

2015

Deaths from suicide and undetermined injury in Derby and Derbyshire

This short report provides information on deaths from suicide and undetermined injury in people living in Derby and Derbyshire



Deaths from suicide and undetermined injury in Derby and Derbyshire Report 2015

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Executive Summary

- This report provides analysis on the deaths from suicide and undetermined injury of residents of Derbyshire County and Derby City that were registered in 2014. Additional information on deaths from suicide and undetermined injury registered in 2013 is included in the Appendix.
- The number of deaths from suicide and undetermined injury has risen in both Derby City (from 20 in 2013 to 25 in 2014, a 25% increase) and Derbyshire County (from 46 in 2013 to 86 in 2014, an 87% increase).
- The age-standardised rates of deaths from suicide and undetermined injury in Derby City and Derbyshire County are statistically similar to the England rate.
- Approximately three-quarters of the deaths registered in Derbyshire in 2014 were men.
- The highest age-specific rate of death from suicide was in those aged 40-49 years, with a similar pattern observed in males and females.
- At a district level, Chesterfield had the highest rate of deaths from suicide and undetermined injury, and was the only district that observed a statistically significant change in rates between 2013 and 2014.
- As in previous years, the most common place of death reported in 2014 was at home.
- Approximately half of suicide deaths in 2014 were from hanging/strangulation/suffocation. The most common method amongst men was hanging/strangulation/suffocation and for women was overdose/poisoning and hanging/strangulation/suffocation.

This report provides information on deaths from suicide and undetermined injury occurring in people living in Derby City and Derbyshire County. It includes deaths registered in the calendar year 2014, with additional information on deaths registered in 2013 included in Appendix 1. The report gives the current position, benchmarks against national trends and includes further analysis on local deaths to inform progress against the Derbyshire and Derby Community Suicide Prevention Strategic Framework. The data relates to people resident in Derby and Derbyshire, most of whom are also registered with GP practices in Derby and Derbyshire. Previous reports have not included individuals resident in the Glossop area of High Peak, but the Public Health Department at Derbyshire County Council now receive this data and therefore it is included in this report.

Derbyshire is a geographically large county with a population of 779,804 (ONS 2014 population estimate). It is spread over a large rural geographical area that encompasses much of the 555 square miles of the Peak District National Park. The population is predominately white and is projected to increase over the next decade, with the greatest increase in the over 60 age group. Overall the indicators of health for people in Derbyshire are similar to average when compared with those for the East Midlands and England. There are however areas of poor health in the most deprived districts such as Bolsover and Chesterfield. The relatively prosperous appearance of rural areas masks pockets of socio-economic deprivation that affects substantial numbers of the rural population.

Derby City is a predominately urban area with a population of 252,463 (ONS 2014 population estimate). Black and minority ethnic groups comprise a significant proportion of the population, and there is also a rapidly-growing migrant population. The city has significant levels of socio-economic deprivation and indicators of health that are worse than average when compared with England and the East Midlands.

Deaths from Suicide and Undetermined Injury

Deaths from suicide and undetermined injury are based on persons aged 15 years and over where the primary cause of death is due to one of the following codes: ICD9 E950-E959, E980-E989 excl E988.8; ICD10 X60-X84, Y10-Y34.

Coroners hold inquests for all suspected deaths from suicide, and deaths cannot be registered until this process is completed. There is therefore often a delay between the date the individual died and the date that the death is registered, with the length of the delay being dependant on the timing and length of the inquest. The methodology used to calculate the national and local suicide rates (see <http://fingertips.phe.org.uk/profile-group/mental-health/profile/suicide>) and used in this report is based on deaths registered within a calendar year. The count of suicides within a particular calendar year will therefore include deaths that occurred in previous years, but not registered until that year.

Deaths from suicide and undetermined Injury in Derby and Derbyshire

In 2014, there were 111 deaths registered in Derby City and Derbyshire County where the cause of death was specified as suicide and undetermined injury, a large increase from the previous year, particularly in Derbyshire County (Table 1).

Table 1: Number of deaths from suicide and undetermined injury, by year of registration

Area	2008	2009	2010	2011	2012	2013	2014
Derby	22	28	17	21	20	20	25
Derbyshire	39	51	51	50	56	46	86
Total	61	79	68	71	76	66	111

Source: Public Health Mortality File

Table 2 illustrates the delay between the date of death and the date the death is registered. The majority of deaths from suicide and undetermined injury registered in 2014 in Derbyshire occurred in 2012 and 2013.

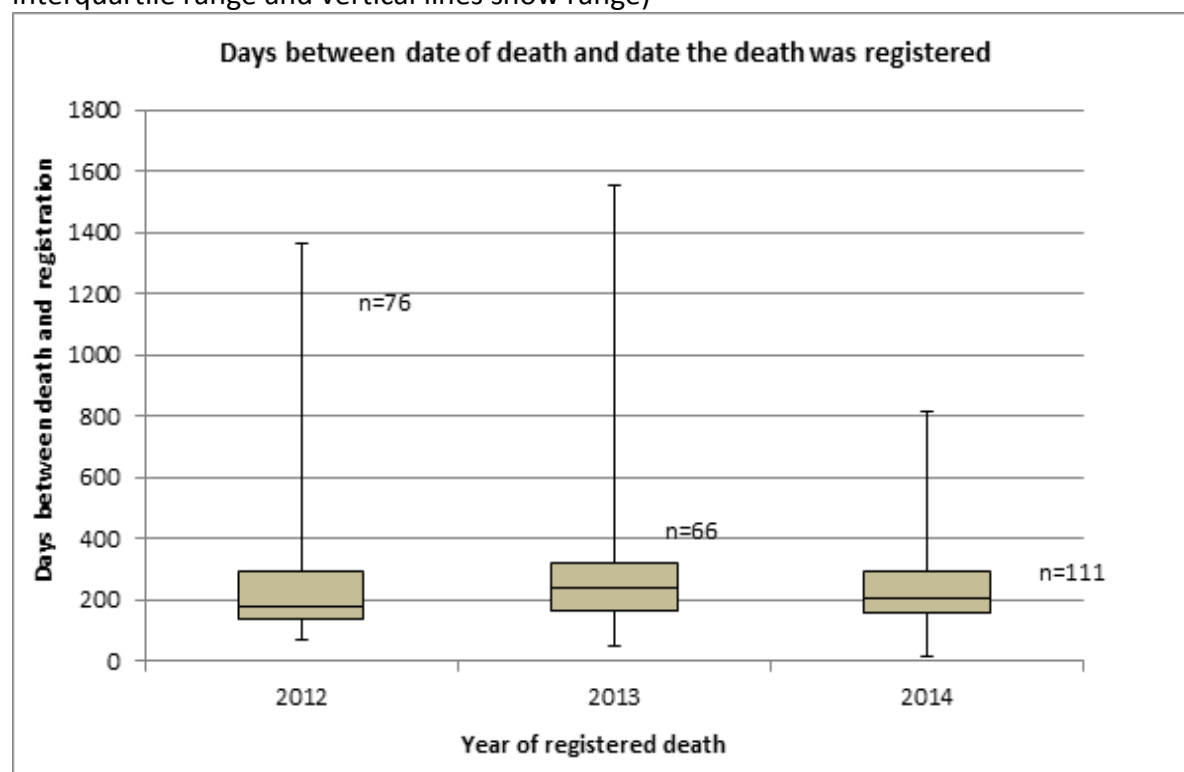
Table 2: Comparison between year of death from suicide and undetermined injury and year death registered

Year death registered	Year death occurred (%)						Total
	Pre-2010	2010	2011	2012	2013	2014	
2012	4 (5.3)	5 (6.6)	32 (42.1)	35 (46.1)	-	-	76 (100)
2013	-	2 (3.0)	3 (4.5)	34 (51.5)	27 (40.9)	-	66 (100)
2014	-	-	-	6 (5.4)	63 (56.8)	42 (37.8)	111 (100)

Source: Public Health Mortality File

For deaths from suicide and undetermined injury registered in 2014, the median time between date of death and the date the death was registered was approximately 200 days. The median time between date of death and registration has remained similar over the last 3 years, but the upper limit halved from approximately 1,500 days to 800 days between 2013 and 2014 (Figure 1).

Figure 1: Time between date of death and registration of deaths from suicide and undetermined injury in Derbyshire (horizontal line shows median time, box shows interquartile range and vertical lines show range)



Source: Public Health Mortality File

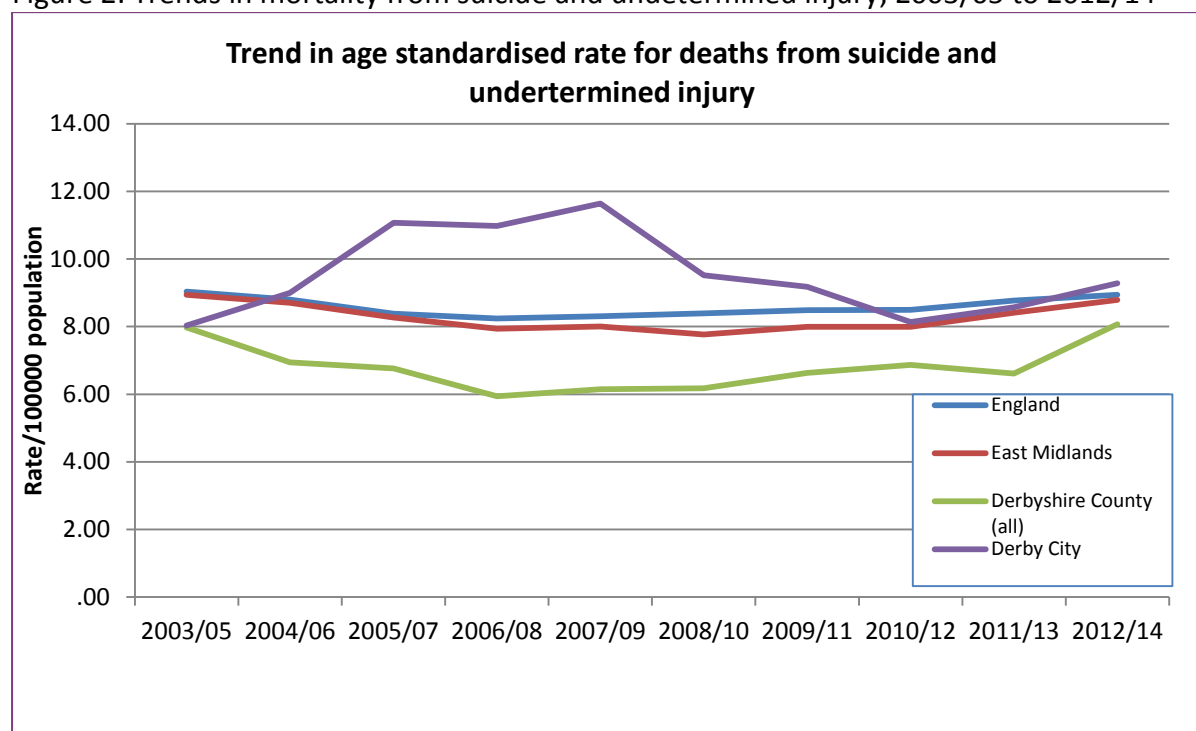
Changes in rates over time

From a statistical analysis point of view, there are relatively few deaths from suicide and undetermined injury each year in Derbyshire. Rates are therefore presented as rolling three-year averages in order to smooth the yearly fluctuations that can occur when dealing with small numbers. Such annual fluctuations make trends difficult to reliably interpret. Despite using 3-year rolling averages the small numbers of suicides mean that even these trends need to be interpreted cautiously.

Historically, the rate of deaths from suicide and undetermined injury in Derbyshire County has been lower than the national rate. The county suicide rate has steadily increased since 2006/08 (5.94 deaths per 100,000 population), to 8.1 deaths per 100,000 population in 2012/14, the highest in the last decade. However, the rate is statistically similar to the national average.

The smaller numbers of deaths from suicide and undetermined injury observed in Derby City results in greater fluctuations in the 3-year rolling average rate. Since 2007/09, when there was a peak of 11.6 deaths per 100,000 in Derby City, there has been a downward trend in the rate until 2011/13, since when there has been a small increase. The rate in Derby City in 2012/14 was statistically similar to the national rate.

Figure 2: Trends in mortality from suicide and undetermined injury, 2003/05 to 2012/14



Source: Public Health Outcomes Framework Indicator Tool

Table 3: Age-standardised rates of deaths from suicide and undetermined injury per 100,000 population, 2003/05 to 2012/14

Area	2003/05	2004/06	2005/07	2006/08	2007/09	2008/10
England	9.04	8.80	8.38	8.24	8.31	8.39
East Midlands	8.94	8.70	8.26	7.94	8.01	7.77
Derbyshire County	7.97	6.94	6.76	5.94	6.15	6.18
Derby City	8.04	9.00	11.07	10.97	11.64	9.52

Area	2009/11	2010/12	2011/13	2012/14
England	8.48	8.49	8.77	8.94
East Midlands	7.99	7.99	8.41	8.79
Derbyshire County	6.63	6.87	6.61	8.07
Derby City	9.17	8.14	8.57	9.29

Source: Public Health Outcomes Framework Indicator Tool

Gender

Derby City and Derbyshire County mirror the national picture of more deaths from suicide and undetermined injury occurring in men than women. Across Derbyshire County and Derby City in 2014, just over 3 out of every 4 suicides were amongst men.

Table 4: Deaths from suicide and undetermined injury, 2014, by gender

Gender	Derby City		Derbyshire County		Total (%)
	Number (%)	Rate (per 100,000 popn)	Number (%)	Rate (per 100,000 popn)	
Male	20 (80.0)	16.0	66 (76.7)	17.2	86 (77.5)
Female	5 (20.0)	3.9	20 (23.2)	5.0	25 (22.5)
Total	25 (100)	9.0	86 (100)	11.0	111 (100)

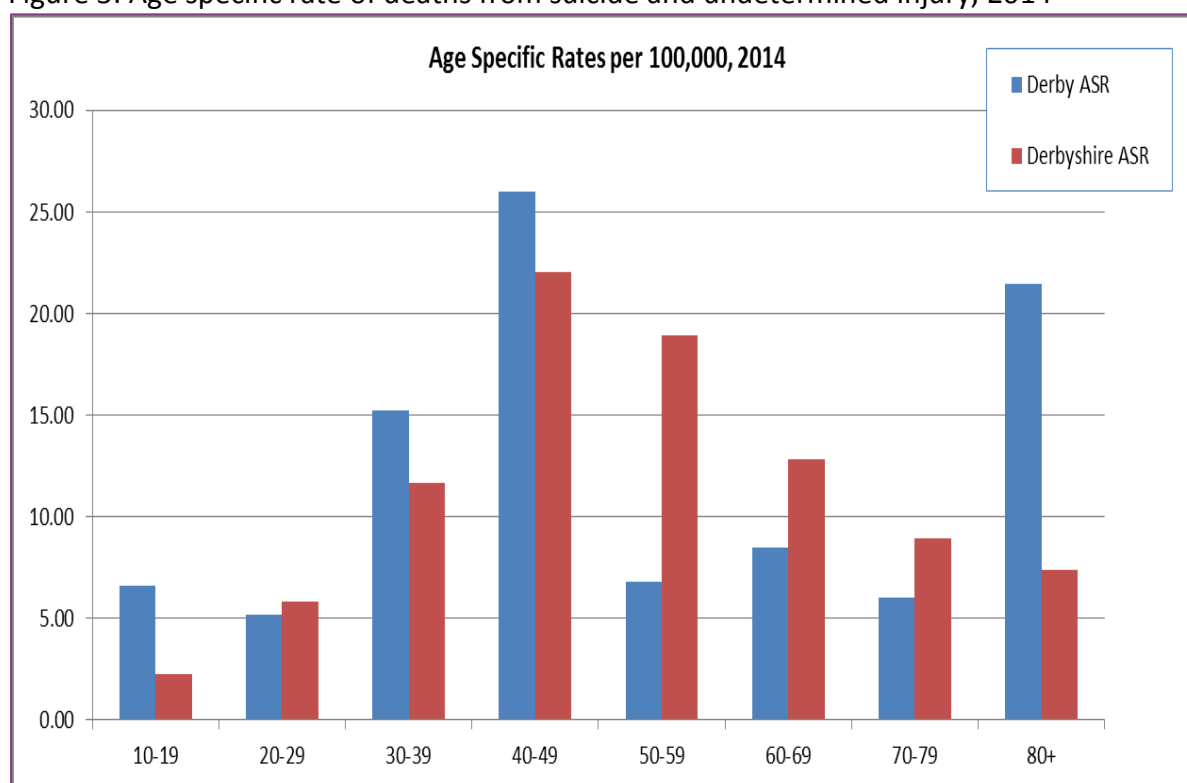
Source: Public Health Mortality File

Age

In 2014 the highest rate of deaths of suicide in both Derby City and Derbyshire County was in the 40-49 years age band (26.0 and 22.1 deaths per 100,000 population respectively). In general, the rate of death from suicide and undetermined injury decreases with age from 50 years onwards. There appears to be a sharp spike in the rate of those aged 80 years and over in Derby City, but this equates to less than 3 deaths.

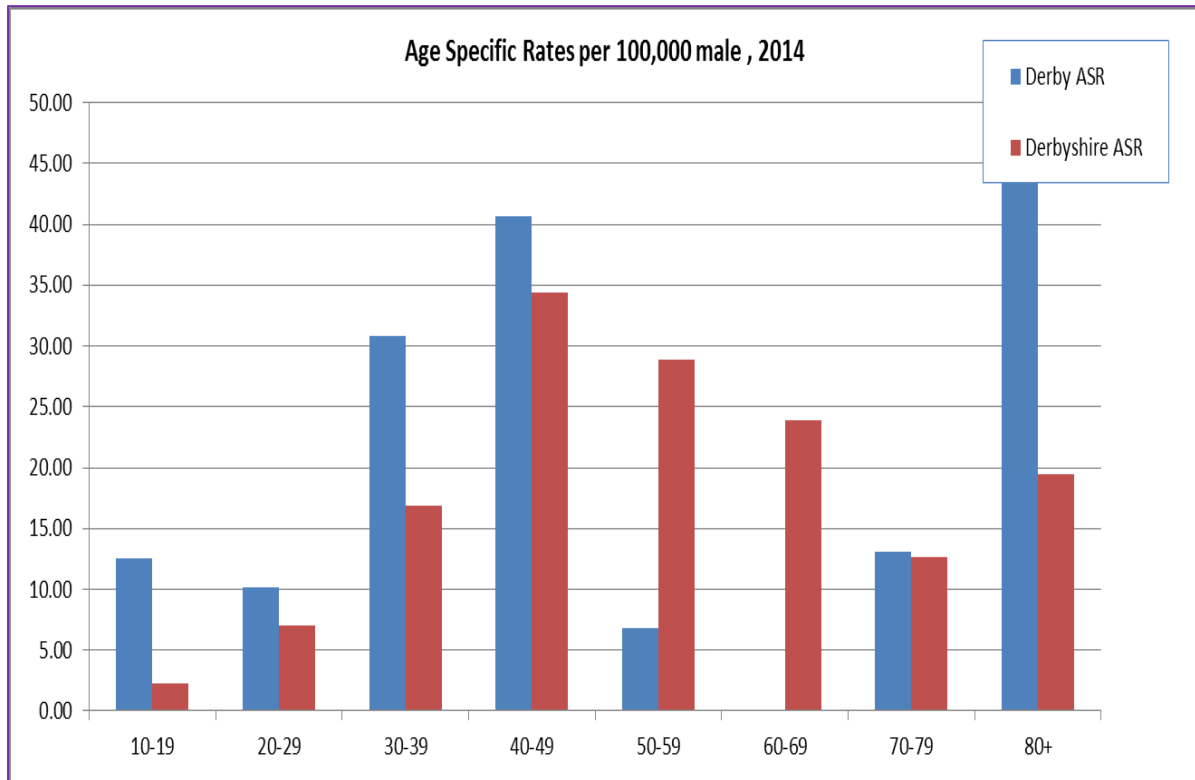
Over the last few years, the highest rate of deaths from suicide and undetermined injury in Derbyshire has been in the 30 to 60 age groups. There is a similar pattern in the rate by age group amongst men and women.

Figure 3: Age specific rate of deaths from suicide and undetermined injury, 2014



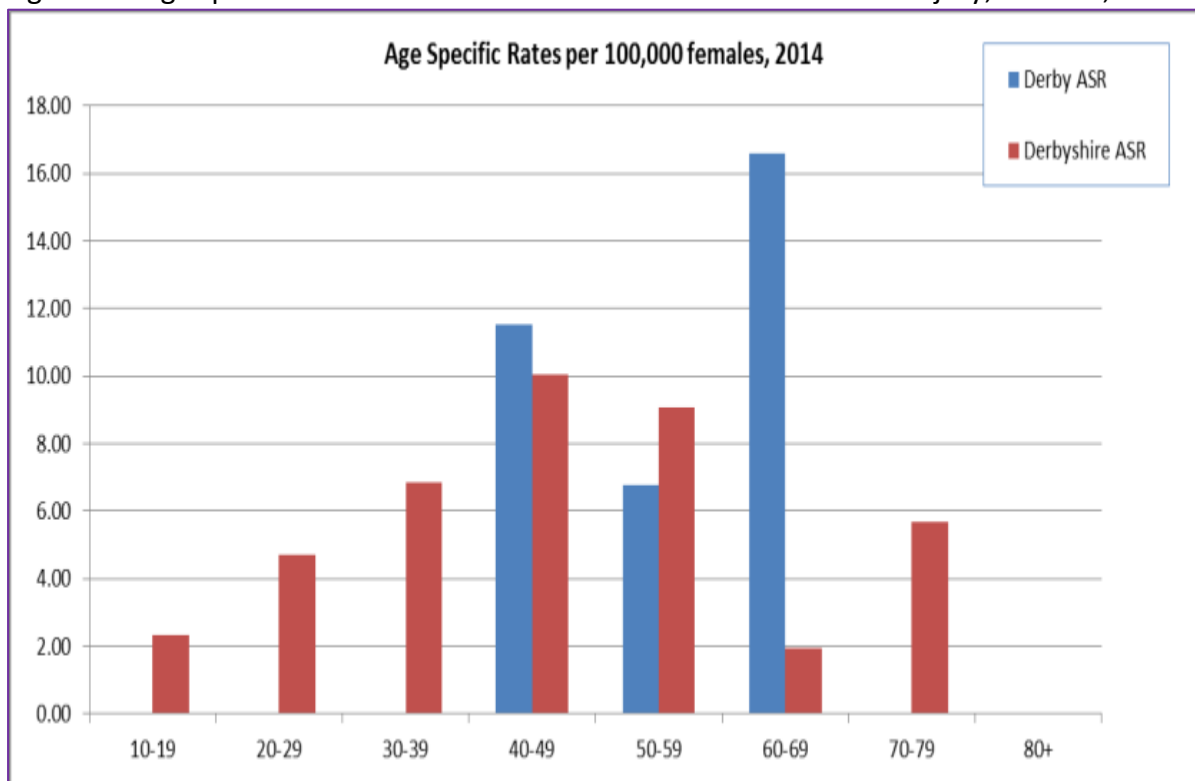
Source: Public Health Mortality File and ONS population

Figure 3a: Age specific rate of deaths from suicide and undetermined injury, males 2014



Source: Public Health Mortality File

Figure 3b: Age specific rate of deaths from suicide and undetermined injury, females, 2014

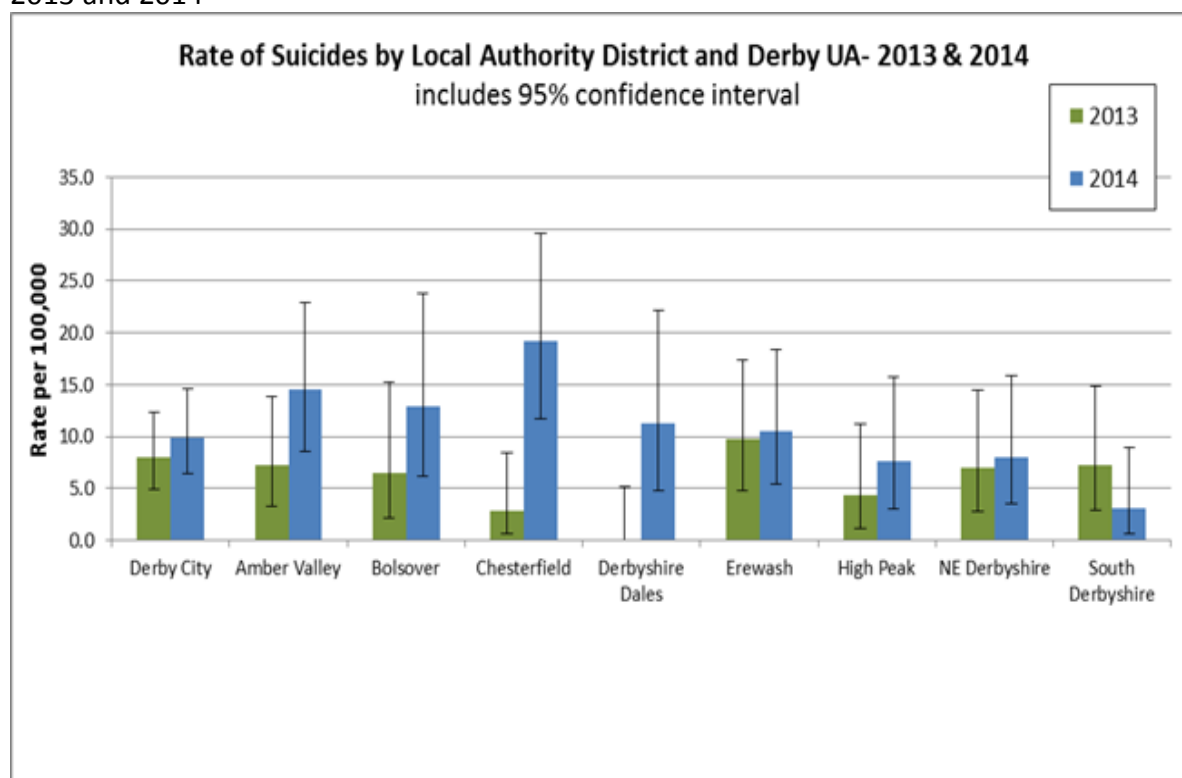


Source: Public Health Mortality File

District

In 2014, the highest rate of deaths from suicide and undetermined injury was in Chesterfield, with the lowest in South Derbyshire. These two districts had rates that were statistically different, but all other districts had rates that were similar. Chesterfield was the only locality that had a significant increase in suicide rate between 2013 and 2014; in all other districts the rate remained statistically similar.

Figure 4: Rate of deaths from suicides and undetermined injury by Local Authority District, 2013 and 2014



Source: Public Health Mortality File

Ethnicity

The Public Health mortality file does not include information on ethnicity, and therefore analysis by ethnicity is not available.

Deprivation

Death rates from suicide follow a deprivation gradient where a disproportionately higher number of people die in areas where socio-economic deprivation is highest. Deprivation analysis has been carried out using quintiles, based on the resident super output area and overall Index of Multiple Deprivation 2015 (IMD) score. Derbyshire County has a mean IMD score of 18.5 and Derby City a mean IMD score of 27.08¹ (where a higher score indicates a greater level of socio-economic deprivation).

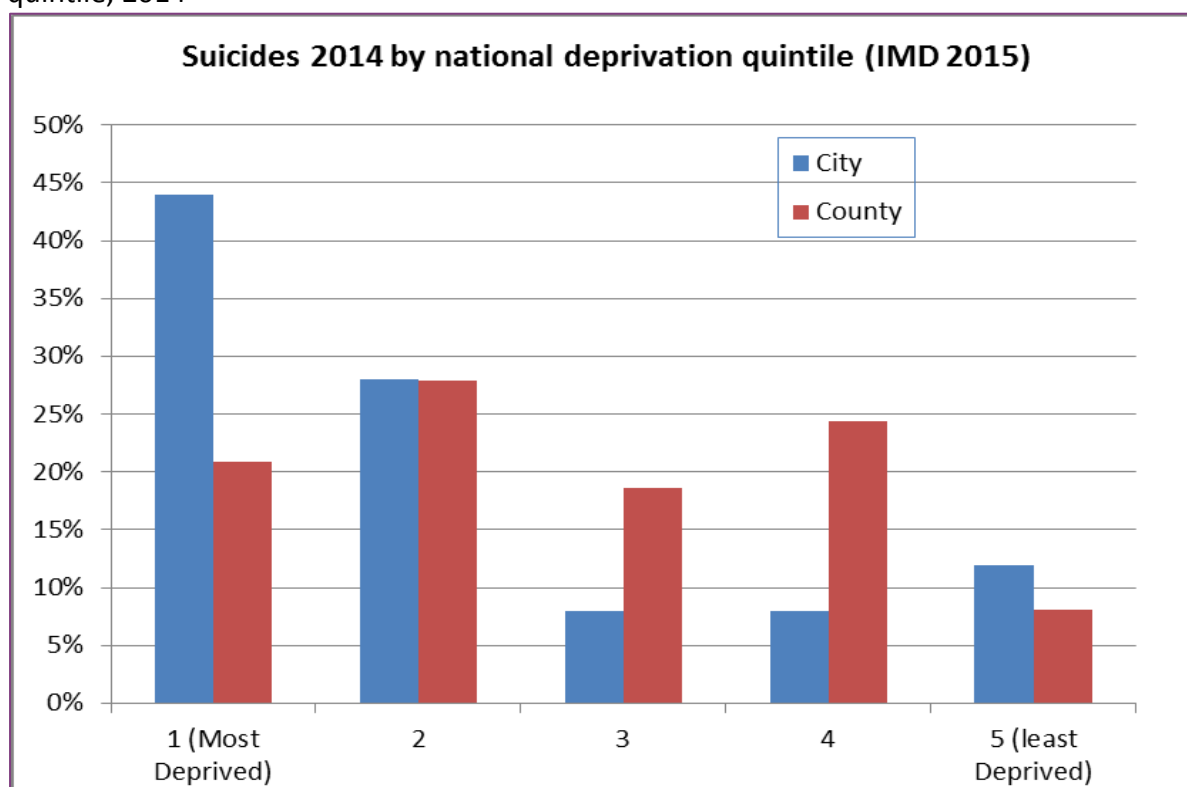
¹ Department for Communities and Local Government © Crown Copyright, 2015

Table 5: Index of Multiple Deprivation 2015 Quintiles

Quintile rank	Range of IMD score
1 (most deprived)	33.9 - 92.6
2	21.4 - 33.9
3	13.9 - 21.4
4	8.4 - 13.9
5 (least deprived)	0.5- 8.4

There appears to be an association between socio-economic deprivation and deaths from suicide and undetermined injury in Derby City, but not in Derbyshire County. At a local level, the numbers of deaths from suicide and undetermined injury on an annual basis makes reliable statistical analysis difficult.

Figure 5: Proportion of deaths from suicide and undetermined injury by national deprivation quintile, 2014



Source: Public Health Mortality File and Communities and Local Government

The effects of the economic recession

National research has highlighted that since the start of the financial crisis in 2008, regions in England with the largest rises in unemployment have had the largest rises in suicide, generally amongst men.² The authors found 846 more suicides in men, and 155 more amongst women, than would have been expected based on historical trends. The authors conclude that the relationship cannot definitively be stated as causal however the strength of effect and other related findings suggest that it is likely to be so. It is not possible to undertake robust statistical analysis to determine whether a similar picture has occurred in

² Bar B, Taylor –Robinsons, Scott-Samuel A, McKee M, Stuckler D. Suicides associated with the 2008-10 economic recession in England : time trend analysis BMJ 2012 345e5142DOI:101136

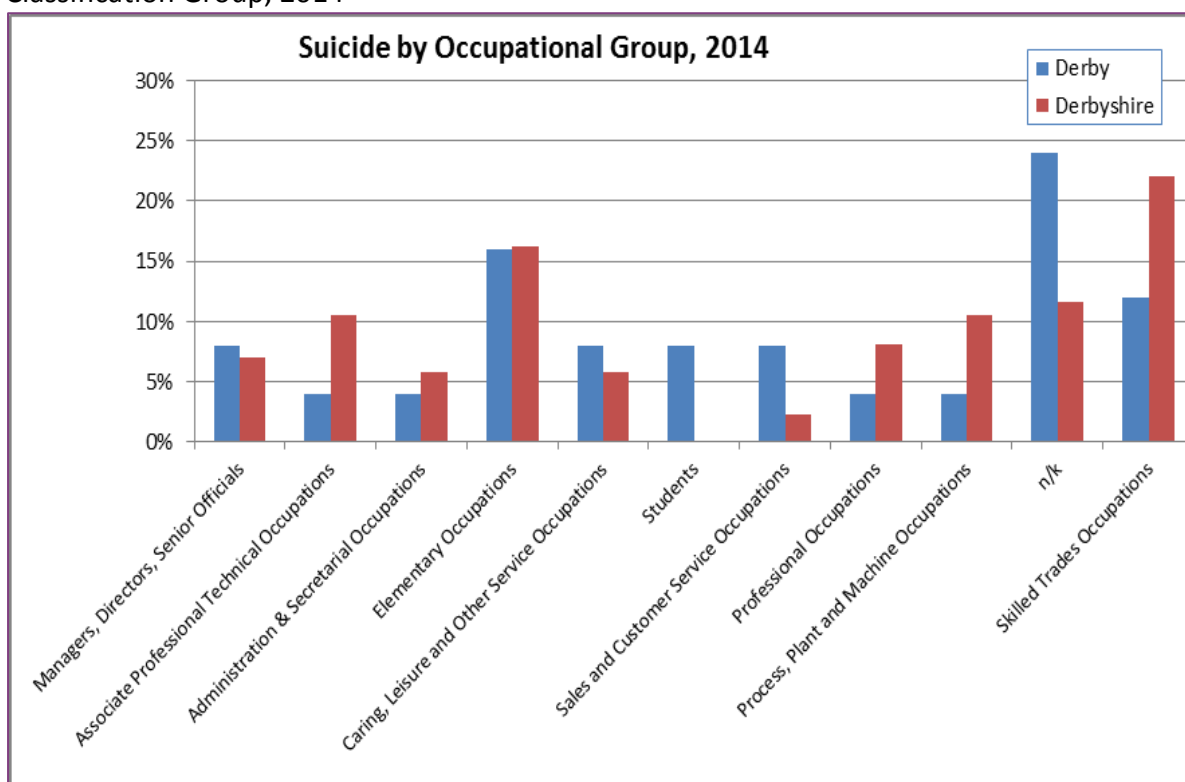
Derbyshire, however plans to reduce the numbers of deaths from suicide must include unemployed individuals as a population group at increased risk of suicide.

Occupational Group

Figure 6 shows the proportion of suicides by occupational group. Occupations have been assigned using National Statistics Socio-economic Classification Group.³

In both Derbyshire County and Derby City, Skilled Trades and Elementary occupations comprise the largest proportions of deaths from suicide and undetermined injury. The small numbers in each group make interpretation difficult and a fuller discussion not possible without compromising anonymity. In addition, there was a significant number of deaths where the occupation was not recorded.

Figure 6: Proportion of deaths from suicide and undetermined injury by Occupational Classification Group, 2014



Source: Public Health Mortality File

Place of death

The majority of suicides occur within the home, however, a significant proportion also occur in outdoor locations and on roads and railways.

³ <http://www.esds.ac.uk/doc/4683%5Cmrdoc%5Cpdf%5Csoc2000.pdf>

Table 6: Place of death for deaths from suicide and undetermined injury in Derbyshire, 2014

Place of death	Number (%)
Home	64 (57.7)
Outdoors*	23 (20.7)
Public highways (including railway tracks)	10 (9.0)
Hospital ⁺	8 (7.2)
Rivers	6 (5.4)
Total	111 (100.0)

Source: Public Health Mortality File

* includes locations: parks, woodlands, car parks and commercial buildings

⁺ it is not possible to distinguish whether these deaths have occurred in hospital having been conveyed from another location, or whether the suicide attempt occurred within a hospital site

Derbyshire Constabulary records information when police negotiators attend suspected self-harm events. Table 7 highlights that there is little variation by district in attendance at incidents.

Table 7: Police negotiator call-outs for attempted self-harm, by district

Local authority	2013	2014
Amber Valley	<5	5
Bolsover	<5	-
Chesterfield	<5	8
Derby City	10	9
Derbyshire Dales	<5	<5
Erewash	<5	<5
High Peak	5	9
North East Derbyshire	<5	4
South Derbyshire	<5	<5

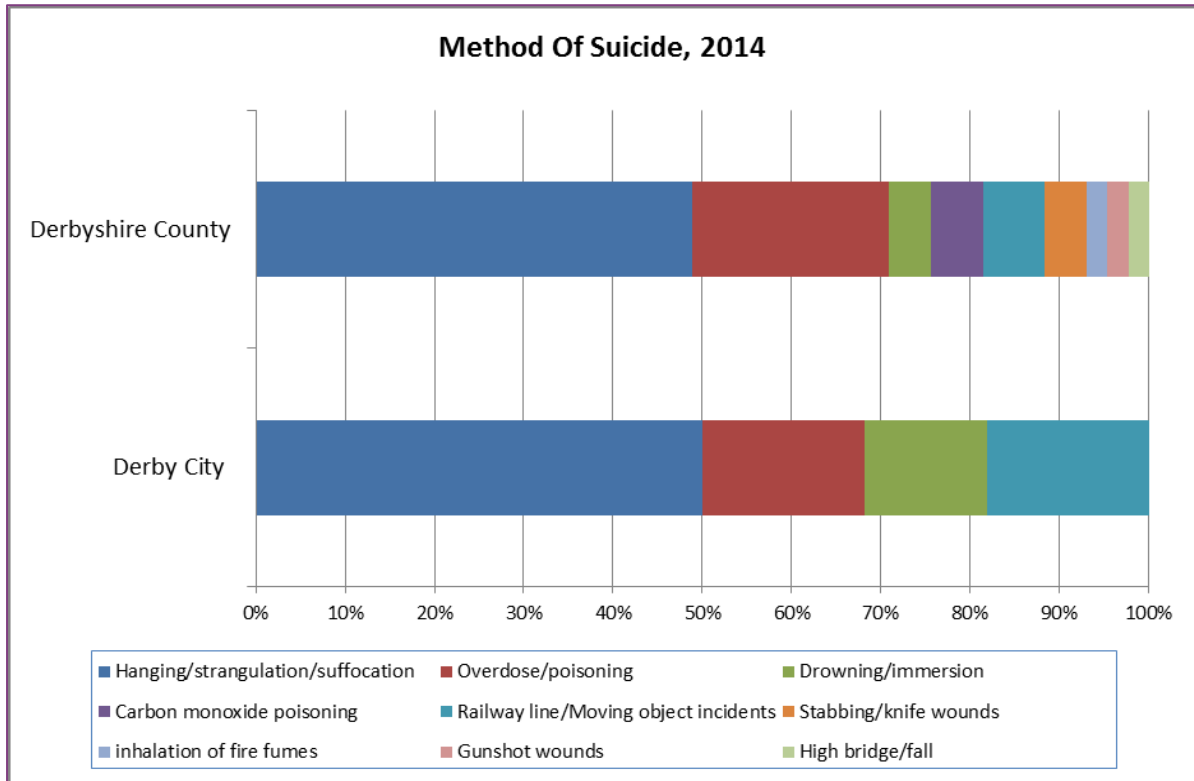
Source: Police data on call outs to incidents of suspected self-harm 2014

A data sub-group of the Derbyshire Suicide Prevention Partnership Forum has been established to collate information recorded by different organisations in Derbyshire that will assist in identifying locations used in multiple suicide attempts. This will assist prioritisation of locations where steps should be considered to deter suicide attempts.

Method of suicide

Approximately half of the deaths in Derby City and Derbyshire County were from hanging/strangulation/suffocation, which reflects the national picture. The most common method amongst men from Derbyshire who died from suicide or undetermined injury in 2014 was hanging/strangulation/suffocation (46.5% of all male deaths from suicide and undetermined injury) and for women was overdose/poisoning and hanging/strangulation/suffocation (44.0% and 36.0% of female deaths from suicide and undetermined injury respectively).

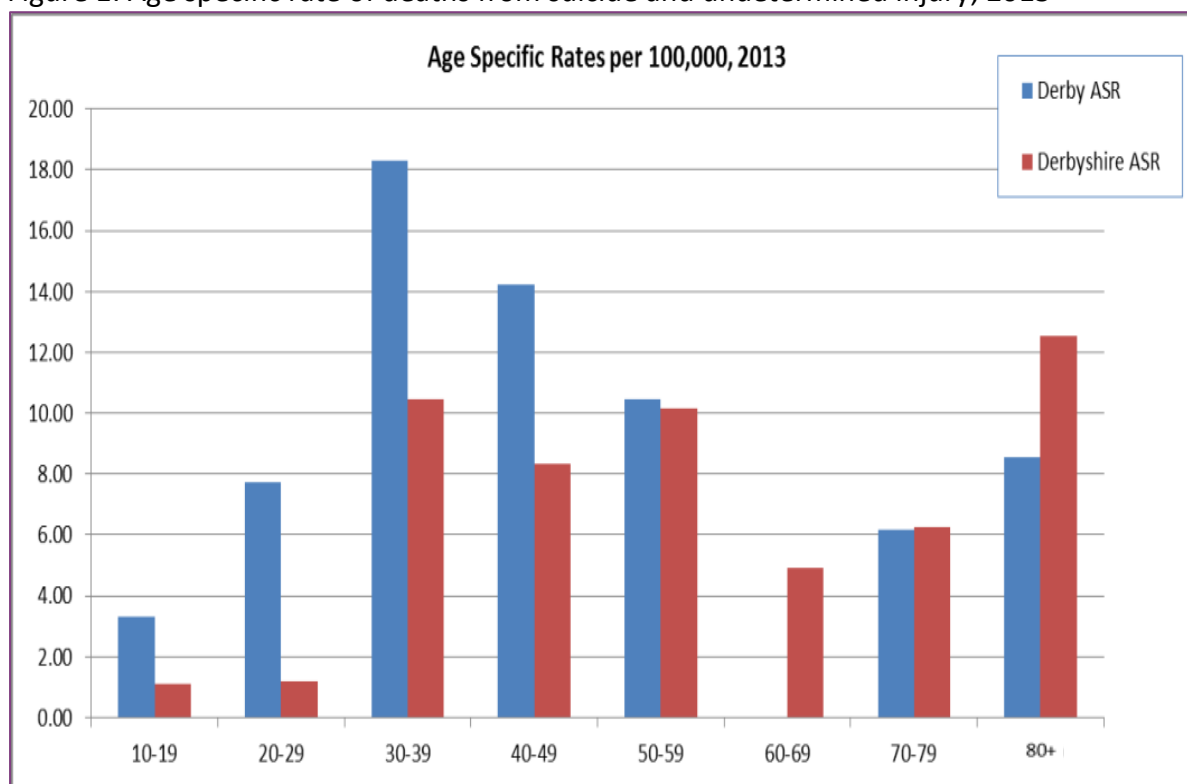
Figure 7: Method used in deaths from suicide and undetermined injury in Derbyshire, 2014



Source: Public Health Mortality File

Appendix 1: Deaths from suicides and undetermined injury in Derby City and Derbyshire County, 2013

Figure 1: Age specific rate of deaths from suicide and undetermined injury, 2013



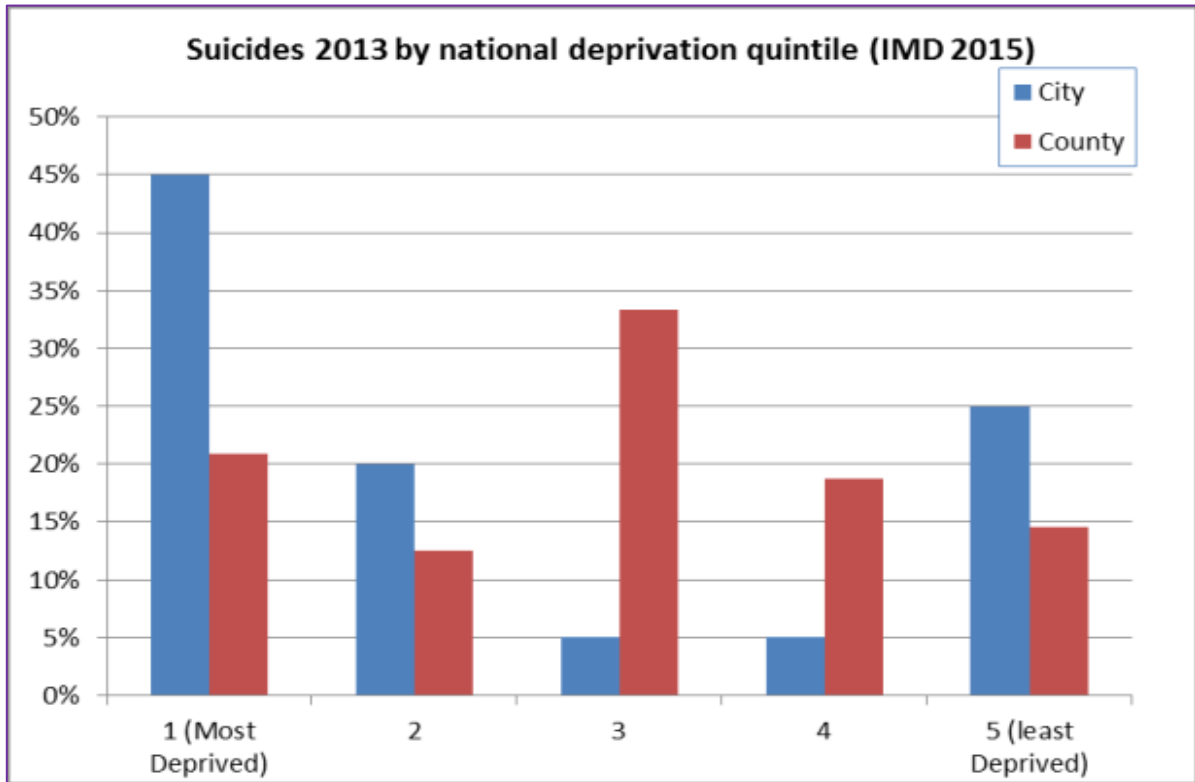
Source: Public Health Mortality File and ONS population

Table 1: Age specific rate of deaths from suicide and undetermined injury, 2013

Age group	Derby City (rate per 100,000 popn)		Derbyshire County (rate per 100,000 popn)	
	Male	Female	Male	Female
10-19	6.4	-	2.2	2.4
20-29	15.3	-	2.4	4.7
30-39	36.7	-	21.5	6.8
40-49	28.6	11.5	16.8	10.1
50-59	20.9	6.8	20.3	9.1
60-69	-	16.6	9.9	2.0
70-79	13.4	-	13.3	5.7
80+	22.7	-	33.2	-

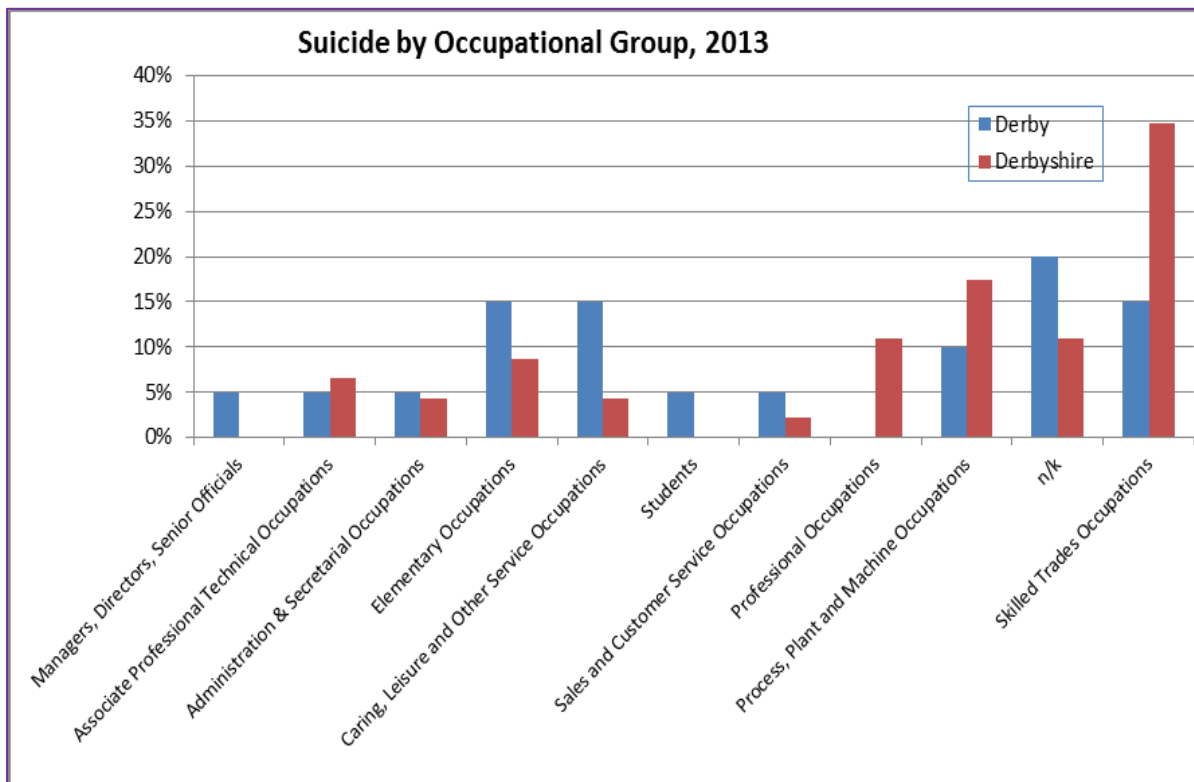
Source: Public Health Mortality File and ONS population

Figure 2: Deaths from suicide and undetermined injury by National Deprivation Quintile (IMD 2015), 2013



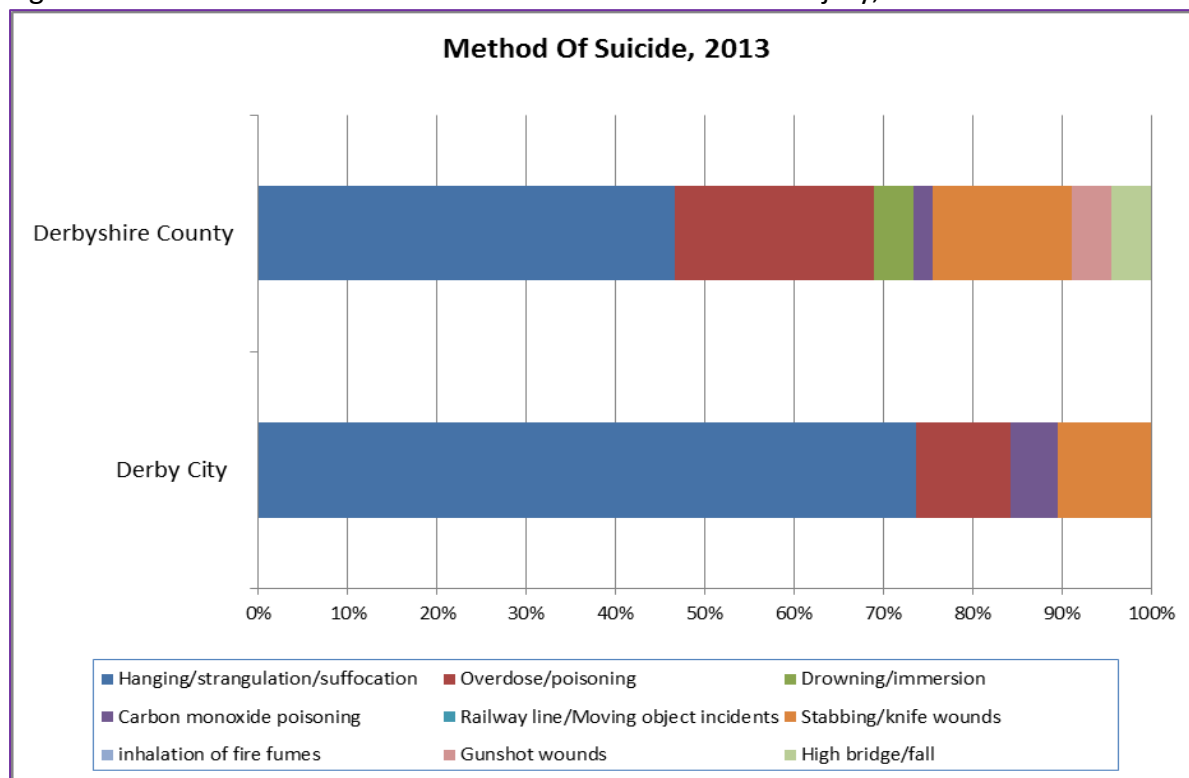
Source: Public Health Mortality File and Communities and Local Government

Figure 3: Deaths from suicide and undetermined injury, by Occupational Group, 2013



Source: Public Health Mortality File

Figure 4: Method for deaths from suicide and undetermined injury, 2013



Source: Public Health Mortality File

Table 2: Place of death from suicide and undetermined injury, 2013

Place of death	Number (%)
Home	35 (53.0)
Outdoors*	17 (25.8)
Hospital[†]	8 (12.1)
Public highways (including railway tracks)	4 (6.1)
Rivers	2 (3.0)
Total	66 (100)

Source: Public Health Mortality File

* includes locations such as parks, woodlands, car parks and commercial buildings

[†] it is not possible to distinguish whether these deaths have occurred in hospital having been conveyed from another location, or whether the suicide attempt occurred within a hospital site