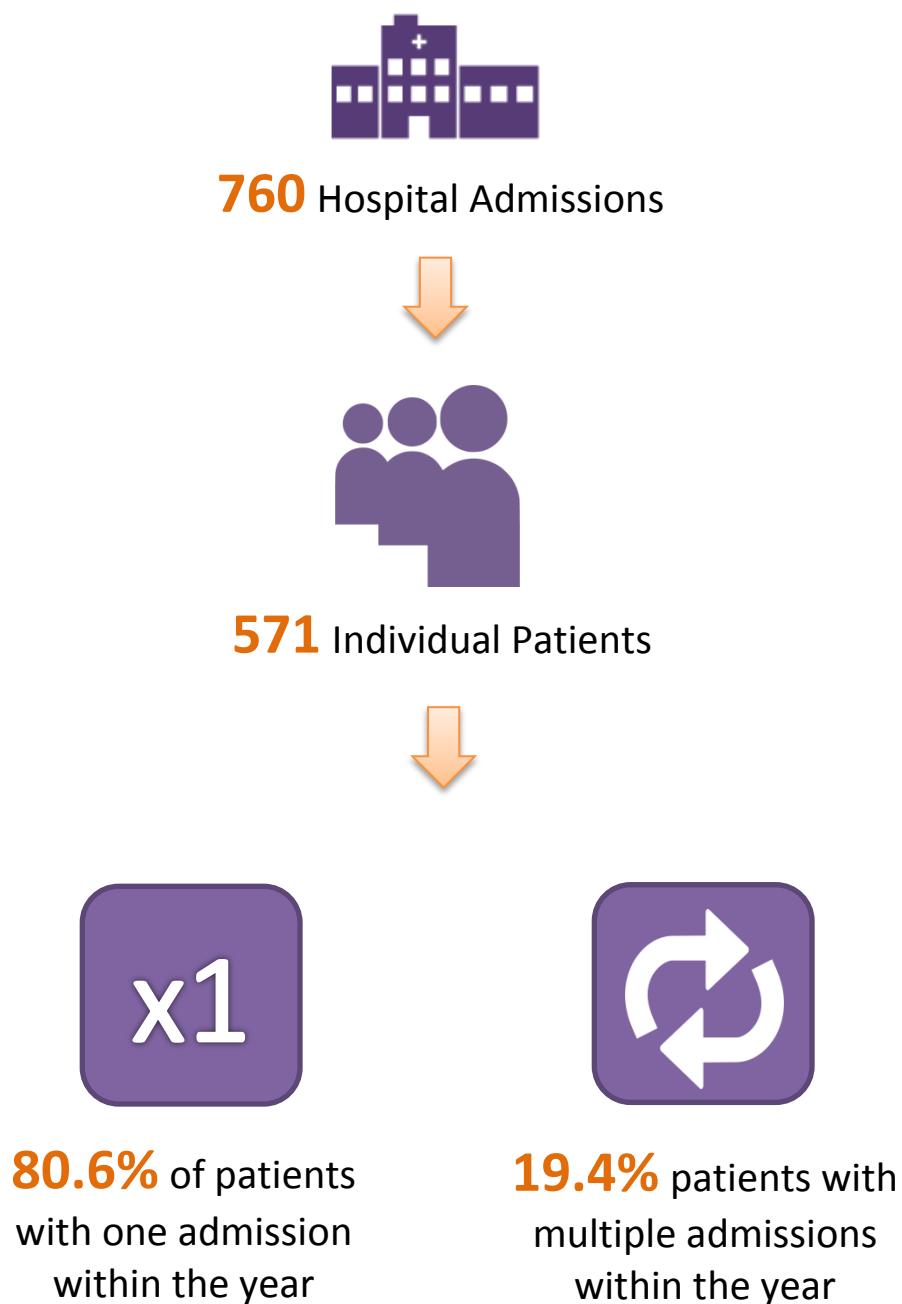
Method of Admission	Number	%	95% CI	Chart
Emergency:	2,243	98.1%	[97.5%, 98.6%]	
A&E	2,173	95.1%	[94.1%, 95.9%]	
GP	21	0.9%	[0.6%, 1.4%]	
Mental Health Crisis Resolution Team	6	0.3%	[0.1%, 0.6%]	
Other	43	1.9%	[1.4%, 2.5%]	
Elective:	32	1.4%	[1.0%, 2.0%]	
Planned	17	0.7%	[0.5%, 1.2%]	
Waiting List	8	0.3%	[0.2%, 0.7%]	
Booked	7	0.3%	[0.1%, 0.6%]	
Other	10	0.4%	[0.2%, 0.8%]	
Unknown	1	0.0%	[0.0%, 0.2%]	

Data Source: Hospital Episode Statistics (HES)

2.10 Repeat admissions

The 760 self-harm hospital admissions seen in Derbyshire during 2015/16 were attributable to 571 individuals. Of those individuals 19.4% were admitted more than once for self-harm within the year (see figure 1.3). This is not too dissimilar to findings of national studies which suggest the reported risk of self-harm repetition in adolescence is up to fifteen percent annually.

Figure 1.3 Proportion of patients (10-24 years) with repeat hospital admissions as a result of self-harm in Derbyshire



Data Source: Hospital Episode Statistics (HES)

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4 APPENDIX A

Methodology

This report presents findings from the secondary analysis of data extracted from a routine hospital activity dataset known as Hospital Episode Statistics (HES). It includes hospital admissions for children aged between 10 and 24 years where the main recorded cause is between the International Classification of Disease 10th revision (ICD-10) codes X60 and X84 (Intentional self-harm):

Code	Description
X60	Intentional self-poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics
X61	Intentional self-poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified
X62	Intentional self-poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified
X63	Intentional self-poisoning by and exposure to other drugs acting on the autonomic nervous system
X64	Intentional self-poisoning by and exposure to other and unspecified drugs, medicaments and biological substances
X65	Intentional self-poisoning by and exposure to alcohol
X66	Intentional self-poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapours
X67	Intentional self-poisoning by and exposure to other gases and vapours
X68	Intentional self-poisoning by and exposure to pesticides
X69	Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances
X70	Intentional self-harm by hanging, strangulation and suffocation
X71	Intentional self-harm by drowning and submersion
X72	Intentional self-harm by handgun discharge
X73	Intentional self-harm by rifle, shotgun and larger firearm discharge
X74	Intentional self-harm by other and unspecified firearm discharge
X75	Intentional self-harm by explosive material
X76	Intentional self-harm by smoke, fire and flames
X77	Intentional self-harm by steam, hot vapours and hot objects
X78	Intentional self-harm by sharp object
X79	Intentional self-harm by blunt object
X80	Intentional self-harm by jumping from a high place
X81	Intentional self-harm by jumping or lying before moving object
X82	Intentional self-harm by crashing of motor vehicle
X83	Intentional self-harm by other specified means
X84	Intentional self-harm by unspecified means

Rates are based on mid-year resident population estimates by the Office for National Statistics and directly standardised to the revised 2013 European standard population.