

Deaths from suicide and injury of undetermined intent in Derby City and Derbyshire County

[Deaths registered in 2018]

This short report provides information on deaths registered in 2018 from suicide and injury of undetermined intent in people living in Derby City and Derbyshire County




Population Knowledge & Intelligence Team

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2019 Report

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This report is a resource to support professionals working to prevent suicide. If you are looking for personal support we invite you to make a GP appointment, ring NHS 111 or if you feel it is an emergency to contact 999. Alternatively, the Samaritans offer a listening service 116 123.

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1 INTRODUCTION

The aim of this report is to present the information from descriptive analysis of the most recent data on deaths from suicide and injury of undetermined intent in Derby City and Derbyshire County. It is intended to describe the patterns for the deaths registered in 2018, including benchmarking against national trends, and to inform further analysis for the Derby and Derbyshire Suicide Prevention Partnership Forum. Previous reports are available on the Derbyshire Observatory.¹

The report focusses on data for residents of Derby City and Derbyshire County. Derby City is a Unitary Authority covering an urban area with an estimated population of 257,174². The city has areas that experience significant levels of socioeconomic deprivation and poorer health outcomes compared with East Midlands and England³. Derbyshire County extends over 900 square miles, with a population of 796,142² resident in a mix of market towns, villages, and rural areas including the Peak District National Park. Many of the indicators of health for Derbyshire County are similar to the East Midlands and England averages, although there is notable variation between the districts, with areas such as Bolsover and Chesterfield experiencing higher levels of socioeconomic deprivation. Further descriptions of the populations and health needs are available in the JSNAs and Health Profiles.⁴

2 METHODOLOGY

This report describes the data for Derby City and Derbyshire County residents pertaining to deaths from suicide and injury of undetermined intent which were registered in 2018. If the death of a resident occurred outside of the residential area, it will still be included. The data within this report are sourced from the Primary Care Mortality Database supplied by NHS Digital under a Data Sharing Agreement⁵ and the following disclaimer applies: “We do not expect data provided to you in extracts to exactly match ONS’ published data since we are not exactly replicating ONS’ processes, and ONS’ published data are based on a snapshot at a given period.[sic]”

The data analysis for this report follows the methodology of previous reports and aligns with the methodology used by the Office of National Statistics. The Primary Care Mortality Database data are extracted from death certificates. In cases of suicide and injury of undetermined intent there is often a delay between the date of death and date of registration; this report is specifically for deaths registered in 2018. The categorisation of a ‘Death from Suicide and Injury of Undetermined intent’ is where the primary cause of death is recorded as one of the following codes from ICD10: X60-84 (age 10+ only) or Y10-Y34 (age 15+ only). Of note, only deaths of injury of undetermined intent in adults age 15 years and over are included. Age standardised rates have been calculated using 10+ years as the denominator and are presented per 100,000 population. Rates are not calculated for small counts (<10) to ensure comparisons are robust.

In July 2018 the standard of proof of death caused by suicide in England and Wales changed from “criminal standard” to “civil standard”. Due to the delay between date of death and date of registration (median 265 days), it is unclear how this may affect the number of deaths identified as suicide in future years. Deaths from injury of undetermined intent are included in this dataset where intent in the circumstances of the death was unclear. Furthermore, coroners may return narrative verdicts, and it is noted that where these are ‘hard-

¹ See: <https://observatory.derbyshire.gov.uk/life-expectancy-and/suicides/>

² <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates>

³ <https://fingertips.phe.org.uk/profile/public-health-outcomes-framework>

⁴ For Derby City, see <https://info4derby.derby.gov.uk/>; for Derbyshire, see <https://observatory.derbyshire.gov.uk/jsna/>

⁵ <https://digital.nhs.uk/services/primary-care-mortality-database>

to-code', the death may be registered as an accidental death and not included in the count of deaths from suicide and injury of undetermined intent.

3 DATA

3.1 Numbers of deaths from suicide and injury of undetermined intent

The number of deaths by suicide and injury of undetermined intent registered in 2018 totalled 22 for Derby City and 73 for Derbyshire County. Table 1 shows the number of deaths for both areas by the underlying cause of death. For deaths registered in 2018, 19% were deaths from injury of undetermined intent, where the intent in the circumstances of the death was unclear.

Table 1: Numbers of deaths registered in 2018

Area	Number of deaths from suicide	Number of deaths from injury of undetermined intent	Total number of deaths from suicide and injury of undetermined intent
Derby City	18	4	22
Derbyshire County	59	14	73
Total	77(81%)	18 (19%)	95 (100%)

Source: Primary Care Mortality Database

The number of deaths by suicide and injury of undetermined intent is monitored annually. Table 2 shows how the total numbers of deaths registered in 2018 for Derbyshire County and Derby City compares with previous years. The number of deaths registered in 2018 was higher than the preceding two years for both Derbyshire County and Derby City.

Table 2: Numbers of deaths from suicide and injury of undetermined intent by year of registration

Area	2011	2012	2013	2014	2015	2016	2017	2018
Derby City	21	20	20	25	19	18	10	22
Derbyshire County	50	56	46	86	83	55	49	73
Total	71	76	66	111	102	73	59	95

Source: Primary Care Mortality Database

The number of deaths recorded as suicide and injury of undetermined intent is reported by the year in which the death was registered. Table 3 presents the data comparing the year the death occurred with the year that the death was registered. The majority (84%) of deaths registered in 2018 were for deaths that occurred in 2017 and 2018.

Table 3: Comparison between the year that the death was registered with the year that death occurred, for deaths recorded as suicide or injury of undetermined intent

Year Death Registered	Total number of deaths	Percentage of Deaths by the Year Death Occurred									
		2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
2013	66	3%	5%	52%	41%	-	-	-			100%
2014	111	-	0%	5%	57%	38%	-	-			100%
2015	102	-	1%	-	5%	52%	42%	-			100%
2016	73	-	1%	-	1%	3%	48%	47%			100%
2017	59						5%	59%	36%		100%
2018	95						3%	13%	47%	37%	100%

Source: Primary Care Mortality Database

In Derbyshire County 38% of deaths recorded as suicide or injury of undetermined intent registered in 2018 occurred in 2018. In Derby City this figure was slightly lower at 32%, see Table 4.

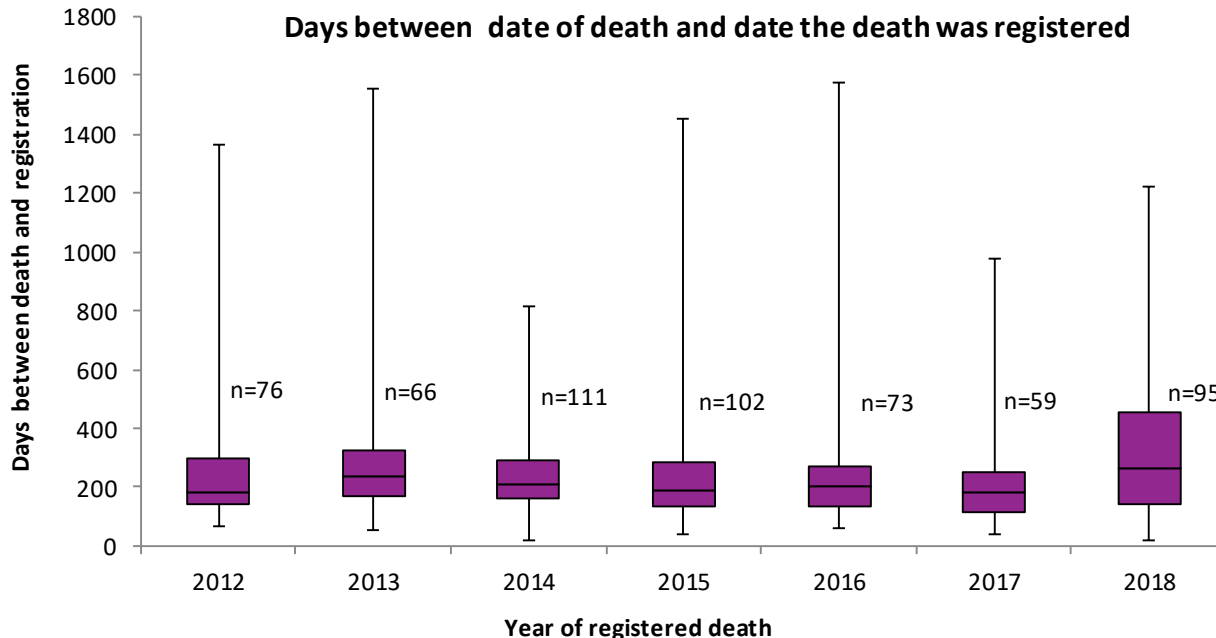
Table 4: Deaths registered in 2018 in Derby City and Derbyshire County by year of death

Year of Death	Derby City	Derbyshire County
2015	5%	3%
2016	14%	12%
2017	50%	47%
2018	32%	38%

Source: Primary Care Mortality Database

For deaths recorded as suicide and injury of undetermined intent registered in 2018, the median time difference between date of death and date of registration was 265 days, with a range from 19 days to 1218 days (Figure 1). This is similar compared to the median number of days in previous years, and there have been no significant changes in the time lag between date of death and date of death registration observed in this time period.

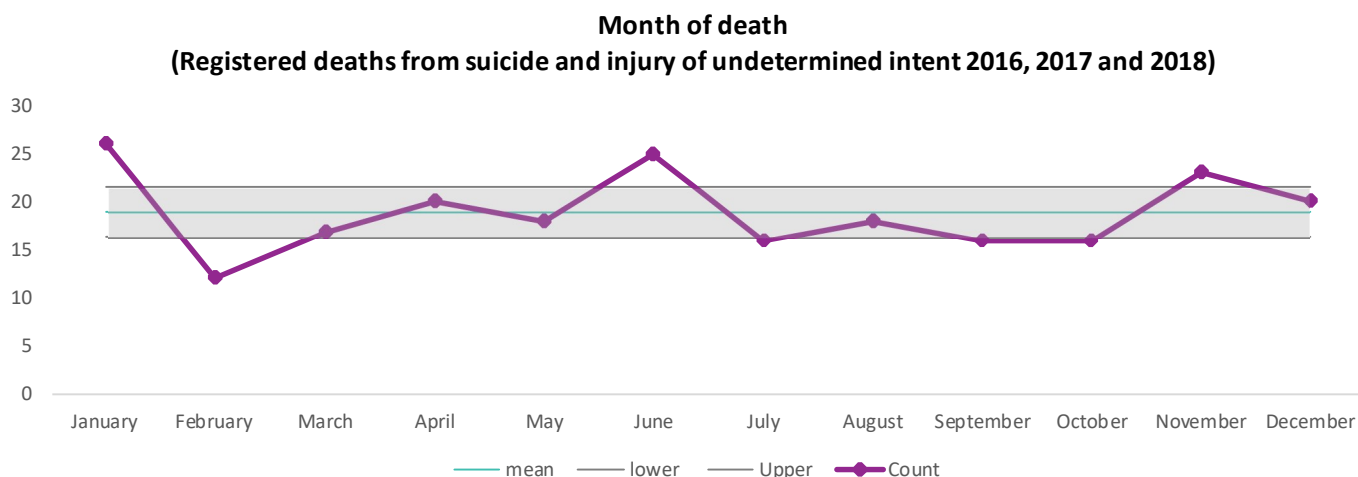
Figure 1: Time interval in number of days between the date of death and date of death registration for deaths recorded as suicide and injury of undetermined intent



Horizontal line shows median time, box shows interquartile range, vertical lines show range.
Source: Primary Care Mortality Database

An analysis by date of death (based on 3 years pooled data 2016-18 registered deaths) demonstrates when the count of deaths for a month differ from the mean, see Figure 2. If the count is outside of the grey shaded area, it differs significantly from the mean. January, June and November had a significantly higher count of deaths compared to the mean. February had a significantly lower count of deaths compared to the mean. However, as numbers are small there is likely to be a large amount of variation so care needs to be taken when interpreting this data.

Figure 2: Month when death occurred for deaths registered in 2016, 2017 and 2018



Source: Primary Care Mortality Database

3.2 Rates of deaths from suicide and injury of undetermined intent

The age-standardised rates of deaths from suicide and injury of undetermined intent are presented in Table 5 and displayed in Figure 3. These age-standardised rates allow comparison over time and between areas. The rates are presented as three-year rolling averages to allow for the yearly fluctuations associated with the relatively small numbers of deaths compared to the population size. The error bars in Figure 3 show the 95% confidence intervals around each data point. As these are small numbers, particularly for Derby City, even with pooled data there remains an inherent degree of uncertainty, such that caution should be taken in interpreting trends.

Overall, there is no statistical difference in the rates between Derby City and Derbyshire County. In Derbyshire County, the 3 year pooled mortality rate for 2016-18 was 8.4 per 100,000. This represents a decline from the observed increase seen in rates across 2012-14 to 2014-16 (though it is not statistically significantly different to previous periods). The recent trend (Figure 3) shows that Derbyshire County had statistically similar rates compared to the average for England.

In Derby City, the 3 year pooled mortality rate for 2016-18 was 7.4 per 100,000. Since 2008-10, the rates for Derby City have remained similar to the England average.

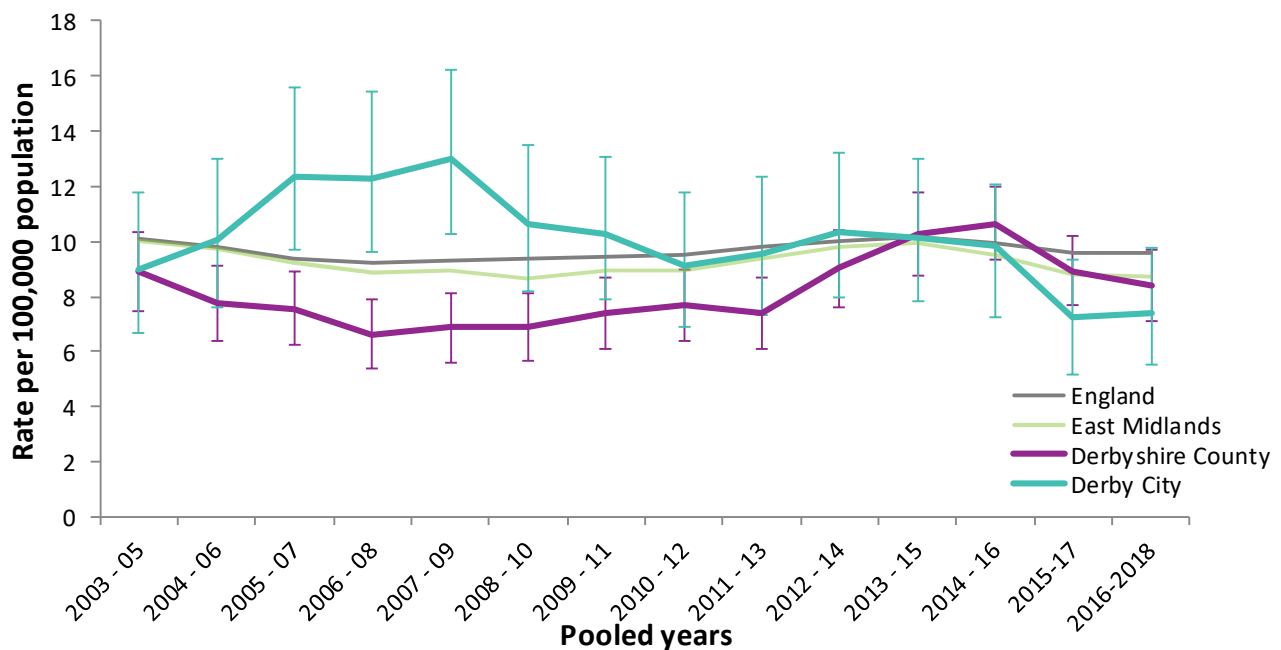
Table 5: Age-standardised rates of deaths from suicide and injury of undetermined intent per 100,000 population in Derby City and Derbyshire County

3 Year Pooled period	Derbyshire County			Derby City			England		
	Number	Rate	Confidence intervals	Number	Rate	Confidence intervals	Number	Rate	Confidence intervals
2012 – 2014	189	9.0	(7.8 – 10.4)	66	10.4	(8.0 – 13.2)	14122	10.0	(9.8 – 10.2)
2013 – 2015	216	10.3	(8.9 – 11.7)	65	10.2	(7.8 – 13.0)	14429	10.1	(10.0 – 10.3)
2014 – 2016	225	10.6	(9.3 – 12.1)	63	9.8	(7.5 – 12.6)	14277	9.9	(9.8 – 10.1)
2015 – 2017	187	8.9	(7.7 – 10.3)	47	7.3	(5.3 – 9.7)	13846	9.6	(9.4 – 9.7)
2016 – 2018	177	8.4	(7.2-9.7)	50	7.4	(5.5 – 9.8)	14,047	9.6	(9.5 – 9.8)

Age Standardised Rates calculated from 2013-15 onwards using revised PHE methodology with 10years+ at the population denominator
 Source: Public Health Outcomes Indicator Tool

Figure 3: Longer term trends in age-standardised rates of deaths from suicide and injury of undetermined intent per 100,000 population compared with regional and national rates.

Trend in age standardised rate for deaths from suicide and injury of undetermined intent



Error bars represent 95% confidence Intervals for the rates.
 Source: Public Health Outcomes Indicator Tool

3.3 Deaths from suicide and injury of undetermined intent by demographic characteristics

3.3.1 Gender

Historically, there has always been a significantly higher number of males who die by suicide or injury of undetermined intent and this pattern is apparent for deaths from suicide and injury of undetermined intent registered in 2018, see table 6.

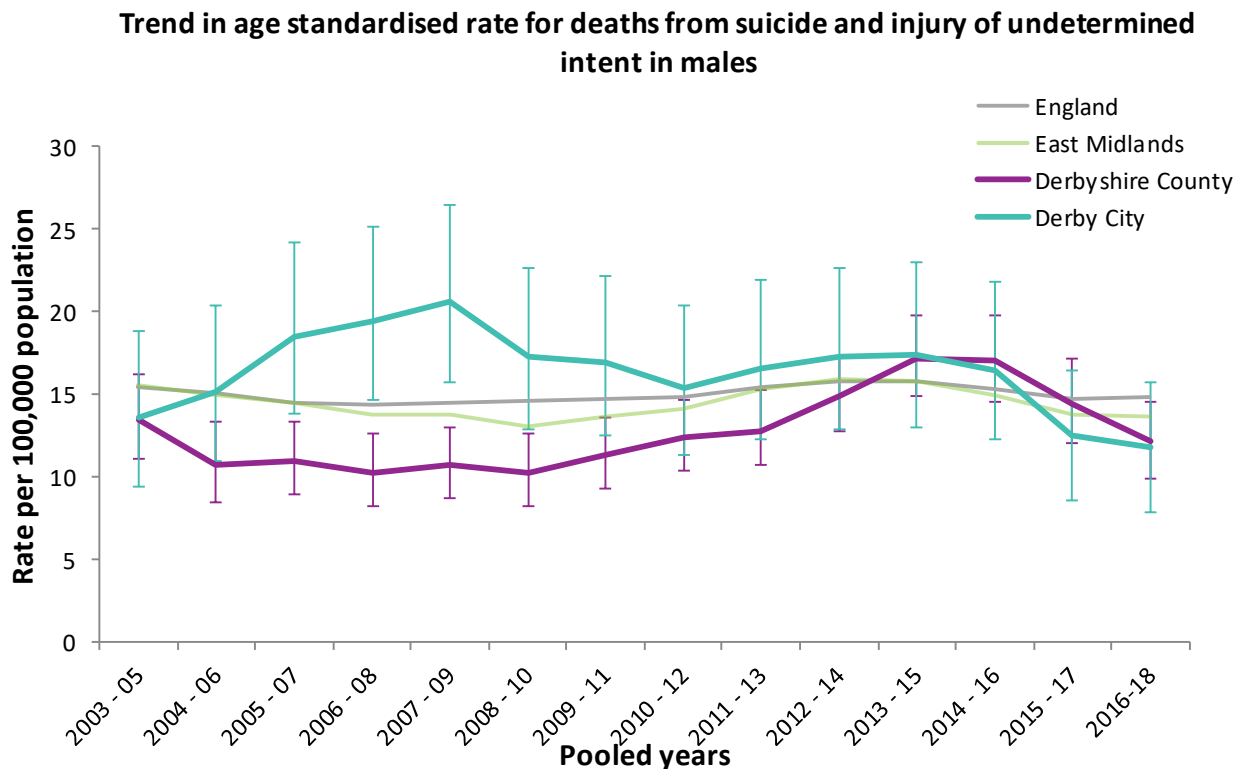
Table 6: Deaths from suicide and injury of undetermined intent registered in 2018 by gender

Gender	Derbyshire County			Derby City		
	Number	Rate	Confidence intervals	Number	Rate	Confidence intervals
Males	48 (66%)	13.8	(9.1 – 17.0)	17 (77%)	16.5	(1.8 – 12.0)
Females	25 (34%)	6.9	(4.4 – 10.2)	5 (23%)	*	*

Source: Primary Care Mortality Database
 * number of cases too small to calculate a robust rate

Figures 4 and 5 show the trends over time in the rates of deaths from suicide and injury of undetermined intent in males and females. These are 3-year pooled rates which are more stable to allow comparisons over time. An age standardised rate for deaths in females in Derby City from suicide and injury of undetermined intent cannot be reliably calculated due to small numbers; similarly the rates for females in Derbyshire County in 2011-13 could not be calculated (Figure 5). There is no statistical difference in the rates for males between Derbyshire County and Derby City. Derbyshire County had a significantly lower rate compared to the national rate for males.

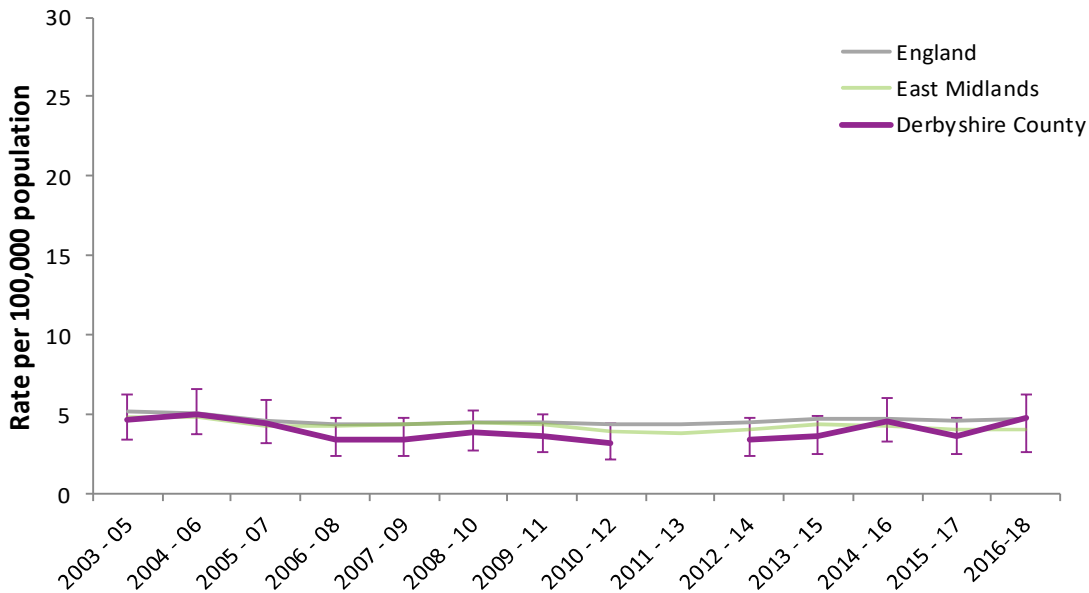
Figure 4: Longer term trends in age-standardised rates of deaths from suicide and injury of undetermined intent per 100,000 population in males



Error bars represent 95% confidence Intervals for the Rates.
 Source: Public Health Outcomes Indicator Tool

Figure 5: Longer term trends in age-standardised rates of deaths from suicide and injury of undetermined intent per 100,000 population in females

Trend in age standardised rate for deaths from suicide and injury of undetermined intent in females



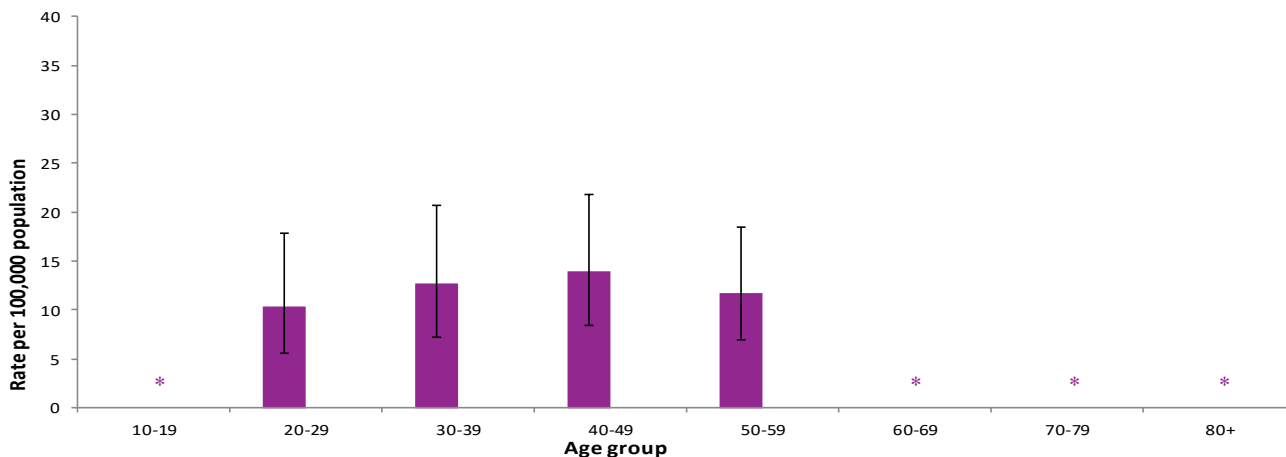
Error bars represent 95% confidence Intervals for the Rates.
 Source: Public Health Outcomes Indicator Tool
 Data for Derby City not calculated due to small numbers

3.3.2 Age

For deaths registered in 2018, Figure 6 shows the age specific rates of deaths from suicide and injury of undetermined intent. The highest rate of deaths was in the 40-49 year age group, although rates did not differ statistically by age-group. The pattern across age groups is primarily influenced by the data for the deaths of men, as the number of deaths for women is small.

Figure 6: Rates in deaths from suicide and injury of undetermined intent for deaths registered in 2018, by age group

Age specific rates in deaths from suicide and injury of undetermined intent registered in 2018 in Derbyshire County and Derby City

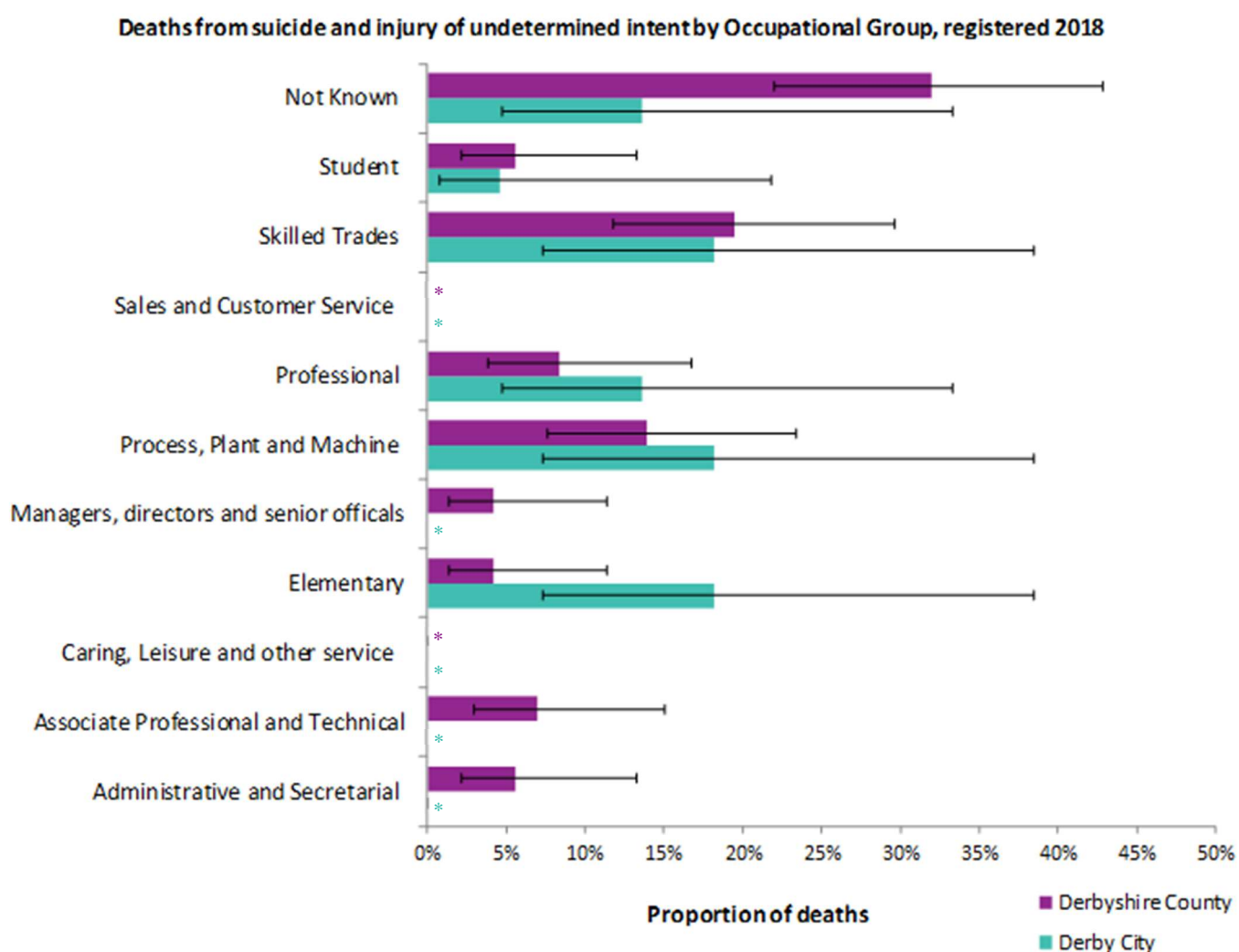


Error bars represent 95% Confidence Intervals
 Source: Primary Care Mortality Database
 * number of cases too small to calculate a robust rate

3.3.3 Occupational group

Occupational group is considered as an indicator of socioeconomic status. Where data has been recorded in the death registration, this has been assigned within the Office of National Statistics (ONS) standard occupational classifications⁶. Figure 7 shows the proportions of suicide and injury of undetermined intent by occupational groups, for deaths registered in 2018. Of note, these are the proportions of the deaths that were registered and are not adjusted to the baseline numbers of each occupational group in the population.

Figure 7: Proportion of deaths registered in 2018 from suicide and injury of undetermined intent by occupational classification group



Error bars represent 95% Confidence Intervals

Source: Primary Care Mortality Database

* counts of less than 3 are suppressed as prescribed by the disclosure control guidance (ONS)

The highest percentage of the deaths registered in 2018 for Derbyshire County by occupational classification group was skilled trades (19%). In Derby City elementary (18%), process, plant and machine (18%), and skilled trades (18%) accounted for the highest percentage of occupational classification. Of note, the occupational group was not known or not recorded for 26 deaths from suicide and injury of undetermined intent registered in 2018 comprising of 14% of deaths in Derby City, and 32% of deaths in Derbyshire County.

⁶ <https://www.ons.gov.uk/methodology/classificationsandstandards/standardoccupationalclassificationsoc>

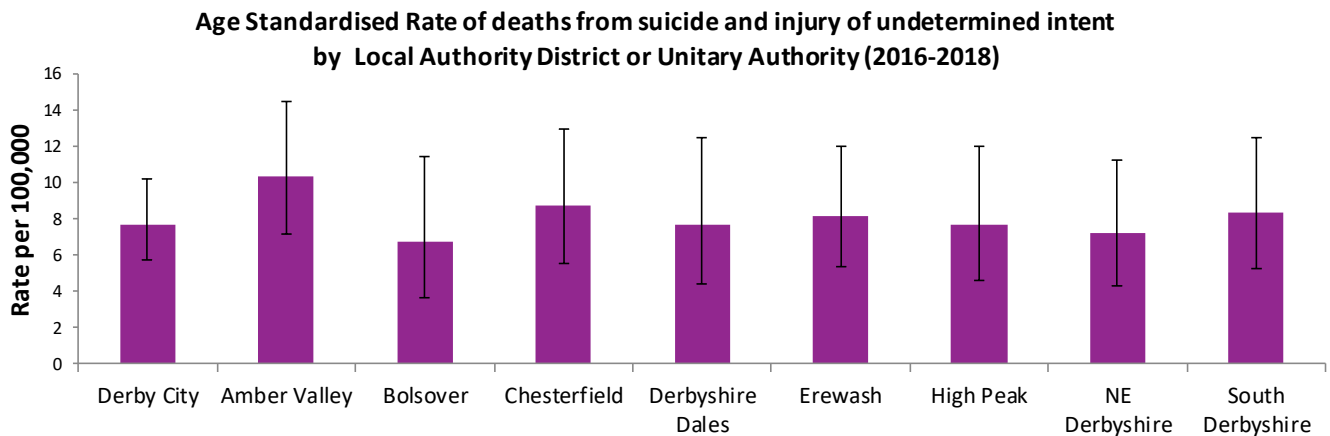
3.4 Deaths from suicide and injury of undetermined intent by geographical area

The Primary Care Mortality Database includes the usual resident address for registered deaths allowing analysis of the data by geographical area.

3.4.1 District

Figure 8 shows the rates for deaths from suicide and injury of undetermined intent registered in 2016 - 2018. There is no significant difference between districts.

Figure 8: Rates of registered deaths from suicide and injury of undetermined intent by local authority district

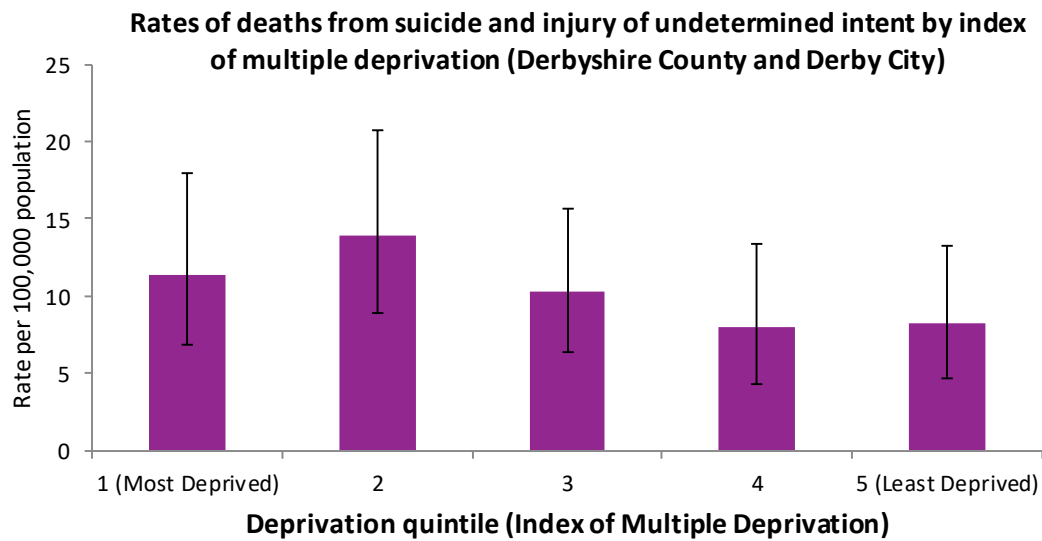


Error bars represent 95% Confidence Intervals
Source: Primary Care Mortality Database

3.4.2 Deprivation

An analysis of the data on deaths from suicide and injury of undetermined intent by lower super output area (populations of approximately 1500 people) was compared with Index of Multiple Deprivation scores, ranked in quintiles. Figure 9 shows the rate of deaths registered in 2018 for Derbyshire County and Derby City by deprivation quintile. There are no statistically significant differences in the rates of suicide between the quintiles of deprivation in this dataset. There is a high level of uncertainty around the data due to the small numbers of deaths used to calculate the rates for each quintile. This is particularly evident by the large error bars.

Figure 9: Rates of death from suicide and injury of undetermined intent by national deprivation quintile, deaths registered in 2018



Calculated using Index of Multiple Deprivation 2019. Age standardised rates. Error bars represent 95% Confidence Intervals.
Source: Primary Care Mortality Database and Office of National Statistics

3.4.3 Rural/Urban Classification

Comparison by rurality of an area was calculated, implementing the ONS classifications to Ordnance Survey mapping categories (Rural town and fringe, rural village and dispersed urban city and town, urban major conurbation and urban minor conurbation). Derby City is classified fully within the Urban City and Town category, whilst Derbyshire County spans across all settlement types. Settlement types were compared but there was no significant difference between settlement types.

3.5 Deaths from suicide and injury of undetermined intent by location and means of death

3.5.1 Place of death

Table 7 shows the locations of the deaths registered in 2018 across both Derbyshire County and Derby City. For 2018, 44 (46%) of the deaths occurred outside of Home and Hospital settings. The median distance travelled to these outdoor locations from the home residence was 2.25 miles.

Table 7: Deaths from suicide and injury of undetermined intent registered in 2018 by place of death

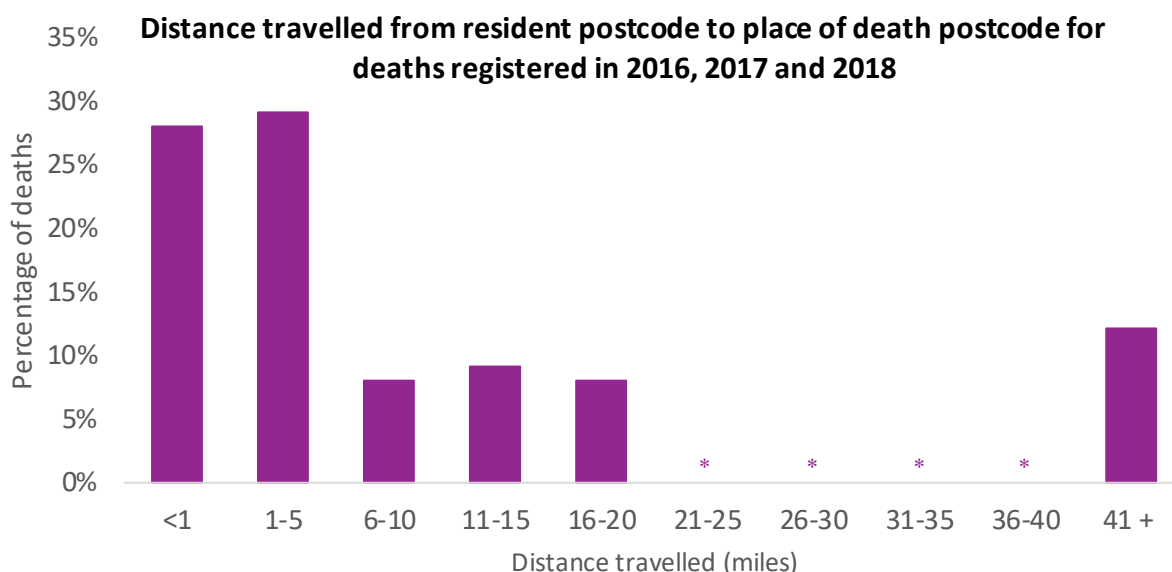
Place of Death	Number (% ³)
Home	38 (40%)
Hospital ¹	13 (14%)
Railway	7 (7%)
River	5 (5%)
Highway	6 (6%)
Other outdoors ²	26 (27%)
Total	95

Source: Primary Care Mortality Database; ¹ Hospital category does not distinguish between deaths which occurred in hospital following conveyance from another location, or a suicide attempt on the hospital site; ² Includes parks and open spaces, car parks, commercial buildings, and other residential locations. ³ Percentage does not total 100% due to rounding of values.

Distance between resident home postcode and postcode of place of death was calculated for 3 years pooled data and the median distance travelled was 2.9 miles. The median was calculated rather than the average due to the large range in distance travelled (0 miles - 229 miles). Most deaths, 58%,

occurred within 5 miles of the resident's home. A breakdown of the percentage of deaths that occurred outside of the home and the distance travelled can be seen in Figure 10.

Figure 10: Distance travelled from resident postcode to place of death postcode for deaths registered in 2016, 2017 and 2018

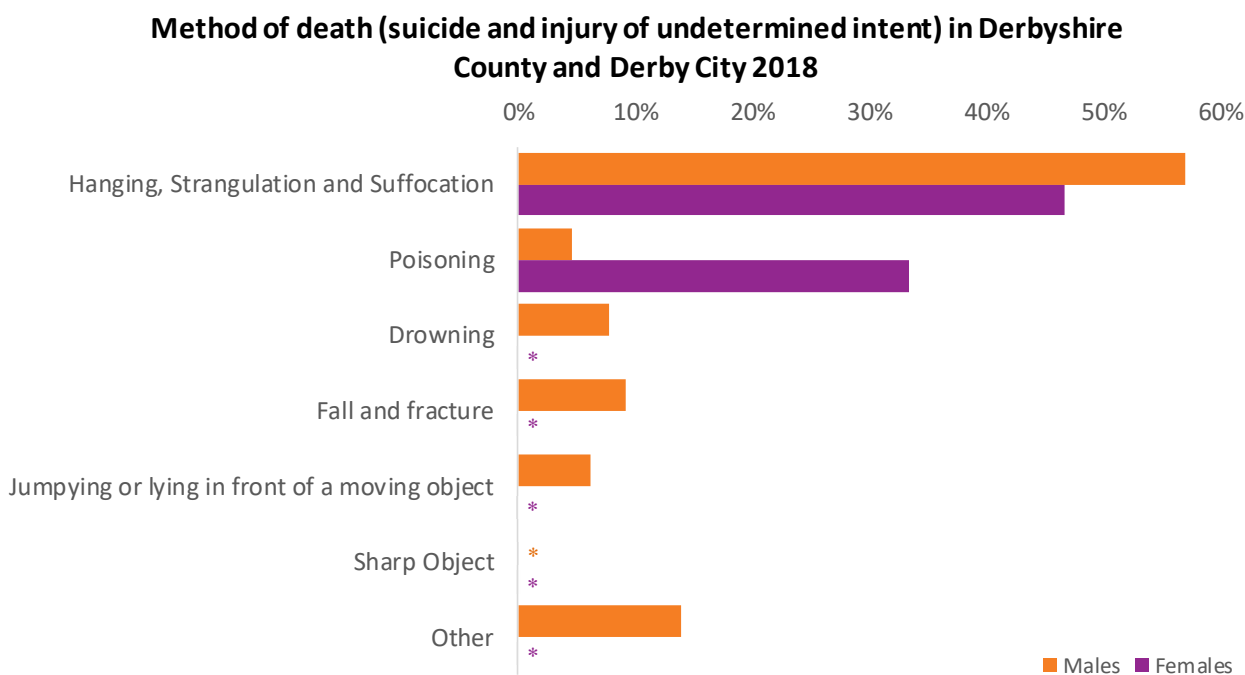


Source: Primary Care Mortality Database and Office of National Statistics
 * counts of less than 3 are suppressed as prescribed by the disclosure control guidance (ONS)

3.5.2 Method of death

National data and the literature indicate there are differing patterns in the methods of suicide between males and females. Figure 11 shows the proportions of deaths in Derby City and Derbyshire County by gender. Hanging, strangulation or suffocation accounted for most deaths.

Figure 11: Method used in death and Injury of undetermined intent Derbyshire County and Derby City, by percentage of deaths registered in 2018



Source: Primary Care Mortality Database and Office of National Statistics
 * counts of less than 3 are suppressed as prescribed by the disclosure control guidance (ONS)

4 KEY FINDINGS

- The number of deaths by suicide and injury of undetermined intent registered in 2018 was 22 for Derby City and 73 for Derbyshire County. 84% of the deaths registered in 2018 occurred in either 2018 or 2017, with a median time interval of 265 days between date of death and date of registration.
- The 3 year pooled age-standardised rate for deaths from suicide and injury of undetermined intent in 2016-18 for Derby City was similar to the national rate. The age-standardised rate for 2016-18 in Derbyshire County was slightly lower compared to the previous 4 periods and was similar to the national rate.
- Of note for Derby City and Derbyshire County in 2018:
 - 68% of the deaths from suicide and injury of undetermined intent registered in 2018 were males.
 - The age specific rate of suicide and injury of undetermined intent was highest in the 40-49 age group for Derbyshire County combined with Derby City, although the rates were statistically similar compared with other age groups.
 - A higher percentage of deaths from suicide and injury of undetermined intent were coded to the skilled trade occupational group, though occupation was not known for 27% of the deaths registered in 2018.
 - At district level, there were no significant difference between districts for deaths registered 2016-2018.
 - There was no clear pattern with rates of death and level of deprivation.
 - 40% of deaths registered in 2018 occurred within the home environment, 46% occurred in other outdoor settings which included parks and open spaces, car parks, commercial buildings and other residential locations
 - 59% male deaths and 47% of female deaths were due to hanging, strangulation or suffocation.
- There may be opportunities for further analysis related to this data, including:
 - Comparing the recent data for Derby City and Derbyshire County against the 2018 national and regional trends
 - Considering qualitative data, such as Reports to Prevent Future Deaths from the Courts and Tribunals Judiciary. This could ensure that any relevant recommendations or learning are applied locally
 - Where the rates and patterns of deaths continue to be similar over time, to pool several years of data in order to answer specific analytic questions in regards to demographic and geographical characteristics as well as in regards to place and method of death where there are small numbers in each category for one year of death registrations.

5 SUPPORT IN DERBYSHIRE FOR PEOPLE BEREAVED BY SUICIDE

For immediate and follow up help **The Tomorrow Project** offer a variety of support to help someone manage the loss up to 1 year after the death. There is no age restriction to access the service. A suicide bereavement support officer will make contact and arrange to meet face to face for on-going emotional and practical

support. The project also provides support and information during / at the Inquest; and guidance and professional advice if you are concerned or caring for someone bereaved by suicide.

People can refer themselves or can be referred by a professional by contacting bereavement.derbys@tomorrowproject.org.uk; or leave a message on 0115 88 00 280 / 01246 541935 (Monday to Friday, 09:30-17:00).

Survivors of Bereavement by Suicide (SOBS) offer longer term peer support.

This is accessed through support groups, a National helpline, e-mail and online forums and is available indefinitely. People refer themselves by contacting their local support group. Information around our groups can be found on our website by following the link <https://uksobs.org/we-can-help/local-support-groups/find/>