

# Worcestershire Health & Well-being Board

## JSNA Briefing on Deaths from Suicide & Undetermined Intent

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### Summary

- On average one person dies each week as a result of suicide in Worcestershire.
- Worcestershire has similar suicide rates to England with an average of 55 deaths per year.
- Males in Worcestershire are 3 times more likely to die by suicide than females. In Worcestershire the male suicide rate is higher than the national average whereas the female rate is lower than national.
- Residents aged 25-44 have the highest suicide mortality rate.
- The most common method of suicide is hanging which accounts for over half of all suicides in Worcestershire, as it does nationally.
- Redditch residents consistently have a higher suicide rate than the England average, although this is not always statistically significant.
- Residents living in least affluent areas of Worcestershire are twice as likely to die by suicide than those living in the most affluent areas.
- Highest numbers of deaths in the period occurred in the skilled trades occupations which accounted for nearly a quarter of all working age residents who died by suicide. This percentage is higher than expected when it is noted that the skilled trades occupations account for only 11% of our workforce.
- The location of two prisons in Worcestershire contributes to a higher overall suicide rate in Worcestershire. When prisoners who have died by suicide are excluded from the overall analysis for the latest period, the suicide rate decreases to 10.0 deaths per 100,000 population.

### Background

#### National

The first national suicide prevention strategy for England was launched in September 2002 to support the ambition set out in the White Paper, Saving Lives: Our Healthier Nation (1999), to reduce the death rate from suicide and undetermined injury by at least 20% by 2010. The suicide prevention strategy was largely successful, achieving close to the target reduction. Following on from this a National suicide prevention strategy (Preventing suicide in England) was launched in September 2012. This strategy had two main objectives, to reduce the suicide rate in the general population in England and better support for those bereaved or affected by suicide. This strategy was updated in 2017 to strengthen the delivery of its key areas for action including the addition of self harm as an issue in its own right. In January 2019 the Government produced a Cross Government Suicide Prevention Workplan which obligates every area of Government to take action on suicide and sets out clear deliverables and timescales to monitor progress against their key commitments.

## Worcestershire

In Worcestershire, the promotion of good mental health and wellbeing throughout life is a priority in the current Health and Wellbeing Strategy (2016-2021). A local multi agency suicide prevention plan was agreed by the Health and Wellbeing Board in February 2018 and forms the basis of an ongoing programme of work in Worcestershire. A Suicide Prevention Partnership group progresses the action plan with partners across the system. The group also links with the Regional Suicide Prevention lead.

## Notes about the data

### Why include Undetermined Intent?

Until recently, a coroner would record a verdict of suicide when they have decided that there is evidence beyond reasonable doubt that the injury was self-inflicted and the deceased intended to take their own life. Undetermined verdicts include cases where the evidence available to coroners is not sufficient to conclude that the death was a suicide (beyond reasonable doubt) or an accident (on balance of probability). They include those cases where there may be doubt about the deceased intentions. There have been a number of research studies which show that many open verdicts are most likely suicides. This is the reason that suicides and undetermined deaths are usually included in suicide statistics.

More recently, following a High Court ruling in September 2018, the standard of proof has moved from 'burden of proof' to 'a balance of probabilities'. Going forward, this could give a more accurate picture of who is taking their own life.

### Date of Death vs Date of Death Registration?

All nationally published suicide/undetermined deaths analysis are based on the registration date of the death. This is due to the time delay which can be caused by the inquest and any subsequent investigations. Deaths can be registered up to 4 years after the date of death, this would mean that if statistics were based on the date of death they would have to be revised retrospectively year after year. By using date of registration, data can be more easily used for annual comparisons. All analyses in this report, unless stated otherwise, are based on the death registration date.

### Grouping data?

Virtually all nationally published suicide/undetermined deaths analysis is grouped together over several years, and a rolling three year average rate produced. This is due to the relatively small numbers involved which means that a few additional deaths in any one year could have a marked impact on annual rates. A three year rolling average rate is used primarily to smooth out these short term fluctuations and therefore enable longer term trends to be seen. In order to analyse method, deprivation and occupation in Worcestershire, we have had to pool 10 years data in order to make numbers more robust.

### Comparator Areas

The Chartered Institute of Public Finance and Accountancy (CIPFA) produces a list of 'nearest neighbours' for each local authority area. This list identifies local authorities which are similar in population age makeup, density and other socio-economic indicators. Worcestershire has been classified as similar to Warwickshire and Gloucestershire, so they provide useful comparator areas, where appropriate.

## Key indicators

Table 1 below shows the key indicators and the most recent data around suicide from the Public Health Outcomes Framework (PHOF) for Worcestershire, the West Midlands and England in 2015 – 2017 (3 years combined data).

**Table 1: Key Suicide Indicators from the PHOF for Worcestershire and the West Midlands compared against National average**

PHOF Indicator	Period	Units	England	West Midlands	Worcestershire
<b>4.10 Suicide rate (Persons)</b>	2015 - 2017	DSR per 100,000 pop	<b>9.6</b> (LCI 9.4 – 9.7 UCI)	<b>9.5</b> (LCI 9.0 – 10.0 UCI)	<b>10.8</b> (LCI 9.2 – 12.6 UCI)
<b>4.10 Suicide rate (Males)</b>	2015 - 2017	DSR per 100,000 pop	<b>14.7</b> (LCI 14.4 – 15.0 UCI)	<b>14.8</b> (LCI 14.0 – 15.8 UCI)	<b>17.8</b> (LCI 14.9 – 21.1 UCI)
<b>4.10 Suicide rate (Females)</b>	2015 - 2017	DSR per 100,000 pop	<b>4.7</b> (LCI 4.5 – 4.8 UCI)	<b>4.3</b> (LCI 3.8 – 4.8 UCI)	<b>4.2</b> (LCI 2.9 – 5.9 UCI)

Note: DSR refers to Directly Standardised Rate, LCI refers to Lower Confidence Interval and UCI refers to Upper Confidence Interval.

Key

Compared with National benchmark:	Better	Similar	Worse	Lower	Similar	Higher	Not Compared
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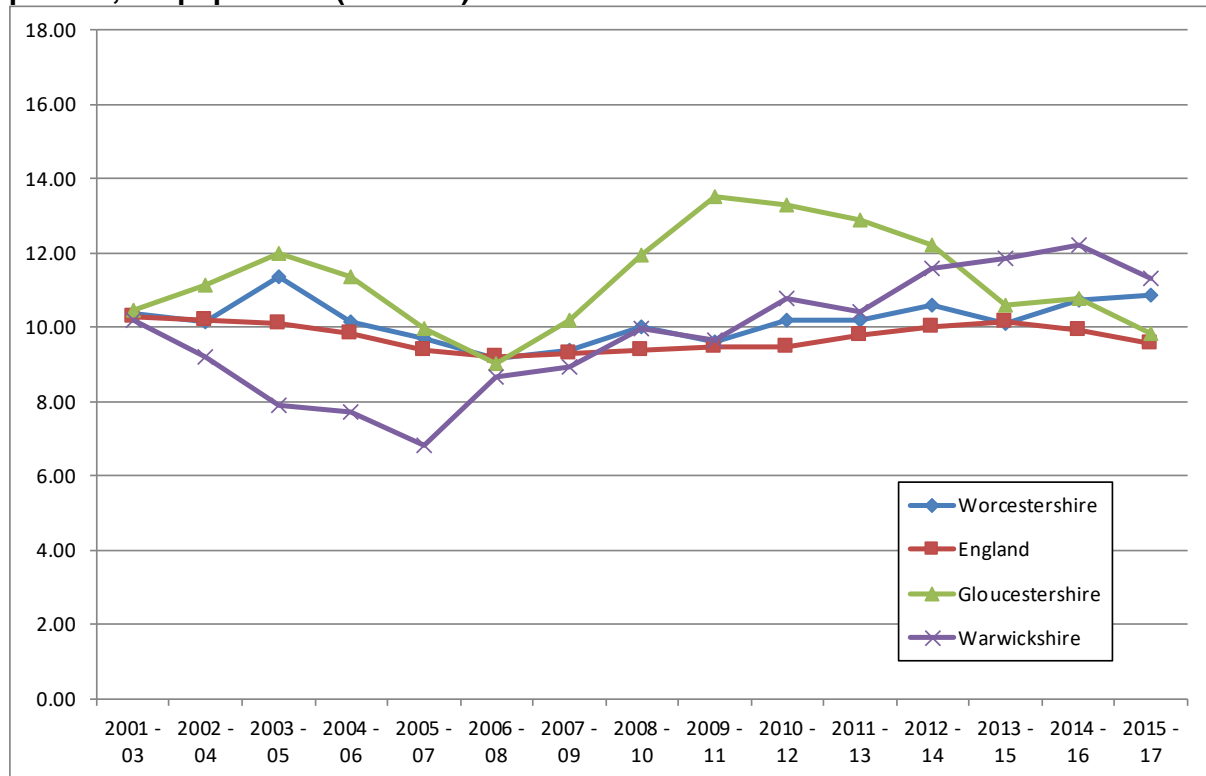
**Source:** Public Health Outcomes Framework, <http://www.phoutcomes.info/>, May 2019

It can be seen from the table that, compared to the national average, Worcestershire currently has a slightly lower rate of suicide and undetermined deaths for females and although higher than average for males this is not quite statistically significant.

## Suicide and undetermined deaths

Figure 1 shows the mortality rate of persons who died (based on registration date) from suicide or injury undetermined per 100,000 population for Worcestershire compared to England and its nearest neighbours, Warwickshire and Gloucestershire (in statistical terms).

**Figure 1: Age standardised mortality rate from suicide and injury of undetermined intent per 100,000 population (Persons)**



**Source:** Public Health Outcomes Framework, <http://www.phoutcomes.info/>, May 2019

It can be seen that;

The rate for persons in Worcestershire follows a similar pattern to the England rate until 2016 when the gap started to widen as the Worcestershire rate increased, however, this rate is not statistically significantly higher.

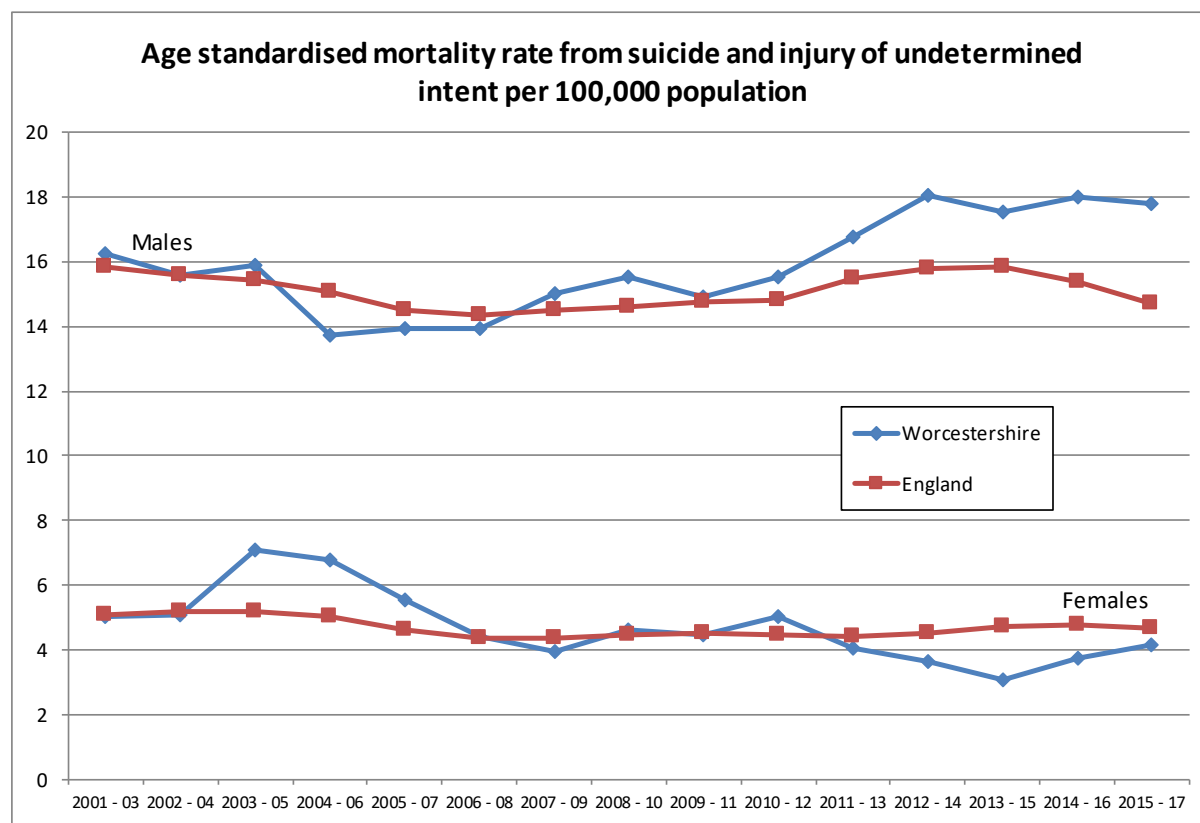
The rate of persons deceased with an underlying cause of suicide or undetermined injury conditions in Worcestershire is lower than that currently recorded in Warwickshire.

### Gender

Men are three times more likely to die by suicide than women. In Worcestershire, the national picture is replicated with men accounting for 75% of all suicide and undetermined deaths registered since 1996.

Figure 2 shows the 3 year age standardised mortality rate, by Males and Females for both England and Worcestershire. There has been an increase in the rate for males since 2010 and this is different from the England trend. In contrast, the female trend generally appears to be decreasing, although there has been a slight rise over the last six years. They are, however, based on very small numbers. This means that a few additional deaths in any one year could have a marked impact on the rates.

**Figure 2: Gender split of age standardised mortality rate from suicide and injury of undetermined intent per 100,000 population**



### Method of Suicide

The most common method of suicide in Worcestershire was hanging which has accounted for nearly 58% of all male suicide registrations between 2009 and 2018. Poisoning remains the more common method for females accounting for 45% of female suicides, a trend which has remained fairly static over time. This is a slightly different picture than nationally, where for the first time in 2013, hanging overtook poisoning for female suicides in England. This may be due to the restriction in the availability of other methods such as drugs used in overdoses. For example, analysis conducted in 2012 revealed that there was a major reduction in deaths involving the pain-killing drug co-proxamol following its withdrawal in 2005<sup>1</sup>. It will take some time for the change in method to become apparent in Worcestershire due to the small numbers of female suicides, however, the indications are there that there is starting to be a shift in method for females as has happened nationally.

<sup>1</sup> Article Source: **Six-Year Follow-Up of Impact of Co-proxamol Withdrawal in England and Wales on Prescribing and Deaths: Time-Series Study**

Hawton K, Bergen H, Simkin S, Wells C, Kapur N, et al. (2012) Six-Year Follow-Up of Impact of Co-proxamol Withdrawal in England and Wales on Prescribing and Deaths: Time-Series Study. PLOS Medicine 9(5): e1001213. <https://doi.org/10.1371/journal.pmed.1001213>

**Table 2 - Worcestershire Residents – Number and Percentage of Suicide/Undetermined Deaths by Method 2009 – 2018 Registrations (10 years pooled data)**

Method	Gender		Persons
	Male	Female	
Hanging	233	42	275
Poisoning (incl Carbon Monoxide)	60	54	114
Drowning*			31
Railways			22
Falling from a height			19
Asphyxia (non-hanging)			16
Cutting			15
Shooting			10
Fire			6
Other			13
<b>Grand Total</b>	404	117	521
Hanging	57.7%	35.9%	52.8%
Poisoning	11.9%	45.3%	19.4%

Notes:

Numbers <5 have been suppressed due to data confidentiality rules

\*Some deaths classified as 'drownings' involve a fall from a bridge but have been included in the drowning deaths group as the main cause of death for these people was immersion or drowning.

## Age Group

Locally the numbers split by age group are too small to calculate meaningful rates. However, Table 3 provides a view of the overall numbers in the 10 year period by age group along with an age-specific rate per 100,000 population. The highest rate for this period is in the 25-44 age group, however, these rates will have very large confidence intervals meaning that we can't be certain of the significance. This is different to the rest of the country where the highest rate was in the 45-49 age group.

**Table 3 - Worcestershire Residents – Number and Percentage of Suicide/ Undetermined Deaths by Age Group 2009 – 2018 Registrations (10 years pooled)**

Age Group	10 Year Total	Rate per 100,000 Population
<25	52	7.6
25 – 44	187	13.9
45 – 64	186	11.4
65+	96	7.3
Grand Total	521	10.5

### Council District splits

It is not possible to calculate annual directly standardised rates by council district of residence due to the small numbers involved. Figures are available within the Public Health Outcomes Framework (PHOF) but these are 3 years combined figures. However, data is based on small numbers and can vary greatly year to year. Redditch is consistently higher than the other areas in Worcestershire and England as a whole, this reflects risk factors, including relative deprivation.

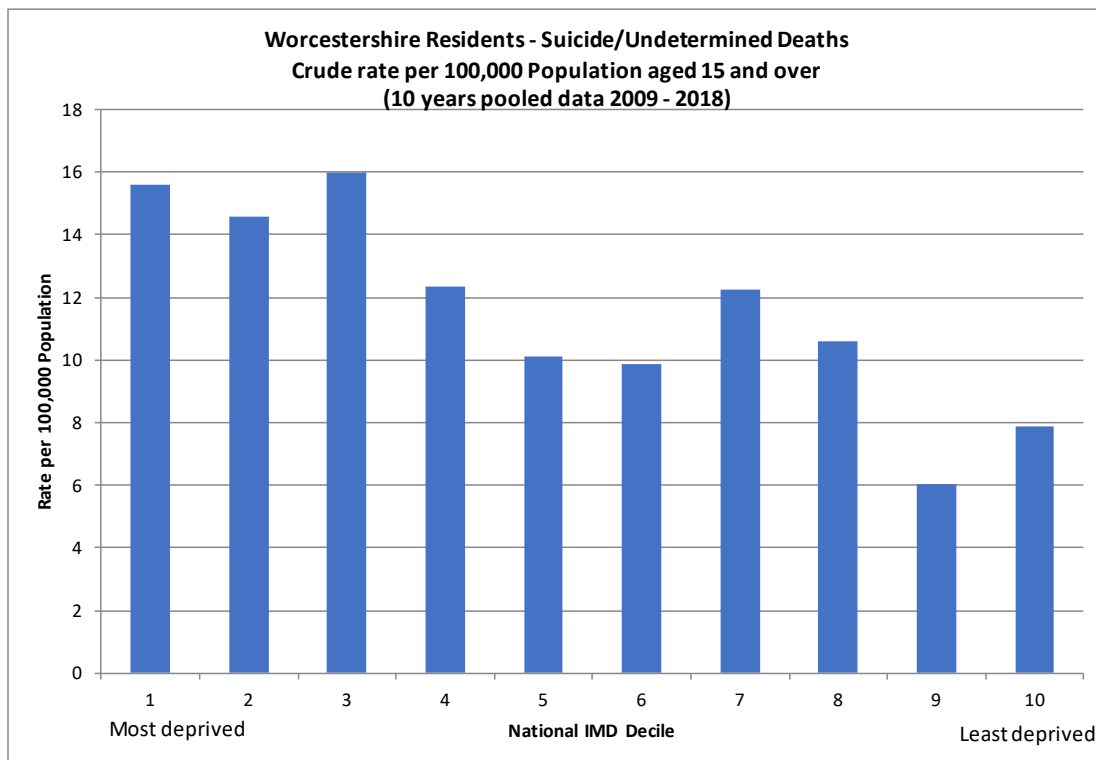
With regard to the method of suicide over the last 10 years, although all districts follow the County with hanging and poisoning as the primary methods of suicide. There are differences across districts. For example, 20 of the 31 drownings in Worcestershire as a whole, were to residents of Worcester or Wychavon. Half of the people who died by falling from a height are residents of Redditch. This may reflect the availability of methods in different geographic locations.

### Deprivation

It is well documented that there is a link between deprivation and suicide.

Worcestershire has seen a similar pattern to England and Wales over the last 10 years, with the overall number of suicide/undetermined intent deaths increasing with increasing deprivation (Figure 3). Suicide rates for those living in the most deprived areas were over double those living in the least deprived - 8 per 100,000 population compared with 16 per 100,000 in the more deprived decile (for 10 years pooled data). There is a clear rise in mortality rate when you live in decile 3 and above.

**Figure 3 - Crude rate of suicide/undetermined deaths per 100,000 population aged 15 and over by National Deprivation Decile: 2009 – 2018 Registrations (10 years pooled, Worcestershire residents)**





## Occupation

Occupation is difficult to analyse due to the small numbers involved, however, an ONS analysis entitled "Suicide by occupation in England: 2011 – 2015" concluded:

*"Males working in the lowest-skilled occupations had a 44% higher risk of suicide than the male national average; the risk among males in skilled trades was 35% higher. The risk of suicide among low skilled male labourers, particularly those working in construction roles, was 3 times higher than the male national average."*

We cannot replicate this data analysis locally due to the small numbers involved, however, we have analysed the Worcestershire working age population over a longer time period and detailed in Table 4 are the numbers and percentages of deaths between 2009 and 2018 by Occupation Group according to the Standard Occupational Classification 2010 system (SOC2010), along with a comparison of the average percentage employed in each major group over the period.

**Table 4 – Number of Suicide/Undetermined Deaths in Worcestershire by SoC2010 Major Group (Pooled data for 2009 – 2018)**

Major Group Code and Description		Number of Suic/Undet. deaths in working age	% of Suic/Undet. deaths in working age	Average workforce 2009 - 2018
1	Managers, Directors and Senior Officials	20	6.2%	12.4%
2	Professional Occupations	40	12.4%	20.2%
3	Associate professional and technical occupations	25	7.7%	13.2%
4	Administrative and secretarial occupations	17	5.3%	10.0%
5	Skilled trades occupations	75	23.2%	11.3%
6	Caring, Leisure and other Service Occupations	21	6.5%	8.8%
7	Sales and customer service occupations	15	4.6%	7.1%
8	Process, plant and machine operatives	53	16.4%	6.6%
9	Elementary occupations	57	17.6%	10.2%
All occupation groups		323		

In Worcestershire, the group with the highest overall number of deaths is the skilled trades occupations accounting for nearly a quarter of all the suicide/undetermined deaths in the working age group. This group can be further categorised into agricultural trades, metal and electrical trades, construction trades and textiles, printing and other skilled trades. Of these 4 groups, the greater number of deaths were from the 2 sub-groups metal, electrical and electronic trades and the construction and building trades. This is a similar result to the national data, although nationally the elementary trades had the highest rate followed closely by the skilled trades.



## Deaths in custody in Worcestershire

There are two prisons located within the Worcestershire boundary (HMP Hewell located in Bromsgrove Council District and HMP Long Lartin which is based in Wychavon Council District). Over the period 2009 to 2018 there were 17 suicide deaths of prisoners registered. There is usually a significant delay in the registration of these deaths (three or four years delay is not unusual, so some of these deaths may relate to 2007 occurrences).

Of these 17, all had either “No Fixed Abode” or the prison as a home address and therefore, would be included in the Worcestershire rates/deaths data. This means that the prisoners are only classed as Worcestershire residents due to the location of the prison thus inflating the Worcestershire resident figures.

Excluding these from the calculation of the Worcestershire rate would mean that the overall rate in 2015-17 drops to 10.0 per 100,000 population and for males would be 16.2 per 100,000.

## Associated documents and best practice

### Worcestershire County Council publications:

Worcestershire County Council Joint Health and Well-being Strategy 2016 to 2021

[http://www.worcestershire.gov.uk/downloads/file/7051/joint\\_health\\_and\\_well-being\\_strategy\\_2016\\_to\\_2021](http://www.worcestershire.gov.uk/downloads/file/7051/joint_health_and_well-being_strategy_2016_to_2021)

2016 JSNA Summary

[http://www.worcestershire.gov.uk/info/20122/joint\\_strategic\\_needs\\_assessment/1500/jsna\\_summaries](http://www.worcestershire.gov.uk/info/20122/joint_strategic_needs_assessment/1500/jsna_summaries)

Worcestershire County Council JSNA 2015 Briefing on Mental Health

[http://www.worcestershire.gov.uk/info/20122/joint\\_strategic\\_needs\\_assessment/1473/jsna\\_publications\\_by\\_category/6](http://www.worcestershire.gov.uk/info/20122/joint_strategic_needs_assessment/1473/jsna_publications_by_category/6)

Worcestershire County Council JSNA 2015 Briefing on Self Harm in Children and Young People

[http://www.worcestershire.gov.uk/info/20122/joint\\_strategic\\_needs\\_assessment/1473/jsna\\_publications\\_by\\_category/6](http://www.worcestershire.gov.uk/info/20122/joint_strategic_needs_assessment/1473/jsna_publications_by_category/6)

### National Policy and Guidelines:

Suicide prevention: cross-government plan (Jan 2019) - How the government will work with the NHS, local government and the voluntary sector to reduce suicides.

<https://www.gov.uk/government/publications/suicide-prevention-cross-government-plan>

Department of Health (2012) *No health without mental health: a cross government outcomes strategy for people of all ages*

<https://www.gov.uk/government/publications/no-health-without-mental-health-a-cross-government-outcomes-strategy>

HM Government (2012) *Preventing Suicide in England: a cross-government outcomes strategy to save lives*

<https://www.gov.uk/government/publications/suicide-prevention-strategy-for-england>

Public Health England (2016) Local suicide prevention planning – A practice resource  
<https://www.gov.uk/government/publications/suicide-prevention-developing-a-local-action-plan>

Public Health England (2015) Preventing suicides in public places – A practice resource  
<https://www.gov.uk/government/publications/suicide-prevention-suicides-in-public-places>

**Nationally available data:**

ONS – [Suicides in the UK: 2017 registrations](#)

ONS – [Suicide by occupation, England : 2011 to 2015](#)

ONS - [Suicides by method, England, 2014 to 2017 registrations](#)

Public Health Outcomes Framework: <http://www.phoutcomes.info/>

Health Profiles: <http://fingertips.phe.org.uk/profile/health-profiles>

Local Health: <http://www.localhealth.org.uk/>

Suicide Prevention Profile: <https://healthierlives.phe.org.uk/topic/suicide-prevention>

## Further information & feedback

This briefing has been written by Worcestershire County Council's Public Health Intelligence Team. We welcome your comments on these briefings and how they could better suit your requirements, please do contact us with your ideas. Email: [jfulton@worcestershire.gov.uk](mailto:jfulton@worcestershire.gov.uk)  
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This document can be provided in alternative formats such as Large Print, an audio recording or Braille; it can also be emailed as a Microsoft Word attachment. Please contact [HWBAdmin@worcestershire.gov.uk](mailto:HWBAdmin@worcestershire.gov.uk).

If you or someone you know are affected by the issues raised in this publication, the following organisations may be able to offer advice and support:

Samaritans - <https://www.samaritans.org/>

Support After Suicide - <https://supportaftersuicide.org.uk/>

The National Suicide Prevention Alliance (NSPA) - <https://www.nspa.org.uk/>