

Public Health Audit: Suicide in Norfolk 2022

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Summary

After a large increase in the early 2010s, suicide rates in Norfolk have reduced in recent years. Nevertheless, they are still slightly higher than average values for England and the East of England, where rates have increased in recent years. Men, particularly in early middle-age and late in life, are at a substantially higher risk than women, whose rates are highest in middle-age.

Suicide is more common in relatively more deprived communities and among those born in EU countries, unemployed or employed in routine or semi-routine occupations.

Risk factors are diverse and often act in combination. Generally, those with previous suicide attempts or self-harm are at heightened risk. People with ongoing mental health problems such as mood and/or anxiety disorders are also at greater risk. A deterioration in physical health in older individuals, and a perceived loss of social connection also appear to be common risk factors among individuals who took their own life in Norfolk.

More than half of those who died by suicide had been in contact with primary care about mental health issues. Two in five individuals had been in frequent or sporadic contact with specialised mental health services. One in every three who had been referred to mental health services refused or failed to engage with services.

Covid-19 and the associated societal changes have exacerbated mental health problems and disrupted access to service provision and in-person social support (The Parliamentary Office of Science and Technology, 2021). But as of yet, there has been no measurable impact of Covid on suicide rates in Norfolk. However, more data is needed to understand the long-term effects of the pandemic on suicide.

At a glance key findings:

- Suicides in Norfolk are largely **consistent with national data** regarding rates, cohorts and personal risk factors.
- Suicide rates are **high in Norfolk**, but not significantly higher than the England average in the most recent time periods.
- **Norwich** has consistently had the highest or second highest suicide rates among the Norfolk local authority areas.
- Around **three in four** individuals who die by suicide are **men**.
- The risk of suicide is highest in **middle-aged and very old men**.
- **Deprivation** is a key factor, as is being **born in an EU country**
- Most suicides occur **at home** and by **hanging**.
- Common issues experienced by those taking their own lives in Norfolk:
 - Unemployment
 - Living alone
 - Relationship breakdown
 - Addiction
 - Poor Physical Health
 - Bereavement
 - Adverse Childhood Experiences
 - The most common predictor of suicides is **attempts** made

Introduction and definition

Suicide is a leading cause of years of life lost and has devastating impacts on families and communities. On average, around 135 people are exposed to each individual suicide (Cerel, et al., 2019), with strong effects on those close to the deceased (Pitman, Osborn, King, & Erlangsen, 2014). Complex histories of risk factors and distressing events lead to suicide, but significant social and gender inequalities in suicide risk persist. In line with national guidance (HM Government, 2021), this audit has been undertaken to inform the suicide prevention plan for Norfolk which aims to reduce the number of suicides and tackle those inequalities.

The Office for National Statistics (ONS) defines suicide as “death from intentional self-harm in individuals aged 10 years and over”, or “death by injury of undetermined intent in people aged 15 years and over” (Office for National Statistics, 2021). The former group includes deaths where a coroner has given a suicide conclusion or made it clear in the narrative conclusion that the deceased intended to take their own life. The latter group includes deaths for which the coroner has given an open conclusion. Official statistics by the ONS are based on the year in which a death was registered rather than on when the death occurred.

The standard of proof used by coroners to determine suicides was changed in 2018 from a criminal (beyond reasonable doubt) to a civil standard (more likely than not). There is no evidence that this has changed reported suicide rates (Office for National Statistics, 2020).

Data for the Waveney area is not included in this audit but is instead included in the suicide audit for Suffolk.

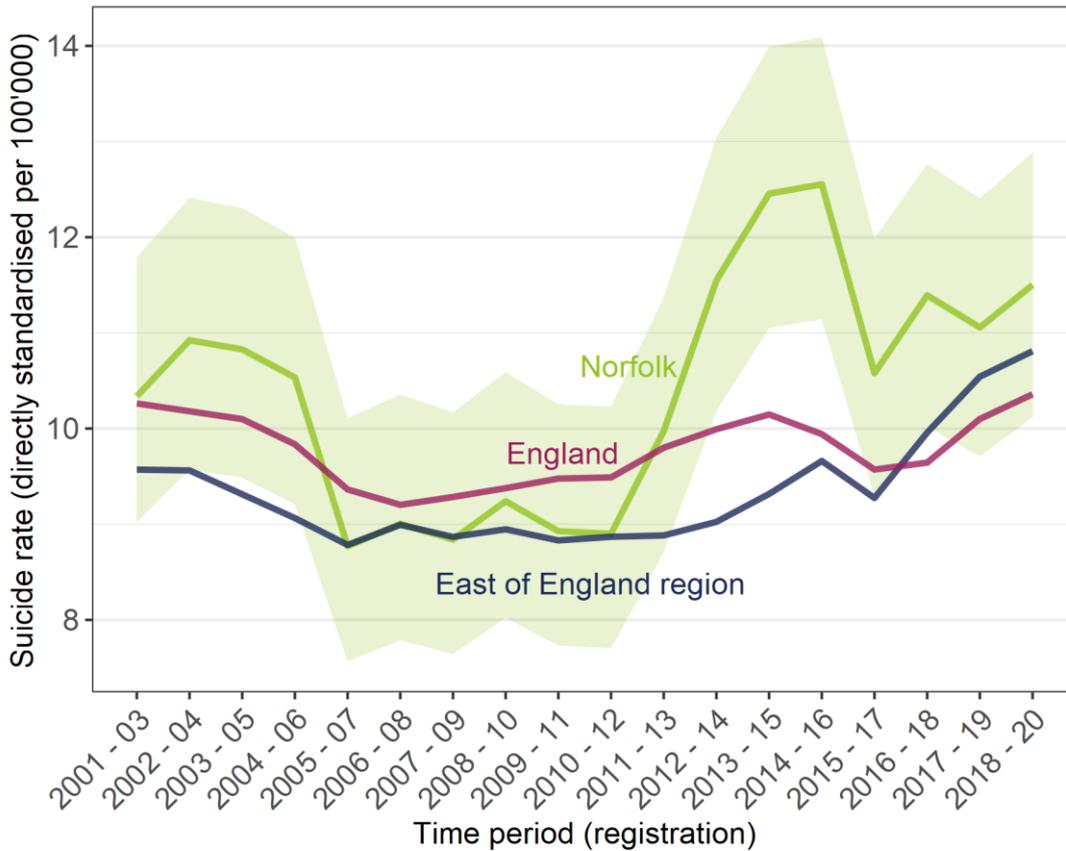
This document is an audit of 905 suicides in Norfolk registered between January 2012 and September 2021, 845 of which were suicides by Norfolk residents. Small numbers (1-7) have been suppressed (indicated by *) and all other numbers have been rounded to the nearest five in accordance with NHS Digital statistical disclosure control (NHS Digital, 2019). The audit further included an in-depth review of coroner's inquest files (Coroner Inquest Files) for 192 suicides that occurred between 2017 and 2021. Inquests are carried out by the coroner's office and are a comprehensive investigation of deaths that are suspected suicides as identified by the coroner's office (<https://www.cps.gov.uk/legal-guidance/coroners>). Unless otherwise specified, error bars in figures represent 95% confidence intervals.

To identify risk factors in Norfolk, information was obtained on widely available key characteristics based on residential location as well as occupation. This was then combined with more detailed information available for a subset of suicides included in Coroner Inquest Files. Witness statements by relatives, friends and colleagues gave insight into the lives as well as the circumstances surrounding the death of people who died by suicide. The files also included reports from primary care and mental health services that detailed their interactions with the individuals who took their own lives. In some circumstances little information was available, such that some risk factors are based on limited information. Some individual characteristics which are known to be associated with suicide risk are not systematically and/or reliably collected in the context of an inquest. Among those are ethnicity, gender identity, sexual orientation, and (undiagnosed) neurodiversity. Information recorded in Coroner Inquest Files may highlight a subset of known risk factors. Research has shown that the likelihood of a suicide conclusion varies between coroners in England, and deaths with certain characteristics are more or less likely to receive a suicide conclusion (Palmer, et al., 2015).

General overview

Suicide rates in Norfolk

The suicide rate in Norfolk was significantly higher than national and regional rates from 2013-2016. More recently, it has not been significantly higher than those in England and the East of England region (Figure 1). Compared to CIPFA (Chartered Institute of Public Finance and Accountancy) 'nearest' neighbours, other local authorities with demographic and economic characteristics similar to Norfolk, the suicide rate in the most recent time period in Norfolk was below nine of the fifteen closest neighbours (Office for Health Improvement & Disparities, 2022).



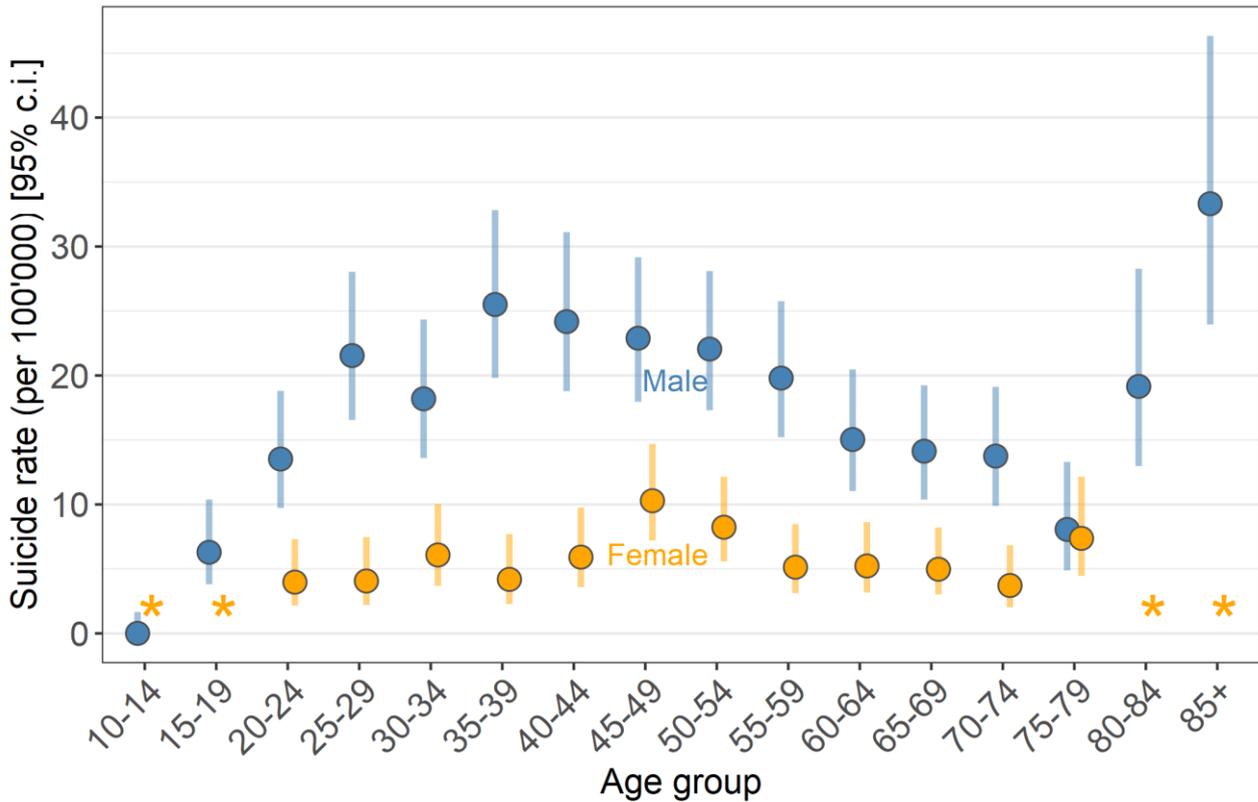
Source: Fingertips (ONS)

Figure 1: Suicide rates per 100,000 residents in Norfolk, East of England, and England from 2001-2020. Three-year periods, based on date of registration. The 95% confidence interval is shown for Norfolk in green shading.

Male suicides

More men than women take their own lives in most countries, including the UK (World Health Organization, 2021). In Norfolk, (Figure 2; Table A1), around **three in four individuals who die by suicide are male**. The highest suicide rates are seen in middle-aged and very old men. Women in their 40s have the highest suicide rate for their gender.

Age-specific suicide rates for Norfolk residents



Source: CRD (NHS digital) and mid-year population projections (ONS)

Figure 2: Age-specific suicide rates for males and females in Norfolk, for suicides registered between January 2012 and September 2021 (N = 845).

Norfolk local authority areas

Norwich consistently has the highest or second highest suicide rate of residents among Norfolk local authority areas. The suicide rates of other local authority areas vary substantially between time periods. In the most recent period with available data (2018-2020), following Norwich, King’s Lynn & West Norfolk and North Norfolk tended to have higher suicide rates than other areas of Norfolk (Office for Health Improvement & Disparities, 2022) (Figure 3).

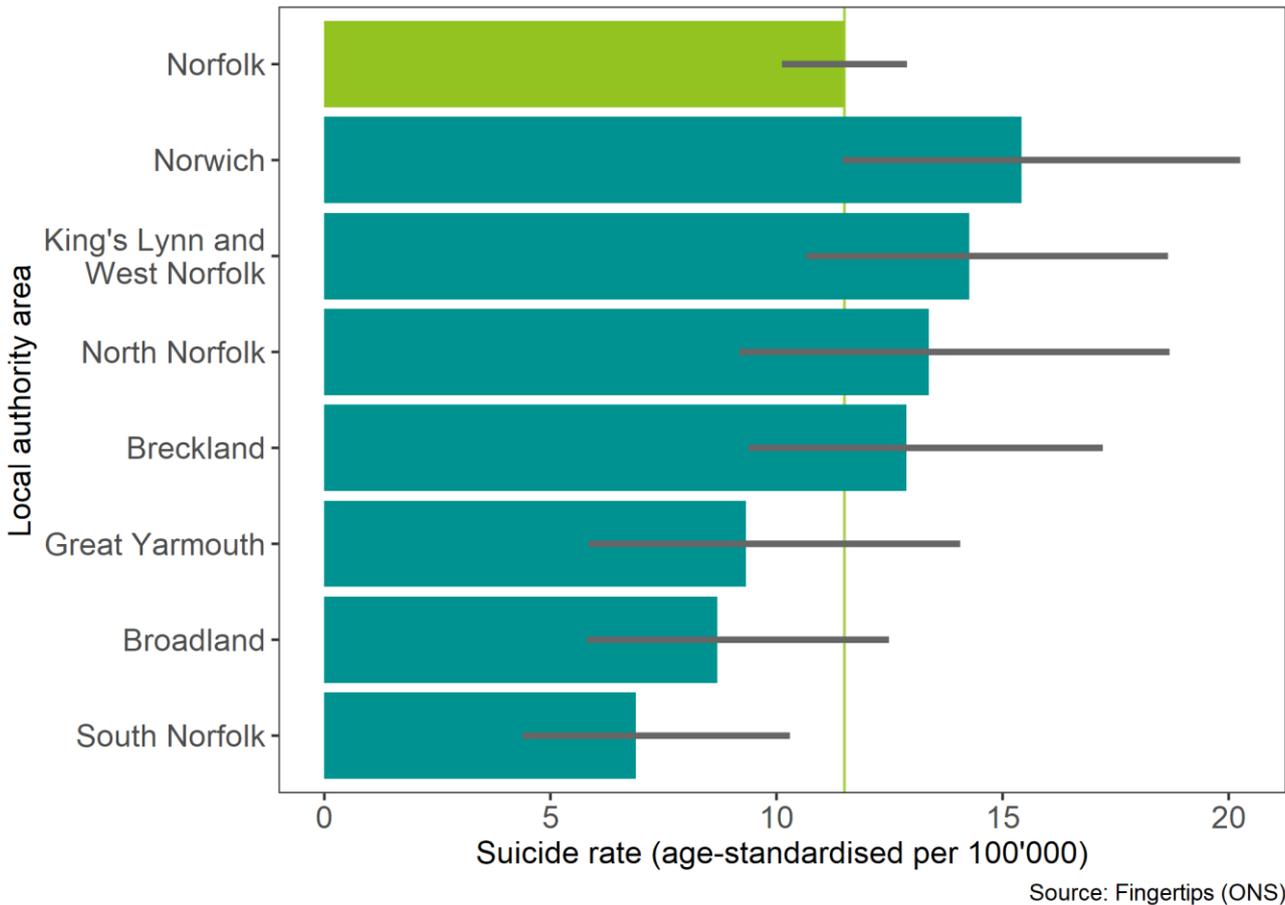
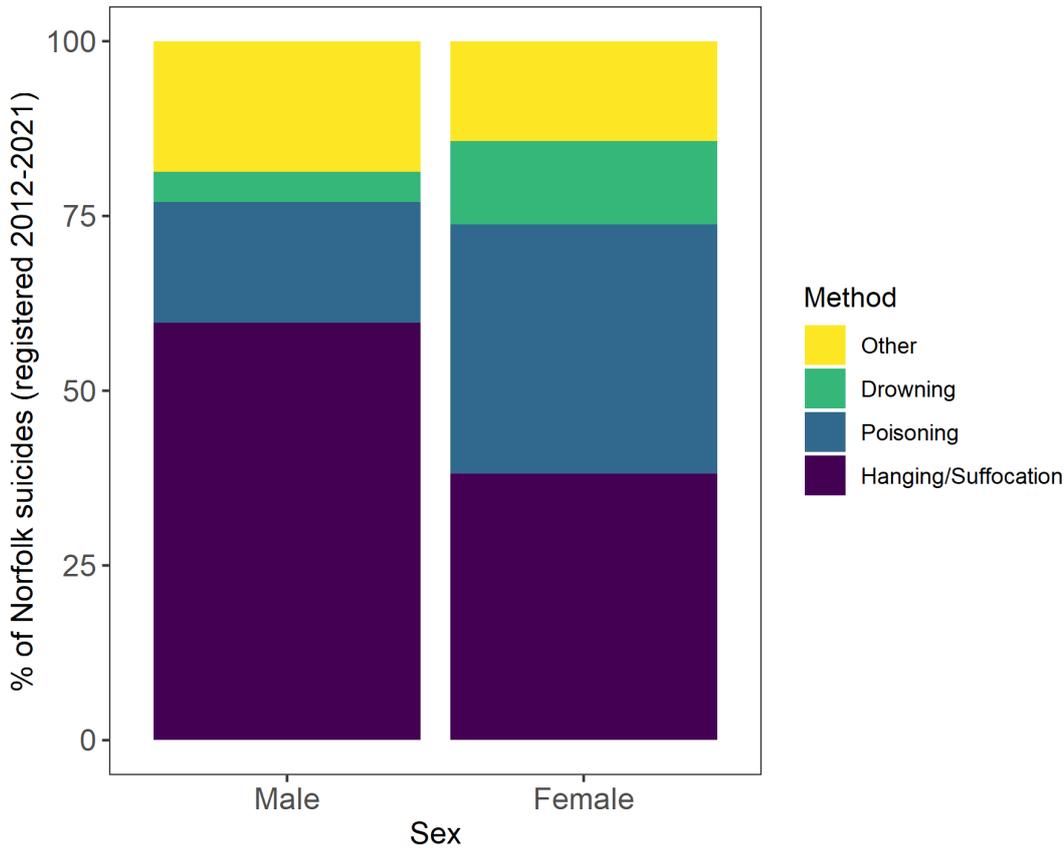


Figure 3: Suicide rates for Norfolk and its lower tier local authority areas, for suicides registered 2018-2020.

Method and location of suicides

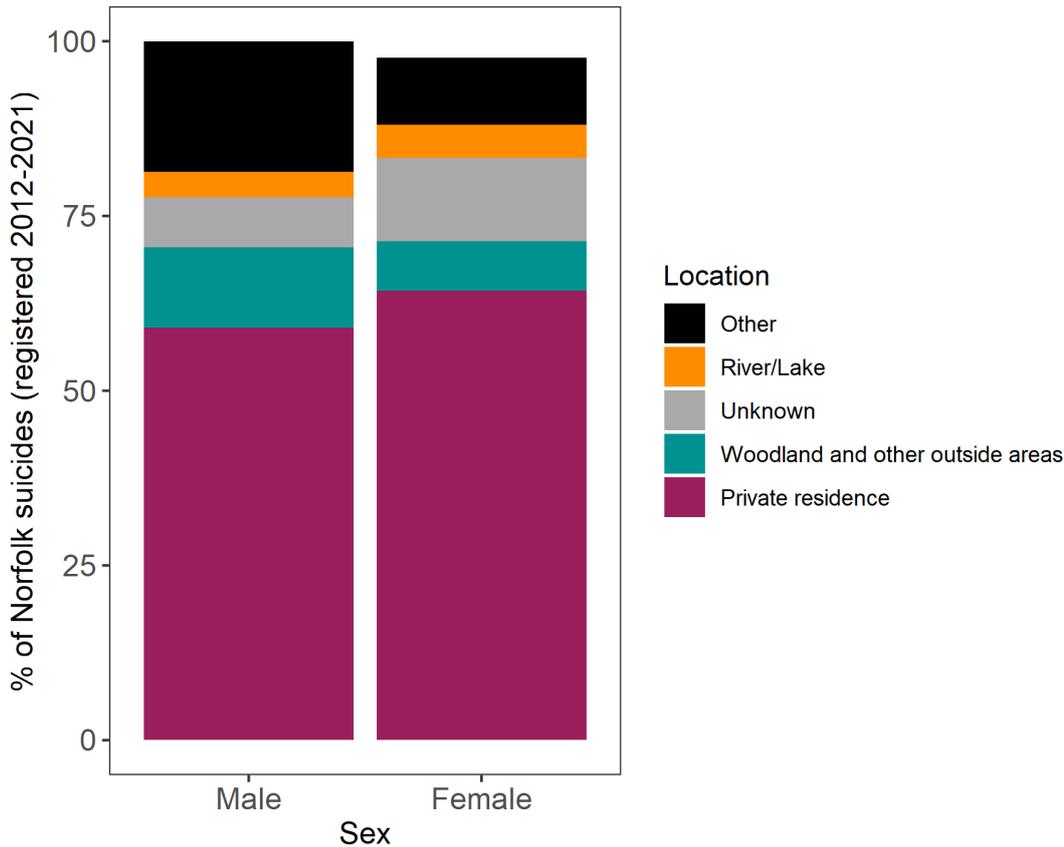
Hanging/suffocation was by far the most common suicide method overall, accounting for more than half (55%) of all suicides in Norfolk, as was the case in England in recent periods (HM Government, 2021). Poisoning (22%), predominantly through medication or drug overdoses, and drowning (6%) were the next most common methods. Although hanging/suffocation and poisoning were the most common methods in both sexes, there were some differences between men and women in the relative prevalence of suicide methods. Most notably, more than a third of women who took their own lives did so by poisoning, compared with fewer than one fifth of men (Figure 4).



Source: CRD (NHS Digital)

Figure 4: Method of suicide in men and women in Norfolk for deaths registered between 2012 and September 2021 (N = 905). Methods with fewer than 8 suicides in one or both sexes are pooled (see Table A2).

Three in five (61%) suicides in Norfolk occurred at home. The remaining suicides took place in locations such as woodlands and other outside areas (10%), roads (6%), bodies of water (4%), institutions and residential homes (3%; e.g., prisons), commercial buildings (3%; e.g., car parks), railway lines or stations (3%) and hotels (2%). For 8% of suicides the location was unknown, most likely because the person died in hospital after attempting suicide elsewhere. Suicide location was more often unknown for women, likely because poisoning is more common for women, and individuals who die by poisoning are more likely to die in hospital.



Source: CRD (NHS Digital)

Figure 5: Location of suicide (N = 905). Methods with fewer than 8 suicides in one or both sexes are pooled (see Table A3).

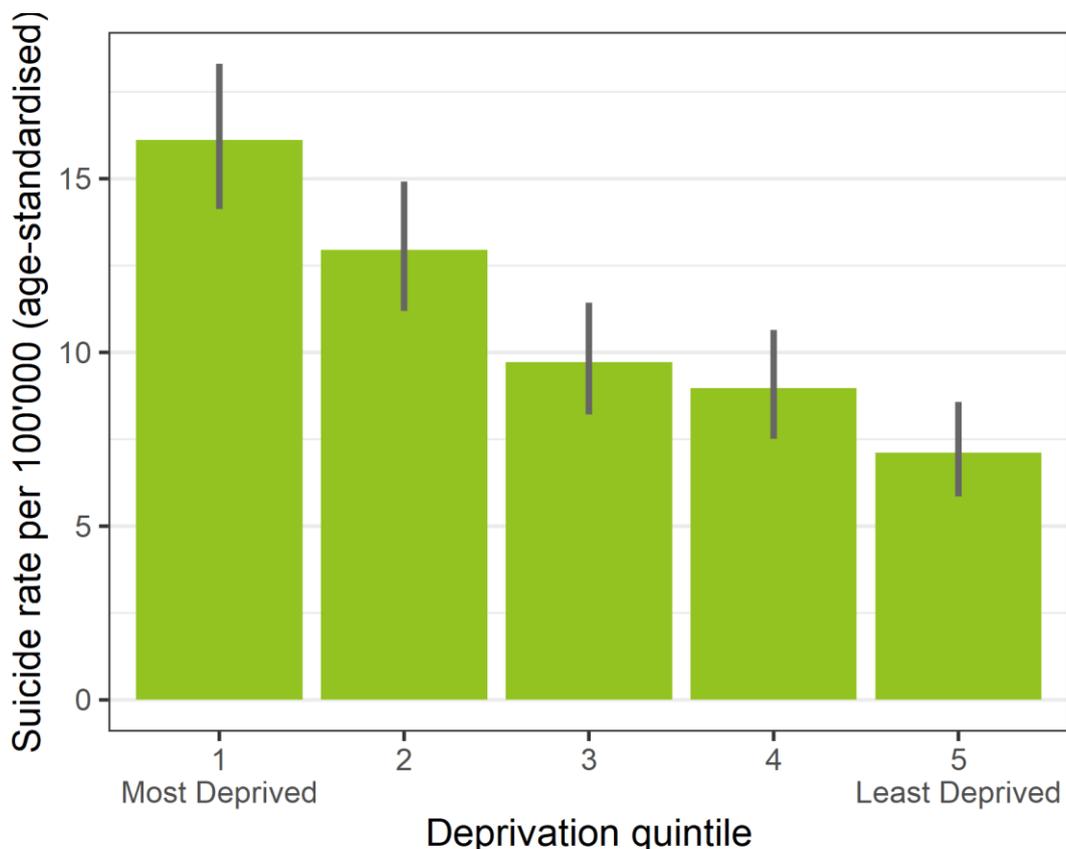
Introduction to risk factors

While there are often many different and complex circumstances that end in someone taking their own life, studies of suicides across large populations have shown that a range of characteristics are associated with elevated suicide risk (Turecki, et al., 2019). Therefore, although all individual’s circumstances are unique, identifying common risk factors can aid the development of targeted intervention measures. Outlined below are identified risk factors for Norfolk residents.

Risk factors within communities: deprivation and poor social cohesion

There are many social determinants of health that can impact suicide risk. The suicide rate continues to be higher among individuals living in **more deprived areas of Norfolk**, with clear evidence of a decreased rate in less deprived areas (Figure 6). The relationship between deprivation and numerous public health outcomes is well-established at international, national, and local levels. Deprivation is measured through the Index of Multiple Deprivation (IMD), which combines information on income, employment, education, health, crime, housing & services, and the living environment (Office for National Statistics., 2019). Overall, Norfolk ranks 84th most deprived among 151 local authorities in England. The county has relatively more deprivation in the Education, Skills and Training domain of the IMD and relatively less deprivation with respect to crime. The most deprived areas of

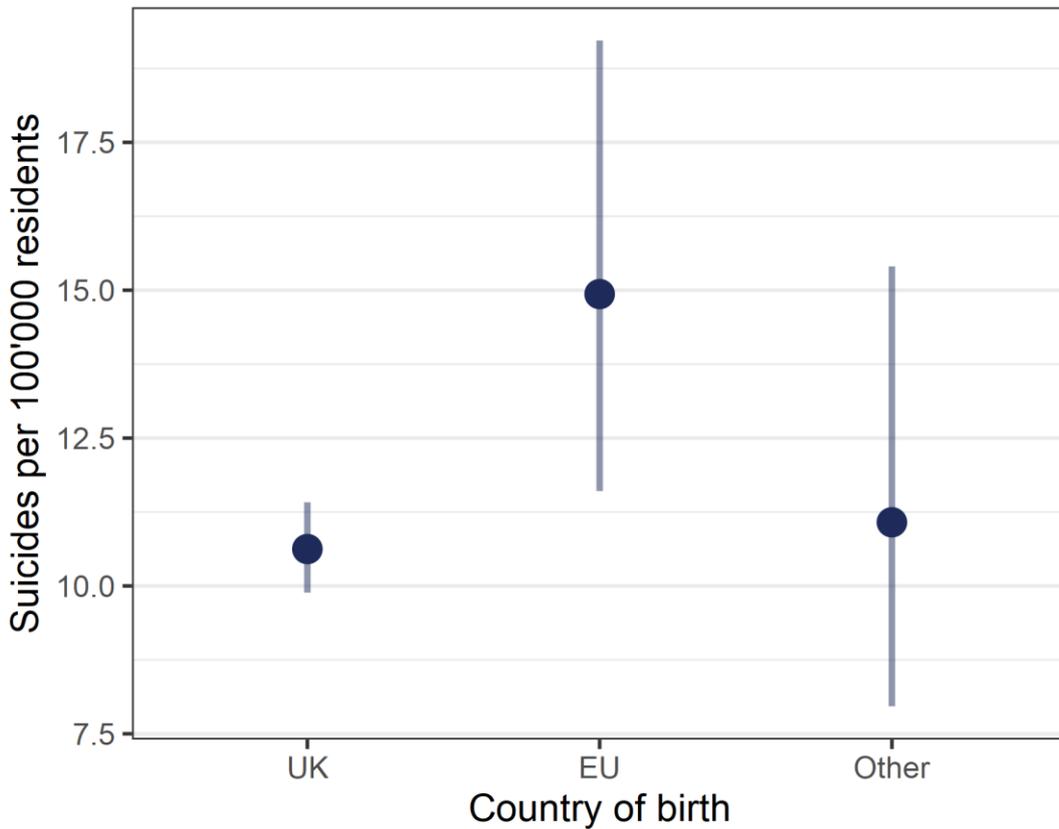
Norfolk are found in the urban centres of Norwich, Great Yarmouth, and King’s Lynn, as well as in some rural and coastal areas of the county (Norfolk County Council, 2021).



Source: CRD (NHS digital) and mid-year population projections (ONS)

Figure 6: Suicide rates in Norfolk by deprivation of residential area (N = 845).

Information on nationality or ethnicity is not currently available for individual deaths, so country of birth was used here instead. There is evidence of higher rates of suicide among individuals **born in EU countries** compared to those born in the UK or elsewhere (Figure 7). A large proportion of EU-born Norfolk residents live in the most deprived areas of Norfolk.



Source: CRD (NHS digital) and Annual Population Survey (APS) 2012-2020

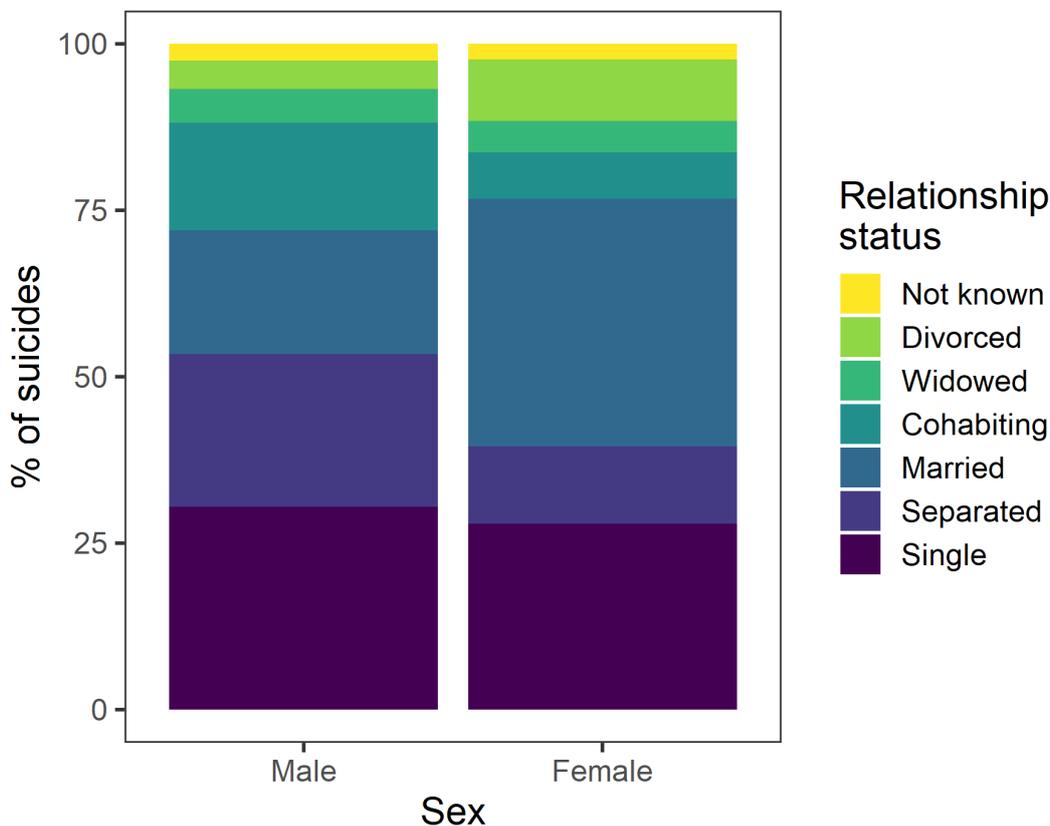
Figure 7: Suicide rate by country of birth (N = 845). The population in Norfolk born in the UK and elsewhere is estimated from the ONS Annual Population Survey (Office for National Statistics, 2022).

The social environment is known to have important effects on suicide risk (Turecki, et al., 2019). Supportive social interactions can act as protective factors against suicide, while social tensions and conflict can increase risk. Living alone is one known social suicide risk factor. Of the individuals whose Coroner Inquest Files were reviewed, **one in three (32%) lived alone**, while just under half (46%) lived with their family; 11% either lived in institutions (prisons, hospitals) or were lodging, and for 11% the living situation was unknown. While comparing this distribution to the general Norfolk population is difficult due to a lack of available data, estimates for the East of England indicate around one in ten individuals live alone (Office for National Statistics, 2022), a considerably lower proportion than the one in three individuals who took their own lives among the Coroner Inquest Files reviewed. National research shows that patients in contact with mental health services who live alone are especially at high risk, as they are more often discharged from hospital into poor social support (The National Confidential Inquiry into Suicide and Safety in Mental Health, 2021). Other risk factors such as age or relationship breakdown may also co-occur with living alone.

Individual risk factors: relationships, employment, addiction, and health

While negative life events can have a strong impact on wellbeing and suicidal thoughts and actions, an alternative approach to considering risk factors is thinking about the absence of protective factors for wellbeing. Suicide may often arise from an absence of protective factors such as supportive relationships, meaningful employment, and good health.

Relationship breakdown is known to be a strong risk factor for suicide. There is some evidence that separation is a stronger risk factor than divorce, and that men are at a higher risk than women following relationship breakdown (Scourfield & Evans, 2015; Evans, Scourfield, & Moore, 2016). In the Norfolk Coroner Inquest Files reviewed, there was indeed a larger representation of separated individuals among men than among women, and relatively more women who were married compared to men (Figure 8). The classification of a “separated” marital status used in national statistics is narrower than what was used here, so it was not possible to calculate rates for relationship statuses.



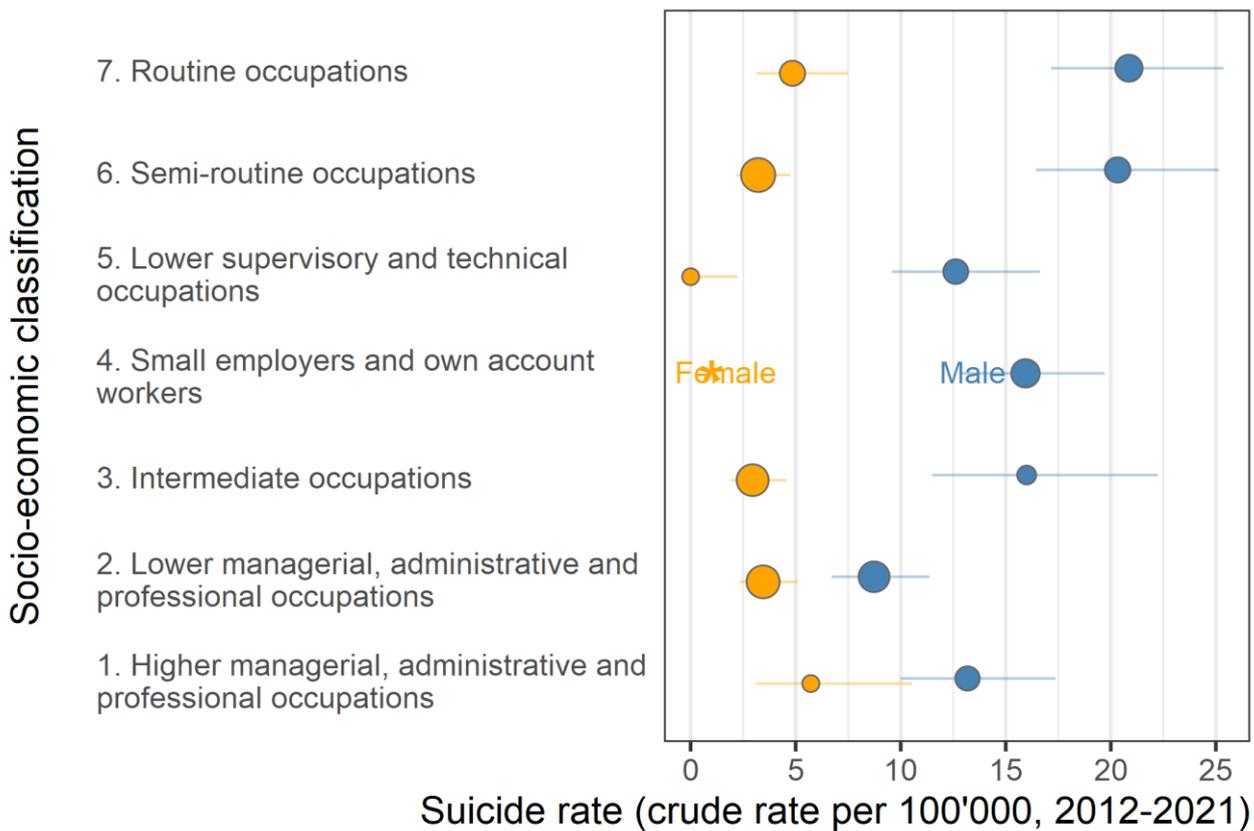
Source: Coroner Inquest Files (n=161)

Figure 8: Distribution of relationship status among men and women who died by suicide in Norfolk. Here, “separated” includes separation of individuals in marriages, registered partnerships and cohabiting relationships.

Regarding occupation, the highest overall suicide rates were among tradespeople, drivers, and construction and agricultural workers, which are all professions with a large male workforce. Occupations with a male-dominated workforce have high overall suicide rates, at

least partly because three in four suicides are men. When looking at the average rates between the sexes, there appear to be **high rates** in **health & social care, caring, engineering,** and culture & media occupations. There was considerable uncertainty in the rate for the latter group due to a comparably small Norfolk workforce (data not shown).

Focusing on socio-economic classes rather than occupational groupings, there is a gradient with the highest suicide rates among men whose socio-economic class is categorised by **routine or semi-routine occupations** (Figure 9). The picture is less clear among women, where suicide rates in routine and managerial occupations are similar. Generally, more Norfolk residents work in occupations associated with lower educational attainment and less workplace autonomy compared to the East of England region and England (Norfolk County Council & ESRI (UK) Limited, 2022). This might in part explain the relatively high suicide rates in Norfolk.

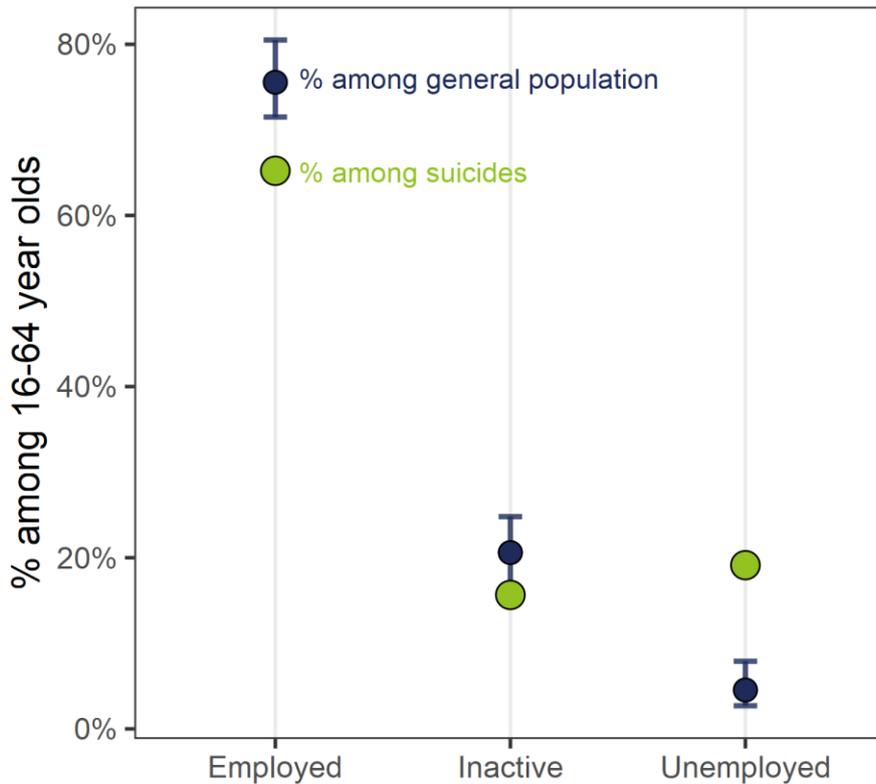


Source: CRD (NHS digital) and 2011 census (NOMIS)

Figure 9: Suicide rates by socio-economic class of the workforce in Norfolk (N = 845). Circle sizes indicate the relative size of the workforce among the socio-economic classes.

Unemployment is another well-documented socio-economic risk factor for suicide (Milner, Page, & LaMontagne, 2013). Of the 153 cases where employment information was supplied in the Coroner Inquest Files, almost half were employed, 25% were retired and the remaining 29% were unemployed, students, on sick leave or otherwise economically inactive. Among those of working age (16-64 years old) with available information, **more individuals who died by suicide** (green circles; Figure 10) **were unemployed**, compared

to the level of unemployment in the general population (blue symbols). There were fewer than expected suicides among **employed individuals** (Figure 10). The representation of economically inactive individuals (students, those on disability benefits or long-term sick-leave) was in line with their representation in the general population.



Source: Coroner Inquest Files and Fingertips (ONS)

Figure 10: Suicide rates by employment status of working age population in Norfolk in 2017-2021 (N = 153).

There are important caveats associated with relying on Coroner Inquest Files, with national research suggesting a focus on explanations made after the event, (Langer, Scourfield, & Fincham, 2008) and on medical explanations with less attention given to social aspects (Mallon, Galway, Hughes, & Rondón-Sulbarán, 2016). Nevertheless, locally, the Coroner Inquest Files identified several different risk factors thought to have contributed to individuals taking their own life, and certain combinations of risk factor groups appeared more often than others. **Poor mental health** was commonly reported for those who died by suicide, but **alone appeared to rarely sufficiently explain** why someone might have taken their life. Cases where the only recorded risk factor was poor mental health were a small minority (6%) of all reviewed cases. **Combinations of poor mental health with social problems** such as relationship breakdown and associated access to children, **material problems** such as debt or housing difficulties, and/or **alcohol and drug addiction** were reported frequently (Figure 11).

As highlighted earlier, national research shows that patients in contact with mental health services who live alone are at especially high risk. These individuals are often unemployed or on long-term sick leave and commonly have mental health and physical health co-morbidities (The National Confidential Inquiry into Suicide and Safety in Mental Health, 2021). This further highlights the issue of co-occurrence of risk factors, particularly the **interaction between poor mental health and insufficient social support**.

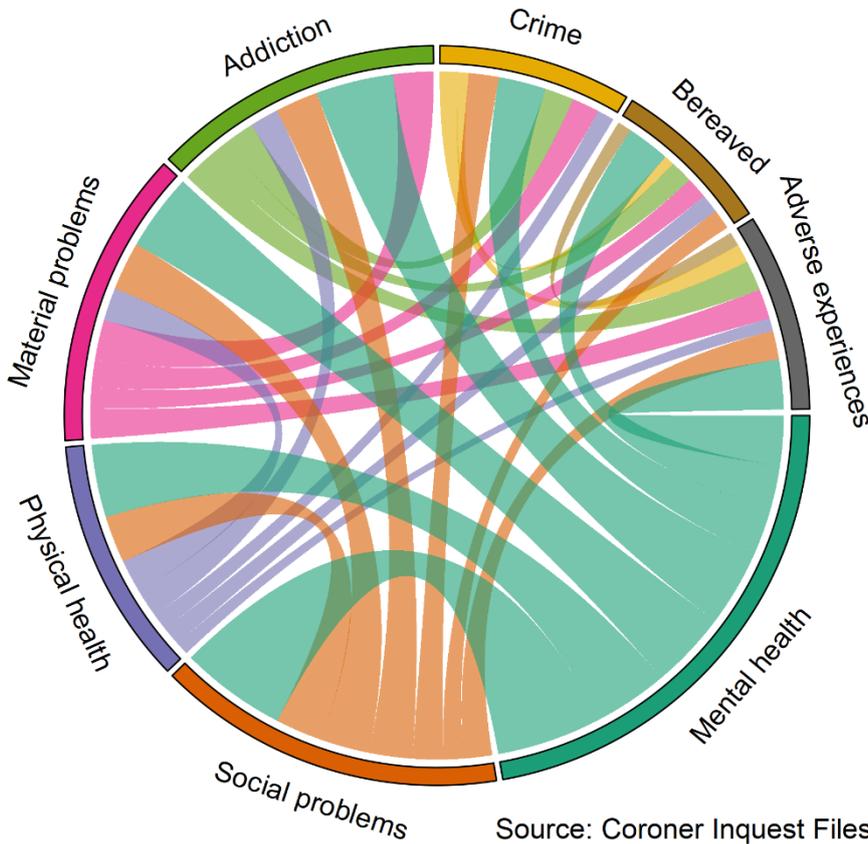
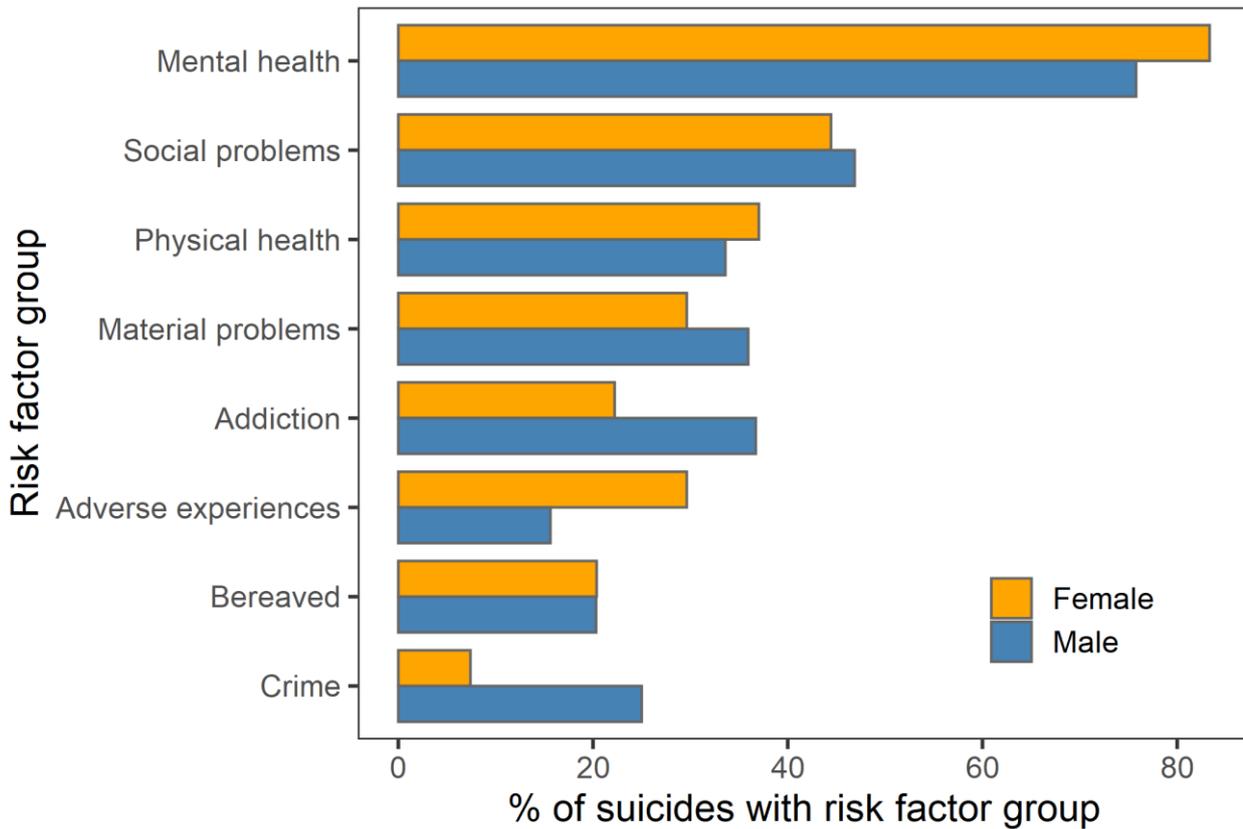


Figure 11: Two-way combinations of risk factor groups recorded in Norfolk Coroner Inquest Files. Note that there were more than two risk factor groups recorded for many of the reviewed suicides.

The number of different risk factor groups recorded in Coroner Inquest Files was slightly greater for women than for men, although generally, the distribution of risk factors was similar for men and women (Figure 12). However, **‘addiction’ and ‘crime’ risk factors were more common for men**, whereas women were more often recorded to have had adverse experiences (see Figure 12). 37% of men who died by suicide were reported to have had an alcohol, drug and, to a lesser extent, gambling addiction, compared with 22% of women. Adverse childhood experiences or being the victim of crime, domestic violence, or sexual abuse was recorded for 30% of women and 16% of men.

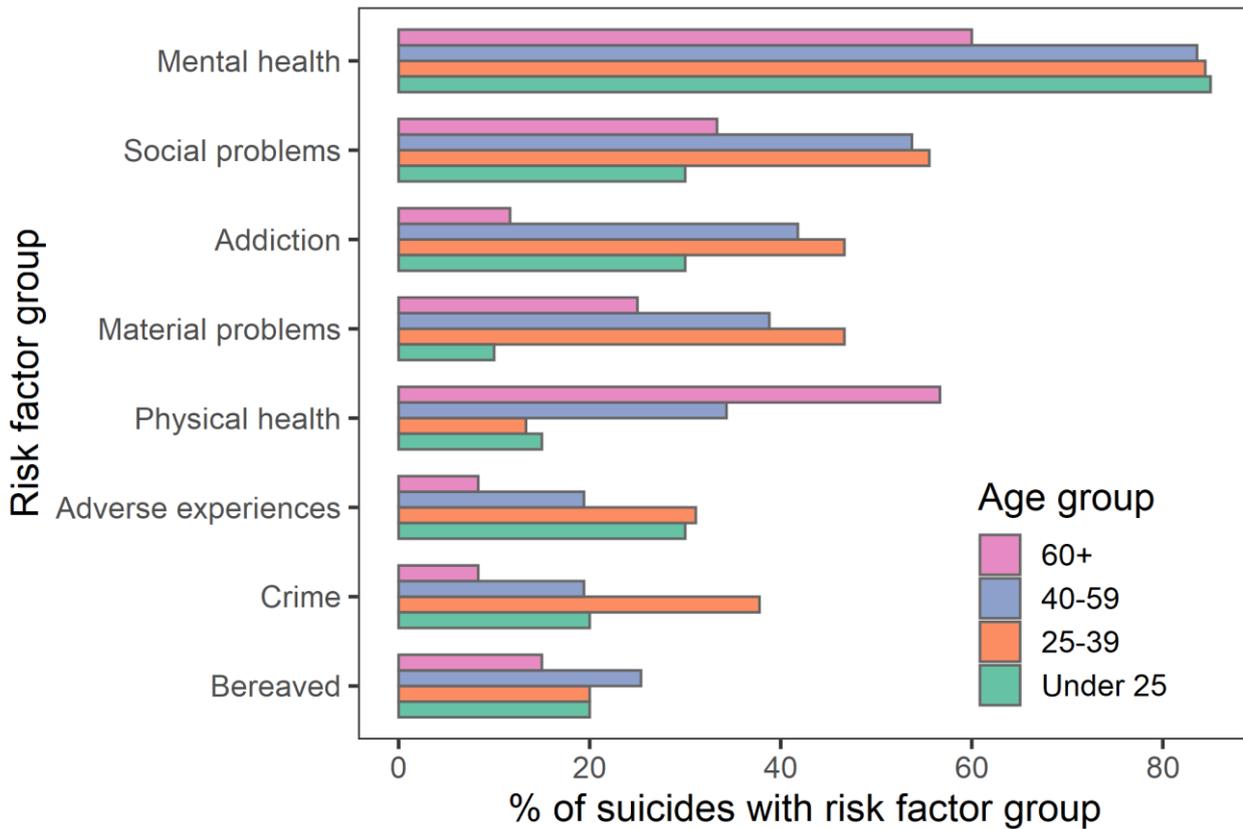


Source: Coroner Inquest Files

Figure 12: Prevalence of risk factor groups in men and women who died by suicide in Norfolk, recorded in Coroner Inquest Files (N = 192).

An academic study on 100 suicides identified age-specific risk factors characterised by **“young people in crisis, mid-life gendered patterns of work and family, and older people in decline”** (Shiner, Scourfield, Fincham, & Langer, 2009).

The Coroner Inquest Files reviewed in Norfolk were in broad agreement with those findings (Figure 13). In the youngest age group, adverse experiences (30%) were relatively more prevalent than in other age groups. Among middle-aged individuals, notable risk factors besides mental health were related to social (54%) and material problems (39%) as well as addiction (42%) and crime (19%). Among a substantial percentage of individuals aged 60 years and older, physical health was known or thought to have been a major contributory factor (57%). **Poor physical health** is a known risk factor for suicide (Leahy, et al., 2020).



Source: Coroner Inquest Files

Figure 13: Prevalence of risk factor groups across age groups of people who died by suicide in Norfolk (N = 192).

Bereavement is a known risk factor for suicide (Molina, et al., 2019). Among reviewed cases, bereavement was recorded as a contributory factor in 19% of suicides. Bereavement by suicide was recorded in 4% of the cases.

Service Provision

Individuals at risk of suicide may be identified and supported by a variety of different services such as general practitioner (GP) practices, mental health support services, social services and various Voluntary Community and Social Enterprises. At times, multiple organisations provide services to the same individual. Here we summarise information available, which mainly relates to interactions with GP practices and specialised mental health services.

A prior history of attempted suicide is the strongest single factor predictive of suicide (Owens, Horrocks, & House, 2002), although most people who attempt suicide do not end up dying by suicide because suicide is rare. Of the files reviewed, **many individuals (47%)** had had one or several previous **suicide attempts**, around half of whom had more than one attempt. However, attempts had not always been known to the relevant support services, so an informal definition of suicide attempt is used here: information from GP, MH services or witness statements.

Contact with GP (primary care) and mental health services (secondary care)

Just over half (**52%**) of the individuals who died by suicide in Norfolk were known to have **seen their GP for mental health issues** in the last year of their life. Of those, 58% were known to mental health services (Figure 14).

On the other hand, more than **one in three** had neither been in touch with primary care for mental health issues in the last year of their life, nor were they known to specialised mental health services. A minority of these individuals had seen their GP in the year before their death, but exclusively for physical health issues.

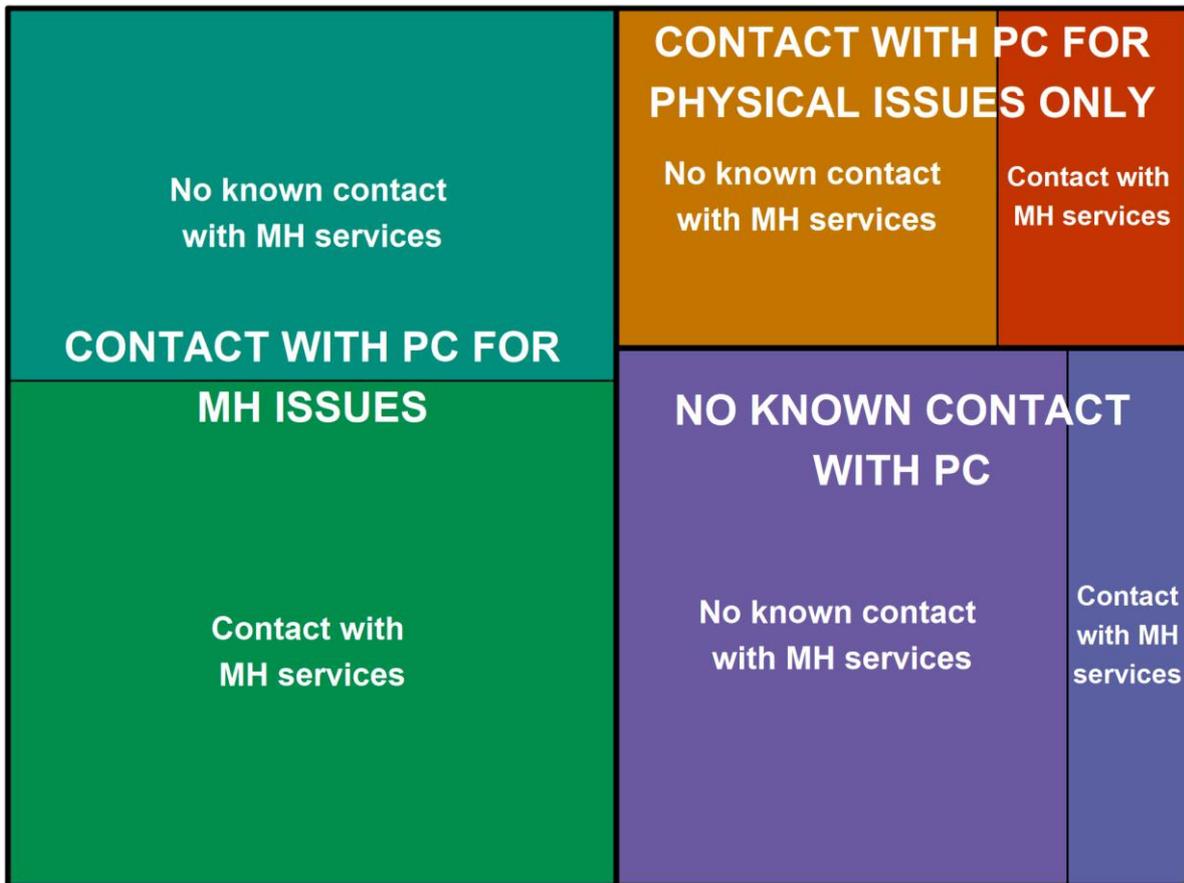
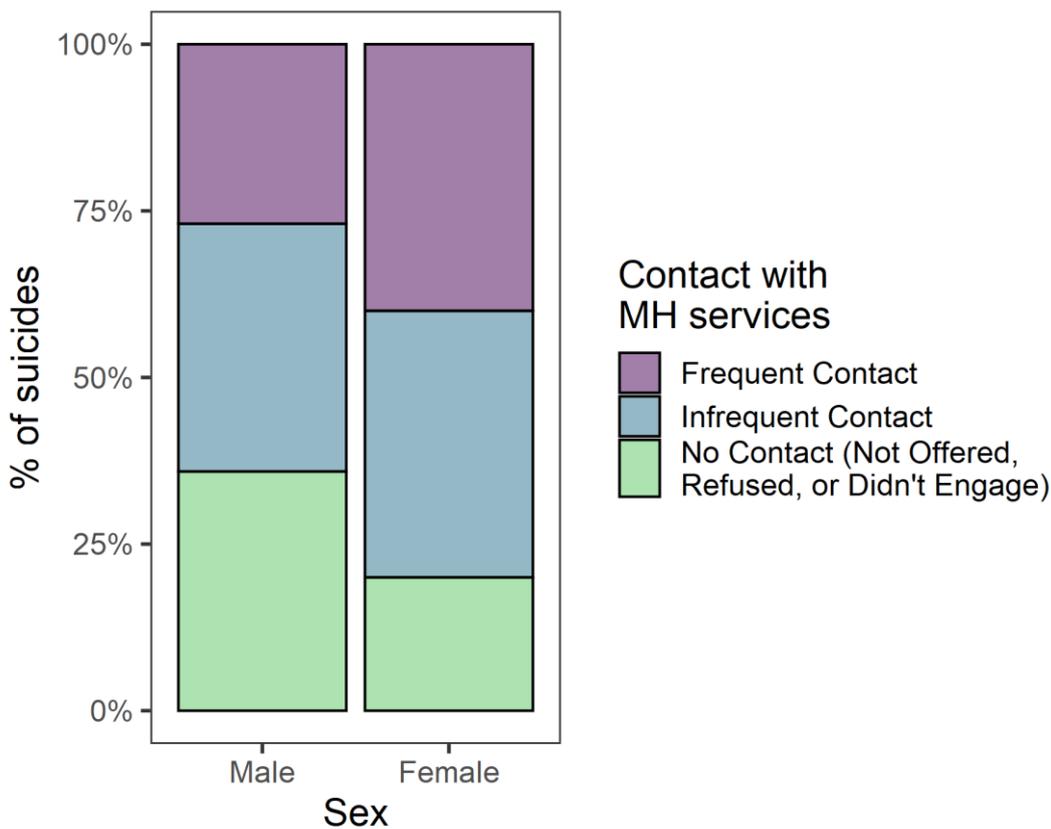


Figure 14: Overview of contact with primary care (PC) and mental health (MH) services extracted from Coroner Inquest Files (N = 192). The size of a rectangle is proportional to the number of cases within that category.

Contacts with primary healthcare and mental health services are known to be common in the last month before death by suicide (Stene-Larsen & Reneflot, 2019). In the Norfolk Coroner Inquest Files reviewed, 55% of individuals had had contact with their GP surgery and/or MH services within a month before their death. Fourteen individuals (**7%**) had been in contact with **both their GP practice and MH services** in the week before their death. In some cases, contact was made by concerned relatives. Among suicides where this information was available, more than half visited their GP for mental health-related reasons on their last visit before their death.

There was no information on interactions with specialised mental health services for a sizeable percentage of Norfolk suicide deaths (39%). This may be due to missing information or a lack of contact with services. Of the cases where there was information on contact with mental health services (N = 118), **69%** had been in **contact with mental health services**. Among those who had been referred to mental health services or signposted for self-referral, almost a third (**30%**) **refused or failed to engage with services**. This includes individuals who actively refused to engage with support services, as well as those who repeatedly missed scheduled appointments.

Fewer men had been in contact with MH services compared to women (Figure 15), in line with international academic research showing that women are more likely to be in contact (Walby, Myhre, & Kildahl, 2018).



Source: Coroner Inquest Files

Figure 15: Summary of contact with mental health services for men and women who died by suicide in Norfolk (N = 118).

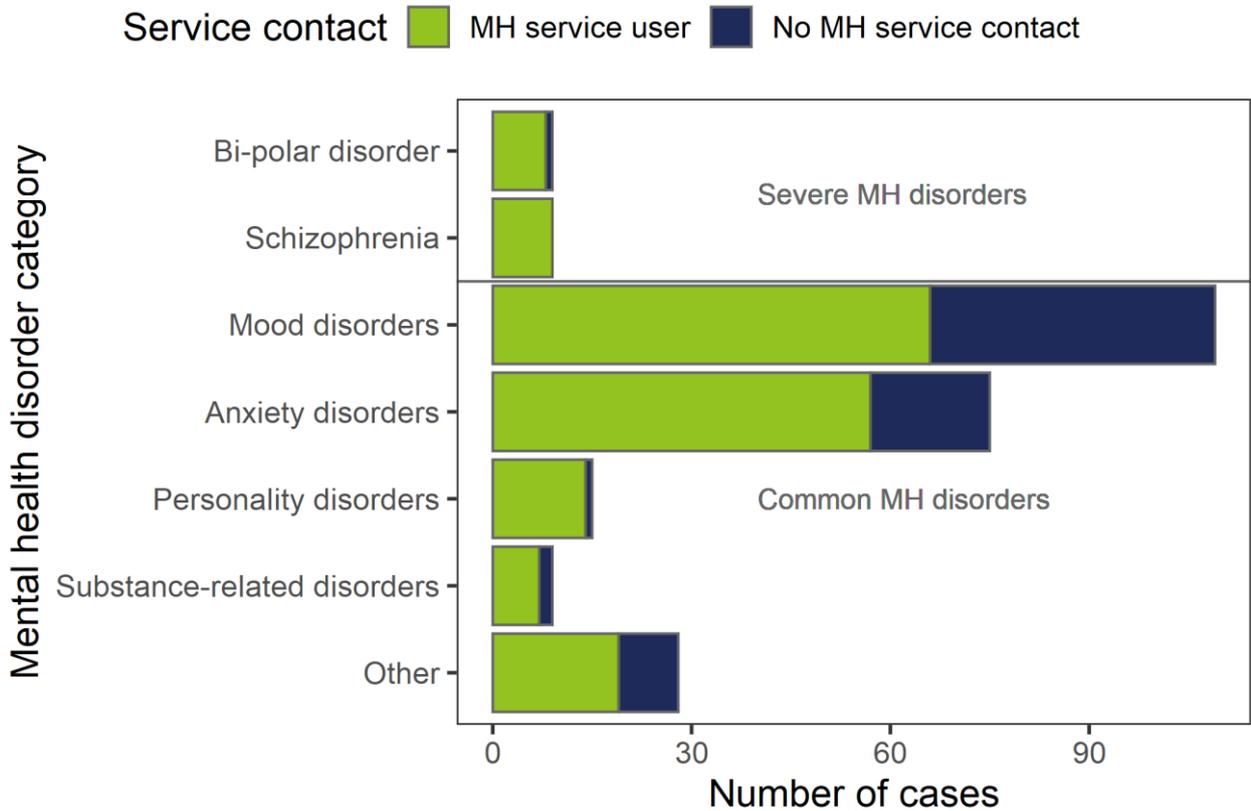
Among mental health patients (seen by mental health services within 12 months before their death), 57% of reviewed cases had previously attempted suicide and/or self-harmed. In England, this is similar at 62% (The National Confidential Inquiry into Suicide and Safety in Mental Health, 2021). Records of previous suicide attempts and/or self-harm were considerably less frequent (31%) among non-patients. However, the latter figure must be interpreted with caution. It is likely that less information on prior suicide attempts and/or

self-harm data is available about individuals not in contact with mental health services than about those who were.

For many cases, serious incident reports or lessons from reviews of significant events were included in the Coroner Inquest Files. The most common lessons learned included improving continuity of care and communication between services, facilitating GP referrals, conducting risk assessments more systematically, improving follow-up support following discharge, and improving record-keeping.

Mental ill health

Relatively few individuals had been diagnosed with severe mental illness (bipolar disorder, schizophrenia, or psychotic disorders). Mood disorders such as **depression, and anxiety** disorders were by far the most frequently recorded disorders. Thus, many individuals with **common mental health disorders** had been in contact with mental health services.



Source: Coroner Inquest Files

Figure 16: Summary of mental health disorders and contact with mental health services among Norfolk suicides. Disorders are grouped for severe and common disorders. A given suicide can feature in multiple disorder categories.

Overall, 44% of the individuals whose Coroner Inquest File was reviewed had been prescribed one or more **antidepressants**. A recent academic evidence review concluded that “[...] empirical studies have failed to show that antidepressants prevent death by suicide” (Paris, 2021). Prescriptions were generally more prevalent in those in contact with

mental health services, especially prescriptions for antidepressants and antipsychotics (Figure 17). Among those who were in frequent contact with mental health services, more than a third had anti-psychotic medication prescribed.

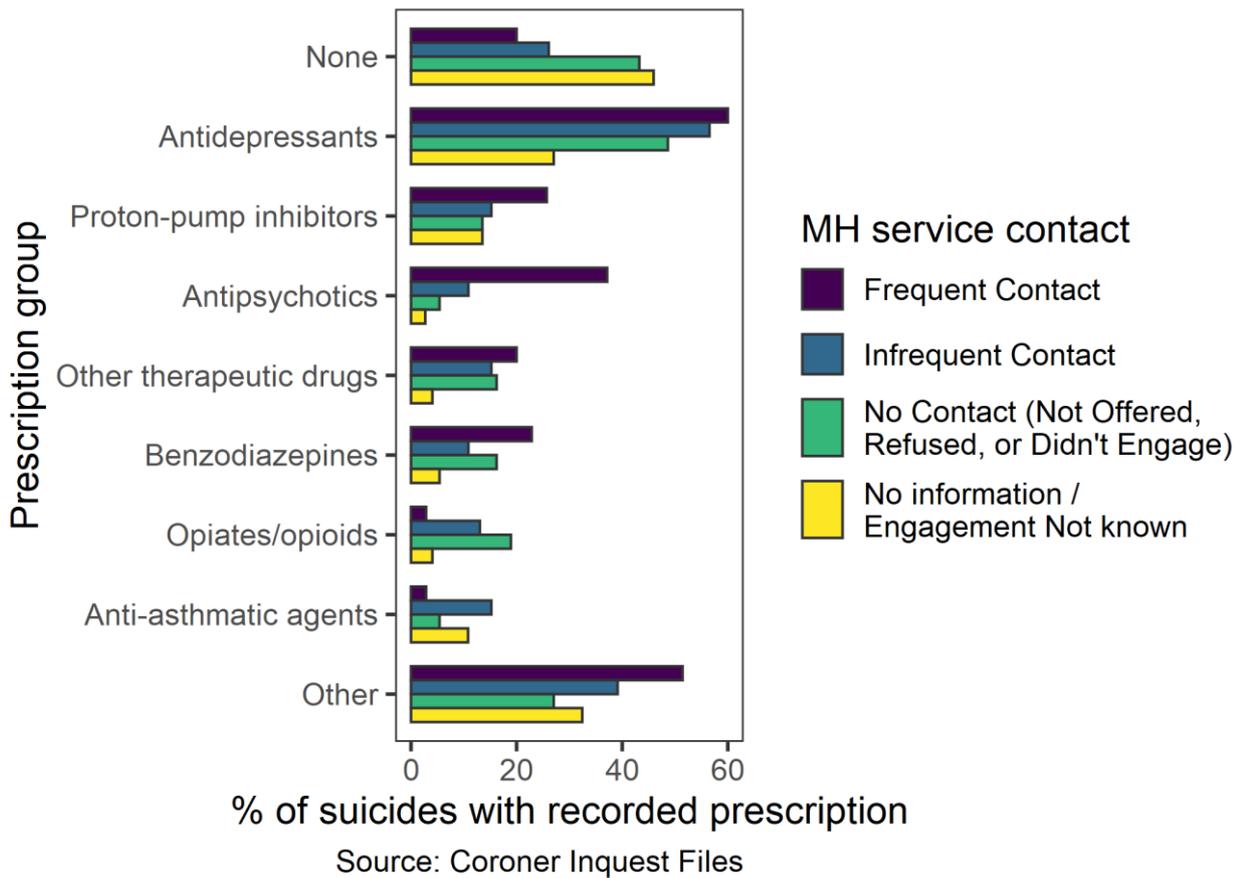


Figure 17: Prescriptions and contact with mental health services recorded in Coroner Inquest Files. Here, prescription medicines and contact with mental health services are grouped into broad classes.

Covid-19 pandemic

The **Covid-19 pandemic** and the associated societal changes have led to a disruption to mental health care as well as an increase in feelings of anxiety, **social isolation, and loneliness**, at least during the early stages of the pandemic (The Parliamentary Office of Science and Technology, 2021). Social issues such as isolation, mental health issues as well as material issues were more prevalent among individuals who died by suicide since the start of the pandemic compared to before (Figure 18). Crime was less frequently recorded as a risk factor. In Coroner Inquest Files, Covid-19 was explicitly mentioned in 18 out of 87 deaths since the pandemic began in March 2020. So far, there is no evidence from academic research that the pandemic has increased suicide rates in England (National Confidential Inquiry into Suicide and Safety in Mental Health, 2021).

However, the pandemic has had negative effects on mental health, as well as other likely contributors to known suicide risk factors such as employment, the general economic situation and bereavement (The Parliamentary Office of Science and Technology, 2021).

Whether these effects will lead to a higher suicide rate in the longer run is challenging to predict.

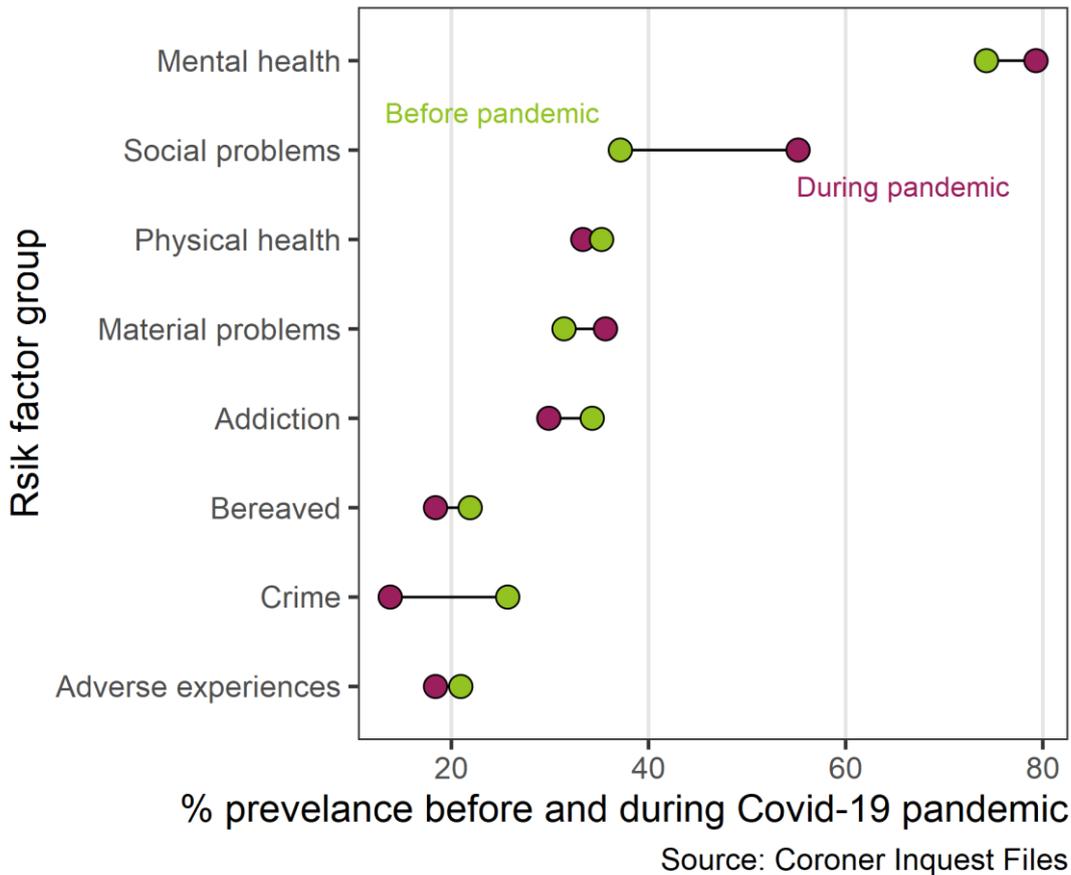


Figure 18: A comparison of risk factor group prevalence for deaths occurring before and during the Covid-19 pandemic.

Methods

Data sources: Three main data sources were used for this audit:

- Official suicide statistics provided by the ONS. The definition of suicide used by ONS is: “Deaths from suicide and injury of undetermined intent classified by underlying cause of death recorded as ICD10 codes X60-X84 (ages 10+ only), Y10-Y34 (ages 15+ only).” For more info on ICD10 codes see <https://icd.who.int/browse10/2016/en#/XX>. Official suicide statistics include deaths by Norfolk residents only.
- Individual-level death records with a suicide or suicide narrative coroner’s conclusion, obtained from the Civil Registrations Database (CRD; provided by NHS Digital). This included deaths that were registered between 2012 and September 2021. We corrected for the fact that only three quarters of 2021 were included when we calculated suicide rates. Includes deaths in Norfolk by non-residents. In accordance with NHS Digital statistical disclosure control (NHS Digital, 2019), we suppressed small numbers (1-7; indicated by * in Figures and Tables) and rounded all other numbers to the nearest five.

- Data extracted from a subset of Coroner Inquest Files following inquest and a suicide or suicide narrative conclusion. These files included a subset (N = 192; just under a half) of deaths that occurred between 2017 and 2021. Includes deaths in Norfolk by non-residents. Coroner Inquest Files were used to explore characteristics such as living situation, relationship status and interactions with health services, as well as key risk factors thought by witnesses and health professionals to have contributed to the deaths (e.g., mental health, social interactions). Data was entered by four different Public Health analysts into a spreadsheet-based database which was comprised of a mixture of quantitative as well as qualitative (free-text) fields.

For logistical reasons, the sample for which Coroner Inquest Files were reviewed was a subset of suicide deaths. Around one half of all deaths by suicide that occurred between 2017 and 2021 were haphazardly selected by coroner's officers (192 out of 390). The age distribution of reviewed files did not show any marked differences compared to cases for which files were not reviewed. However, there was an overrepresentation of females among reviewed files (30%) compared to all suicides in a similar period (22%). This appeared to result from Coroner Inquest Files including a large proportion of deaths in 2020, a period during which there were relatively fewer men and relatively more women among suicides. Overall, there was no indication that deaths for which Coroner Inquest Files were available were a biased subset of deaths by suicide.

A pre-defined list of 30 potential individual risk factors was selected based on the suicide literature and previous suicide audits. Individual risk factors were later grouped for further analyses (Table 1). We assessed the presence or absence of those risk factors based on witness statements, GP reports, police reports, reports on interactions with mental health services as well as any other available documentation. Further, we used a free text field for recording any additional relevant risk factors, such as effects of the Covid-19 pandemic.

Table 1: Risk factor groups, individual risk factors and the number of cases where the risk factor was recorded. Multiple risk factors were often present, so the total exceeds the number of cases reviewed (N = 192). Small numbers are suppressed, and other numbers rounded to the nearest five.

Risk factor group	Risk factor	Number of cases
Mental health	Poor mental health	145
	Eating disorder	<8
	Postnatal depression	<8
	Hoarder	<8
Social problems	Relationship problems	65
	Isolation	30
	Access to children	10
Physical health	Poor physical health	60
	Chronic pain	25
	Fertility	<8
	Tinnitus	<8
Material problems	Financial problem	40
	Employment problems	25
	Housing	16
	Benefits	<8
Addiction	Alcohol misuse history	40
	Drug misuse history	40
	Gambling	<8
Crime	Under investigation by police	25
	Alleged sex offender	15
	Alleged perpetrator domestic violence	10
	Violence history	10
	Driving offences	<8
Bereaved	Bereavement	35
	Family or relation suicide	10
Adverse experiences	Adverse childhood experiences	25
	Victim of alleged sexual abuse	10
	Alleged victim domestic violence	<8
	Veteran	<8
	Victim of crime	<8

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Appendix

Table A1: Suicides and suicide rates (deaths per 100,000 residents) in Norfolk registered January 2012 - September 2021 by sex by 5-year age group. Source: Civil Registrations Database (N = 905).

Age group	Males		Females	
	Suicides	Suicide rate [95% c.i.]	Suicides	Suicide rate [95% c.i.]
10-14	0	0 [0-1.7]	*	*
15-19	15	6.3 [3.8-10.4]	*	*
20-24	35	13.5 [9.7-18.8]	10	4 [2.2-7.3]
25-29	55	21.5 [16.6-28]	10	4.1 [2.2-7.5]
30-34	45	18.2 [13.6-24.3]	15	6.1 [3.7-10]
35-39	60	25.5 [19.8-32.8]	10	4.2 [2.3-7.7]
40-44	60	24.2 [18.8-31.1]	15	5.9 [3.6-9.8]
45-49	65	22.9 [18-29.2]	30	10.3 [7.2-14.7]
50-54	65	22.1 [17.3-28.1]	25	8.2 [5.6-12.2]
55-59	55	19.8 [15.2-25.8]	15	5.1 [3.1-8.5]
60-64	40	15 [11-20.5]	15	5.2 [3.2-8.6]
65-69	40	14.1 [10.4-19.2]	15	5 [3-8.2]
70-74	35	13.7 [9.9-19.1]	10	3.7 [2-6.8]
75-79	15	8.1 [4.9-13.3]	15	7.4 [4.5-12.2]
80-84	25	19.2 [13-28.3]	*	*
85+	35	33.3 [24-46.3]	*	*

Table A2: Method of suicides in Norfolk registered 2012-2021 by sex. Source: Civil Registrations Database (N = 905).

Method	Male	Female	Total
Hanging/Suffocation	60%	38%	55%
Poisoning	17%	36%	22%
Drowning	4%	12%	6%
Cutting/Stabbing	4%	*	4%
Shooting	5%	*	4%
Train collision	4%	*	4%
Other	4%	*	3%
Burning	1%	*	1%
Jumping from height	*	*	1%
Road vehicle collision	*	0%	*

Table A3: Location of suicides in Norfolk registered 2012-2021 by sex. Source: Civil Registrations Database (N = 905).

Location	Male	Female	Total
Private residence	59%	64%	61%
Woodland and other outside areas	12%	7%	10%
Unknown	7%	12%	8%
Road	6%	*	6%
River/Lake	4%	5%	4%
Industrial/Commercial	4%	*	3%
Institution/Residential home	4%	*	3%
Railway line/station	3%	*	3%
Hotel	2%	*	2%
Other public inside area	*	0%	*