How can we reduce deaths from Suicide?

Review of deaths from self-harm and injury of undetermined intent in Suffolk

Introduction

Death from suicide is identified from death registrations. Registration of deaths is made following a coroner’s inquest, when a verdict is given. The death is then registered as being from self-harm and injury undetermined.

The data on local suicides is available to public health teams monthly and then, in anonymised form, annually. The available data includes deaths based on ICD-10: X60-X84, Y10-Y34, among persons of all ages in Suffolk. This will include residents of Suffolk and non-residents dying in the area.

National and regional trends

Recent trend analysis of European data suggests that the world-wide recession has had a measurable impact on suicide rates (1). The review contained a preliminary data review for 2009 and showed that for 2000 - 2009 an overall decline in suicide rates up to 2007 was followed by a 5% increase in rates across Europe in 2009. There were no major changes in all-cause mortality rates and road traffic accident deaths have fallen. The 2014 report published by the National Confidential Inquiry into Suicide and Homicide by people with mental illness highlights that higher suicide rates from 2008 have been widely reported and linked to the economic crisis.


The Office of National Statistics issues the Statistical Update on Suicide. The latest update (February 2015) states there were 4,727 suicides recorded in 2013, a rise of 214 since 2012. The overall trend in the suicide rates has been decreasing since 1998 until 2008 but has been rising slightly since. The three-year average rate for 2011-13 was 8.8 suicides per 100,000 general population.

http://socialwelfare.bl.uk/subject-areas/services-client-groups/adults-mental-health/departmentofhealth/statistical15.aspx

The three-year average rate for 2011-13 for males and females was 13.8 and 4.0 per 100,000 population, respectively. For males this is the highest rate since 2003-2005; for females the rate has been similar since 2006-2008. Males are more likely to die by suicide and account for 78% of deaths in 2013. However the difference varies by age. In the 25-29 age group, there are almost 5 male suicides for each female suicide.
In 2013, there were fewer than ten deaths of undetermined intent for 10-14 year olds, equivalent decrease from 2012. Suicide verdicts are not returned for children aged under 10.

Figures for 2013 show hanging (including strangulation and suffocation) is the most common method of suicide for both sexes accounting for 57% and 41% of all male and female suicide deaths, respectively. This is the first year that hanging (including strangulation and suffocation) is the most common method for females. The second most common method is drug poisoning. There is an increasing trend in use of Helium.

In 2012 there were 1,272 estimated suicides by people in contact with mental health services in the year prior to death (figure 4). This is slightly lower than 2010 and 2011, but still higher than that seen in 2006 - 2009.

A recent report from London reviewed 54 cases in one borough between 2005 and 2008 and identified that 24% of cases reviewed were recent immigrants to the UK. (2).

The Public Health England report, Guidance for developing a local suicide action plan identifies groups at higher risk of suicide than the general population:

- Men aged 35 to 54
- People in contact with mental health services
- People with history of self-harm
- People in the criminal justice system
- Doctors, nurses and vets
- Farmers and agricultural workers
- Lesbian, gay, bisexual and questioning individuals


The report, Mortality from Suicide and Injury Undetermined in East of England 2001-2006, (CSIP 2008) analysed data on suicide and undetermined injury in East Anglia and concluded that the main risk factors were, as elsewhere, being male, living alone, unemployment, drug or alcohol misuse and a history of mental illness.

Data comparing Suffolk with neighbouring counties and England show suicide rates are not significantly different to rates for England. There are counties e.g. Bedfordshire, Hertfordshire and Luton with lower rates.

http://www.phoutcomes.info/
Recent work by the Henry Ford Health System in Detroit led to a drop in suicide rates among the registered population.
http://www.rcpsych.ac.uk/pdf/JAMA%20paper2.pdf

The perfect depression initiative identified and assessed patients at risk and put in place measures to reduce suicide. The initiative covered around 200,000 people registered with an HMO. Within the first four years of the programme, fell from 89 to 22 per 100,000 and later to zero.

**Research on risk factors for suicide (summarised in CSIP report and in the East Suffolk Suicide Prevention Strategy), generally have identified:**

- Social fragmentation e.g. mobility, single person homes, unmarried adults, rented homes, divorced and widowed people
- Current or former psychiatric patients, a quarter of these who die by suicide will have been in contact with mental health services in the year before death.
- Patients less than 4 weeks post discharge from secondary care are at higher risk
- History of apparent suicide attempts
- Alcohol and drug problems
- Prisoners
- Certain occupational groups
- Depression
- Family history of self-harm and sexual abuse
- Low educational achievement

**What is the data telling us about Suffolk?**

There are two forms of data available for Suffolk. Anonymised collated data from ONS, which is retrospective and produced annually, and monthly public health data from death registrations. The anonymised collated data is used mainly for performance data and trends.

The monthly lists of deaths include identifying information, and place and cause of death. The latter information is made available after the inquest has given a cause of death. This may be a considerable time after the death occurred. The verdict may be taken own life or open verdict. Research has suggested that most open verdicts are probably suicides.

Serious Untoward Incidents are incidents occurring within the health service or to people in contact with the health service that are reviewed in detail.
The figure below compares directly age-standardised mortality rates for deaths from suicide and injury undetermined, in the seven local authority districts in Suffolk County, and Suffolk County with those of Cambridgeshire, Essex and Norfolk. Regional and national rates are also illustrated.

**Directly age-standardised mortality rates for deaths from suicide and injury undetermined**, local authority districts in Suffolk County, Suffolk County, neighbouring authorities, East of England, and England, pooled data for 2011-2013, persons aged 15 and over:

The mortality rate for deaths from suicide and injury undetermined in Suffolk County is not significantly different to that of neighbouring authorities, or the regional and national rates. Within Suffolk County, the highest rates are in Ipswich and Forest Heath districts.

Male mortality rates from suicide and injury undetermined are higher than female mortality rates across all geographies shown. Suffolk County’s mortality rates for males and females are similar to those of neighbouring authorities, and also the regional and national averages, but within the county there is some variation. Notably St Edmundsbury has a much higher female mortality rate from suicide and injury undetermined than other districts within Suffolk County. The highest male mortality rates are in Ipswich, Forest Heath and Waveney districts.
The figures below illustrate how Suffolk’s age-standardised mortality rate for males and females compare to that of the region and nationally over the period 1995 to 2013. Rates for males for the East of England and England as a whole show a gradual decline over the period. The equivalent rate for Suffolk fluctuates considerably and has increased since 2004-06. Over most of the 1995 to 2013 period Suffolk’s rate has been higher than the East of England rate, and for 2011-13 was 16.9 deaths per 100,000 residents (East of England: 14.7 per 100,000 residents; England: 16.5 deaths per 100,000 residents).

**Age-standardised mortality rates for deaths from suicide and injury undetermined, males aged 15 and over:**

![Graph showing age-standardised mortality rates for death from suicide and injury undetermined, males aged 15 and over, for Suffolk, East of England, and England from 1995 to 2013.]

The figure below illustrates the lower rates of deaths from suicide and injury undetermined amongst females. Again Suffolk’s rate fluctuates more so than either the regional or national figures, although this is to be expected given the smaller numbers on which the rates are based. However unlike the rate for males the female rate in Suffolk has remained fairly flat since 2001-03.
Age-standardised mortality rates for deaths from suicide and injury undetermined, females aged 15 and over:

The figure below shows standardised mortality ratios for self-harm and event of undetermined intent in persons of all ages in deprivation deciles in Suffolk County in 2001-10.

For this analysis, data for wards in Suffolk were grouped into deprivation deciles according to estimated Index of Multiple Deprivation 2010 scores, i.e. most deprived 10% of wards in Suffolk, second most deprived 10% of wards in Suffolk, and so on
A simple linear regression model fitted to these data indicated a statistically significant association between standardised mortality ratios for self-harm and event of undetermined intent and deprivation in Suffolk in 2001-10 (p=0.0013).

Over 74% of the variation in SMRs for self-harm and event of undetermined intent in Suffolk in 2001-10 was explained by deprivation (r²=0.7437). The model indicated that, for each unit increase in deprivation, SMRs for self-harm and event of undetermined intent in Suffolk in 2001-10 increased by 6.9 (95% confidence interval: 3.6, 10.2).

Therefore inequalities in SMRs for self-harm and event of undetermined intent exist in Suffolk, with these SMRs increasing significantly with increasing levels of deprivation.
Detailed audit of cases

A detailed review was undertaken of deaths identified among Suffolk residents using the monthly files of registrations in the Public Health Mortality dataset. The monthly data is provisional and based on verdicts following coroner’s inquiries and inquests. Registration of death may not be completed for many months or even year or more after the death has occurred.

The details included include residence, place and mode of death, verdict and other personal information. The cases were reviewed to identify:

- Age
- Gender
- Mode of death

The GP records for each patient are returned to a central store after death and these were reviewed to identify:

- Evidence of a long term illness
- History of mental health problems treated in primary or secondary care
- Recent secondary mental health care involvement
- Ethnicity where available
- Recent events or contact with health services

Latest audit findings

Seventy-two deaths taken from the Public Health Mortality files were reviewed. The figures below show distribution by age for all and also for women separately.

As can be seen the majority of deaths occurred in people aged 40 to 59, which reflects the national picture.
There is incomplete data on occupation but where recorded there were a wide variety of roles, ranging from retired to professional and manual jobs. National research has identified farmers, doctors, dentists and vets as particularly at risk. This may reflect access to methods or isolation.

Cause of death is recorded in the death registrations and is summarised below. Hanging was the commonest mode of death, followed by poisoning and overdose which included both opiates and other poisons such as weedkiller and medications. Methadone, Paracetamol, Tramadol, Codeine, Zopiclone, and Quetiapine were implicated in overdoses. The danger of paracetamol is well recognised and there have been debates over the inclusion of antidotes within over the counter packs.

*Other includes hypothermia, electrocution, burning, shooting
Among women, the commonest causes of death were hanging and overdose/poisoning. The remainder died through drowning and other causes. The place of death was home in most cases.

A subset of deaths were reviewed in more detail using GP records. Not all records were available. The results are summarised below. The findings do not add to the total as each person may have more than one factor.

<table>
<thead>
<tr>
<th>Percentage</th>
<th>In past 5 years</th>
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<tbody>
<tr>
<td></td>
<td>Long term medical condition or cancer</td>
</tr>
<tr>
<td></td>
<td>Mental illness treated by GP only</td>
</tr>
<tr>
<td></td>
<td>Secondary mental health care</td>
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<tr>
<td></td>
<td>Alcohol or drugs</td>
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<tr>
<td></td>
<td>Significant social problem or event</td>
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<td></td>
<td>Seen in month before death</td>
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How can we reduce deaths in Suffolk?

There are two main approaches to suicide prevention – population based and intervention in high risk groups. Population based methods include:

- Restriction of access to methods
- Firearms licensing and storage,
- Toxic medicines, prescribing and containers, including antidotes
- Locations such as cliffs and bridges, railway lines
- Training staff in considering and detecting risk of suicide in patients
- Media campaigns and messages
- Access to helplines such as the Samaritans

Methods to increase intervention in high risk groups include:

- Intervention after episodes of self-harm
- Risk assessment in patients with mental health problems
- Identification and treatment of depression in individuals with long term conditions
- Support to informal carers
- Support to high risk groups such as farmers and doctors

Mental health providers undertake detailed review of any suicides among service users. GPs should be encouraged to undertake significant event audit within their practice.
What do we need to do now? - Suicide Prevention Strategy

The Suicide Prevention Strategy for England aims to reduce the suicide rate and improve support for those affected by suicide. The strategy identifies those groups at higher risk of suicide, outlines effective interventions and resources available.

The strategy objectives are:
- A reduction in the suicide rate in the general population in England; and
- Better support for those bereaved or affected by suicide


A county-wide suicide prevention plan is now being developed led by a multi-disciplinary group.

There are six key areas for action to support delivery of these objectives:

1. Reduce the risk of suicide in key high-risk groups
2. Tailor approaches to improve mental health in specific groups
3. Reduce access to the means of suicide
4. Provide better information and support to those bereaved or affected by suicide
5. Support the media in delivering sensitive approaches to suicide and suicidal behaviour
6. Support research, data collection and monitoring.

Sources
