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Suicide by people in contact with drug and alcohol services: a national study 2021 to 2022

National Confidential Inquiry
into Suicide and Safety in Mental Health

2024

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Summary

Why did we carry out the study?

People with drug and alcohol use and dependence problems are at increased risk of dying by suicide. We have previously reported that just over half of people who had contact with mental health services in the year prior to death had a history of drug and/or alcohol misuse, yet under a quarter of these people were under the care of specialist drug and alcohol services.[1] In the UK, the majority of drug and alcohol services are provided by third sector organisations such as charities, and private providers, rather than the NHS. Commissioning of these services has become fragmented and the research infrastructure is not fully developed,[2] making national investigations about people in contact with drug and alcohol services difficult to complete.

This study aimed to examine factors associated with suicide by people under the care of drug and alcohol services. This was achieved by linking existing databases and collecting supplementary incident report data, with the objectives of:

- Establishing the number of people who died by suicide within recent (12 month) contact with drug and alcohol services,
- Comparing people who died by suicide with other people in contact with drug and alcohol services to establish clinical and psychosocial risk factors that may inform suicide prevention,
- Making recommendations for practice to improve safety for people under the care of drug and alcohol services.

What did we do?

We linked mortality data on people who died by suicide from the Office for National Statistics (ONS) to national drug and alcohol treatment databases in England and Wales[†], for deaths registered between 1 October 2021 and 30 September 2022, to establish the sociodemographic and clinical characteristics of this group. We matched this group to controls who had been in contact with drug and alcohol services in the previous year but did not die, to establish risk factors for suicide. We also collected data from serious incident reports into these deaths, conducted by the provider drug and alcohol services.

[†] The Drug and Alcohol Information System (DAISy) (Scotland) and the Northen Ireland Substance Misuse Database have recently been established and it is too early for information from these datasets to be used for mortality linkage.

What were the main findings?

- 428 people in England and Wales died by suicide within 12 months of contact with drug and alcohol services during the study period, 8% of all suicide deaths. For England this represented a rate of 119.2 per 100,000 people in treatment, more than ten times the general population suicide rate (10.7 per 100,000 population). The majority of those in contact with drug and alcohol services were men (80%) but the observed rate of suicide in this study was also higher than the overall rate for men in the general population (16.2 per 100,000 population) or men in mid-life (23.2 per 100,000 population).
- Almost half of people (175, 47%) who died by suicide were unemployed at the time of death and over a third (140, 34%) lived in the 20% most deprived areas. In England most (283, 81%) resided in social housing.
- In almost half (48%) of the people who died, the primary substance for which they were seeking help was alcohol. This group was older than those using other substances. Overall, 40% of people who died by suicide had a record of more than one problem substance at the start of treatment.
- The majority (349, 82%) of people in contact with drug and alcohol services who died by suicide had received psychosocial interventions. In total, 108 (25%) had completed treatment with services prior to death and were reported as being substance free or an occasional user. Just under half (191, 45%) of people had contact with drug and alcohol services in the month prior to their death. One hundred and sixty-one people (38%) remained in treatment at the time of death.
- Just under a third (127, 30%) also had contact with mental health services in the previous 12 months. These people had high rates of self-harm (76%), including in the 3 months prior to death (43%). A fifth of these people had missed their last contact with mental health services, and 14% were not adherent with prescribed medication.
- We found high rates of social adversity among both people who had died by suicide and living controls; this included living in social housing and unemployment. More people who died by suicide (205, 48% vs. 874, 25%) used alcohol as the main substance compared to living controls. They were more likely to have been in treatment for less than a month, and less likely to have been receiving treatment for a mental health need than controls (154, 44% vs. 1,234, 78%).
- The length of the serious incident reports and the amount of detail within them were variable. Where available, the reports identified common themes of (1) socio-economic adversity, (2) interpersonal problems, (3) physical ill-health, (4) warning signals of recent self-harm and suicidal ideation/intent, and (5) recent contact with services, both drug and alcohol and mental health services.

Clinical messages

1. Eight percent of people who died by suicide in England and Wales had contact with drug and alcohol services in the 12 months prior to death (over 400 deaths per year). Many of those were under the care of these services at the time of their death, suggesting important opportunities for intervention.

2. We identified that suicide by people in contact with drug and alcohol services is often complicated by deprivation and socio-economic adversity. Frontline staff should have the information to signpost people to and encourage engagement with sources of financial support and advice.

3. Reducing excessive alcohol consumption and drug use for those under the care of services and at a population level is a key area for suicide prevention. Training of staff in frontline agencies in assessment and management of alcohol and drug use is crucial. Alcohol misuse may be associated with a particularly high risk of suicide.

4. A quarter of people who died had completed treatment and were reported as being substance free or an occasional user. Services need to be aware of ongoing risk even in those who appear well. Services should signpost people to voluntary services and provide reassurance that they can return to treatment if required.

5. Among people in contact with drug and alcohol services, receiving treatment for mental health needs appeared to be protective. In line with national recommendations, mental health care for people who are using drugs and alcohol needs to be improved. Drug and alcohol services should work jointly with local mental health services to improve care.

6. Just under a third of people were in contact with both drug and alcohol services and mental health services in the 12 months prior to death. Those people had multiple complex needs. Every effort should be made to engage them with both mental health and substance use interventions.

7. Serious incident reports can contain useful information relevant to suicide prevention which is not available on routine databases. However, we found the reports varied in length and detail. Services should consider assessing incident reports against available standards such as our NCISH 10 standards for investigating serious incidents.

8. There is scope for continuing linkage of mortality data and national drug and alcohol treatment data to monitor trends in suicide by people in contact with drug and alcohol services, identify antecedents, and inform suicide prevention initiatives.

Background

Suicide risk is increased in people with drug and/or alcohol dependence or misuse.[3] We have previously reported that 54% of people who died by suicide within 12 months of contact with mental health services in England had a history of drug and/or alcohol misuse. A minority (21%) of these were under the care of specialist drug and alcohol services.[1]

Addressing drug and alcohol use as a factor for suicide prevention is a Government priority,[4] particularly for high-risk groups where drug and alcohol use is known to be a common risk factor for suicide. This includes middle-aged men, who currently have the highest rates of suicide,[5] and young people, in whom rates have been increasing.[6] Policymakers have recognised the importance of service improvement for people who use drugs and alcohol and increased availability of dual diagnosis service provision in order to aid suicide prevention.[2,4,7,8]

In the UK, drug and alcohol services were historically provided by the NHS until the introduction of the Health and Social Care Act in 2012,[9] when the commissioning of drug and alcohol services became the responsibility of local authorities. Following the introduction of this Act, drug and alcohol services in the UK have been significantly reshaped, with third sector organisations playing a greater role than the NHS and specialist mental health care services. Dame Carol Black's 'Review of Drugs', concluded that subsequently, commissioning of these services has become fragmented, oversight of service provision has diminished and there has been a substantial reduction in funding. In addition, the research infrastructure is not fully developed.[2] This has made national investigations of drug and alcohol services challenging to complete, and the rate of suicide in this population is currently unknown. This study aimed to examine factors associated with suicide by people under the care of drug and alcohol services.

Aims of the study

- Establish the number of people in contact with drug and alcohol services in the year prior to suicide.
- Using case-control analysis, compare people who died by suicide with other people in recent contact with services to establish clinical and psychosocial risk factors that may inform suicide prevention.
- Make recommendations for practice to improve safety for people under the care of drug and alcohol services.

How we carried out the study

Report coverage

This report describes findings from a national data linkage of people who died by suicide and had contact with drug and alcohol services in the year before they died. As is conventional in UK national statistics and suicide research, we defined suicides as deaths that received a conclusion of intentional self-harm or undetermined intent at coroner inquest (England and Wales).[10] We report the characteristics of these people and make comparisons with other people who had contact with drug and alcohol drug services to establish factors associated with suicide. We requested serious incident reports, where available, and extracted themes from these investigations. This report is based on deaths by suicide registered in a 12-month period between 1 October 2021 and 30 September 2022.

Other UK nations

Most of the data in this report is based on England with data from Wales combined where available. It was not possible to compare the rate of suicide for England and Wales due to a lack of a comparison denominator. In Scotland, The Drug and Alcohol Information System (DAISy) was established in April 2021. It is therefore too early for information from this dataset to be linked with mortality data for this report sample (deaths recorded between 2021 and 2022), as contact with drug and alcohol services prior to death would occur as early as 2020, pre-dating the DAISy data. We have included some information about Scotland from NCISH patient suicide data in Appendix 1. Data from Northern Ireland were not obtained as the Northern Ireland Substance Misuse Database is still in development.

There were three stages to our study (see Figure 1):

Study 1: linkage of national databases: case series

Data from the National Drug Treatment Monitoring System Dataset (NDTMS) in England and the Welsh National Database for Substance Misuse (WNDSM) were linked, using deterministic and probabilistic linkage, with ONS data on suicide deaths by the Better Outcomes through Linked Data (BOLD) team in England and Digital Health and Care Wales (DHCW). After a pilot phase with Change Grow Live (CGL), which checked the accuracy of the linkage, we agreed a reliable level of probabilistic linkage.[11] See the definitions in Appendix 4 and data sources in Appendix 5 for more information about our linkage process and data.

We have presented our results using frequencies and valid percentages; between-group comparisons were carried out using chi-squared tests, and we used conditional logistic regression to investigate factors most strongly associated with suicide in those in contact with drug and alcohol services.

Rates of suicide

Rates of suicide under drug and alcohol services in England were calculated with the numerator being all people who died by suicide within recent (12 month) contact with services, and the denominator being the number of people in contact with drug and alcohol treatment services in England during the same time period (1st October 2021 to 30th September 2022), provided by NDTMS.[†]

Deprivation

Deprivation scores were derived by linking the last known postcode of residence of the people who had died by suicide to the 2019 Indices of Multiple Deprivation (IMD) via Lower Super Output Areas (LSOAs) using online geography matching tools.[12,13] Deprivation scores were converted into five equal groups (quintiles) ranging from the most deprived to the least deprived, for ease of interpretability.[‡] Postcode of residence was not available for the control group of people who did not die by suicide.

Study 2: Case-control study: Comparison of people who died by suicide in recent contact with drug and alcohol services (cases) and other people in contact with drug and alcohol services (controls)

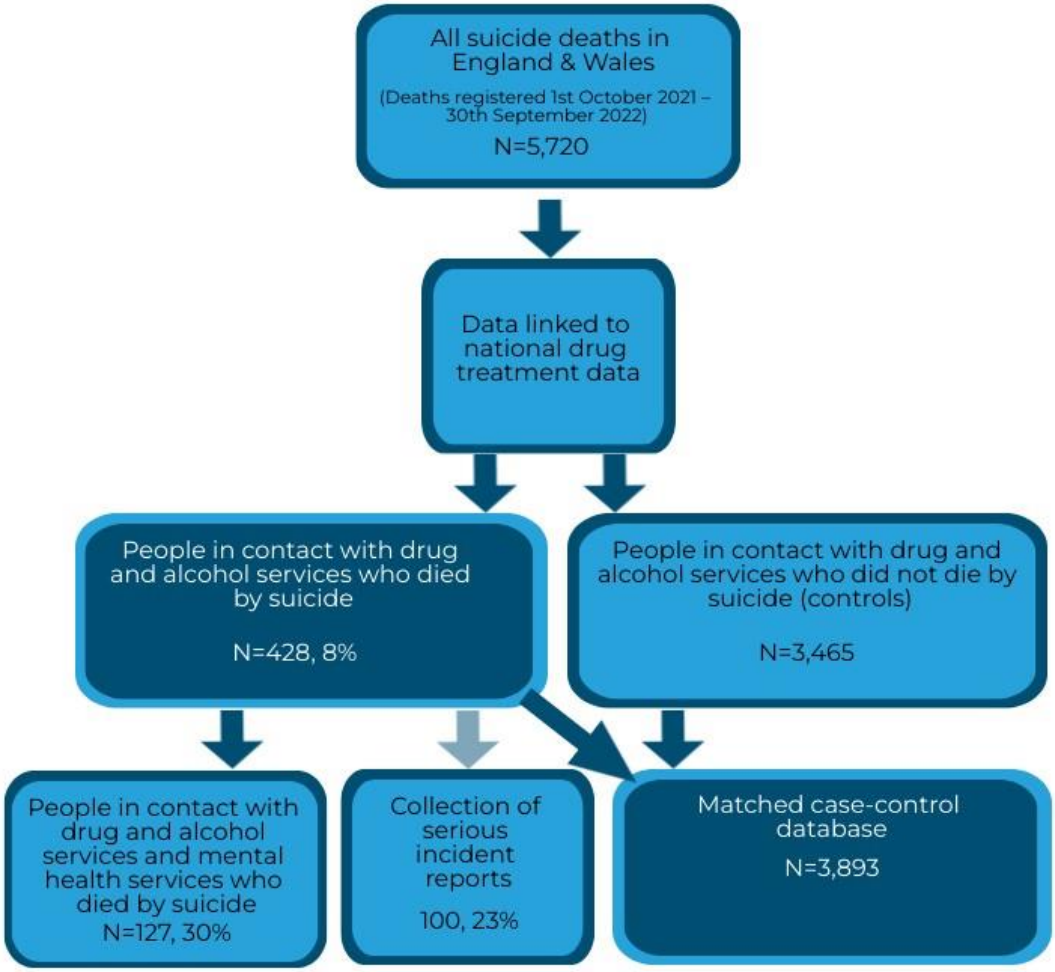
We aimed to match at least 5 controls (i.e., people under the treatment of drug and alcohol services who did not die by suicide) to those who died by suicide who had been under the care of drug and alcohol services in the year prior to death. These were matched on age, sex, and year in treatment from the drug and alcohol treatment databases. This was achieved for 411 (96%) of cases. Both unadjusted and adjusted (for the main substance of use; opiate vs. non-opiate vs. alcohol) results of conditional logistic regression are presented.

Study 3: Collection of serious incident reports

Serious incident reports were requested for suicide deaths from the organisation providing drug and alcohol treatment (NHS or 4 largest third sector providers of care[††]). Where serious incident reports were unavailable, reports to the coroner prepared by drug and alcohol services, which were submitted as evidence during the inquest, were requested from the service. We did not request reports from other third sector providers or charities.

[†] Rates of suicide under drug and alcohol services in Wales were not calculated due to the lack of an appropriate comparison denominator.
[‡] Deprivation scores were available for 96% of people who died by suicide.
[††] Change Grow Live, Kaleidoscope, Turning Point, We Are With You

Figure 1. Flow of data collection



What we found

Study 1: linkage of national databases: case series

Suicide by people in contact with drug and alcohol services

There were 5,720 deaths by suicide in the general population registered in England and Wales between 1st October 2021 and 30th September 2022. Of these, 428 (8%) were by people in contact with drug and alcohol services. The overall rate of suicide of people in contact with drug and alcohol services was 119.2 deaths registered per 100,000 in treatment in drug and alcohol services in England, over ten times higher than the general population suicide rate (10.7 per 100,000 population). In a predominantly male population, the more appropriate comparison might be the general population male rate of 16.2 per 100,000 population, or the rate among middle aged men (23.2 per 100,000 population).

Sex and age

Most people who died by suicide and were in contact with drug and alcohol services were men, a higher ratio than both the ratio of men to women who died by suicide in the general population (3.9:1 vs. 2.7:1) and the ratio of men to women in contact with drug and alcohol services (3.9:1 vs. 2:1)[14] (Table 1, Figure 2). Over half (n=260, 61%) of the deaths in our sample were by people between the age of 35 and 54, similar to the proportion of those in contact with drug and alcohol services (60%).[14] Fifty percent of deaths (213) were men aged 35-54 years.

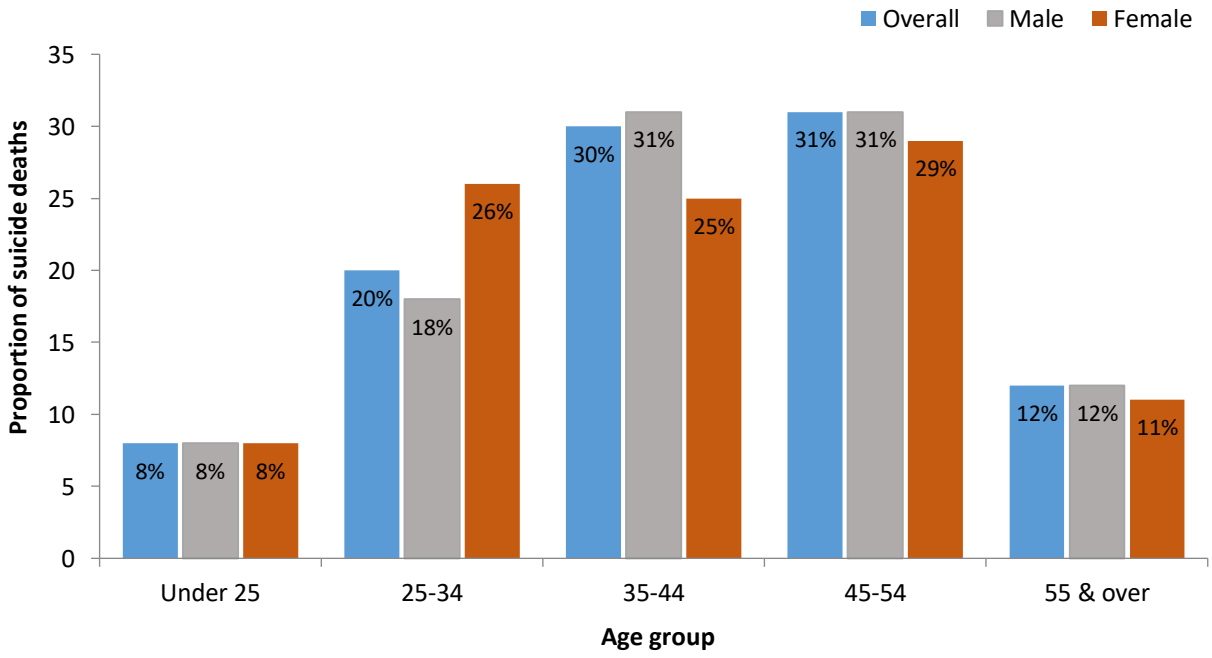
Table 1. Characteristics of people in contact with drug and alcohol services in England and Wales

	N	%
Men	341	80
Age at death		
Under 25	34	8
25-34	84	20
35-44	128	30
45-54	132	31
55 & over	50	12
Ethnic minority	18	4
Unemployed	175	47
Primary substance of misuse		
Alcohol	205	48
Heroin	110	26

Table 1 (continued). Characteristics of people in contact with drug and alcohol services in England and Wales

	N	%
Primary substance of misuse		
Methadone/other opiates	14	3
Crack/cocaine	32	7
Cannabis	26	6
Other drugs	19	4
More than one problem substance	171	40
Ever injected substance	102	26
Interventions		
Any psychosocial	349	82
Any pharmacological	112	26
Any other	6	1
Treatment completed	108	25
Treatment length <1 month	66	15

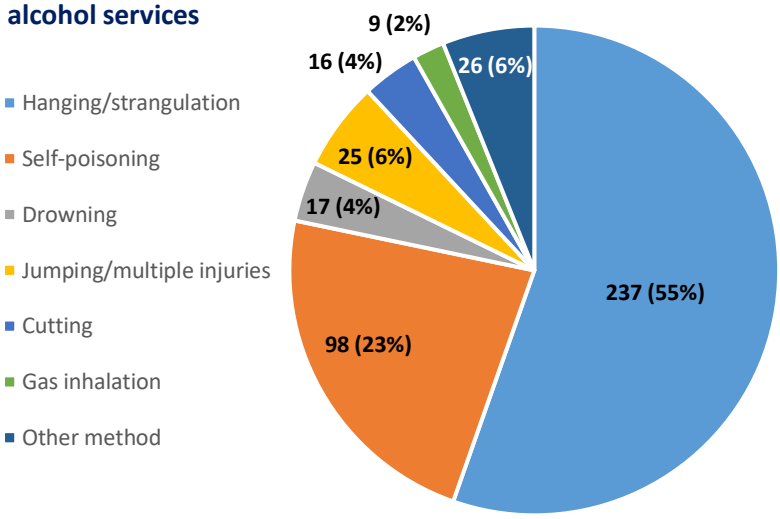
Figure 2. Proportion of suicide deaths in people in contact with drug and alcohol services in England and Wales, by age and sex



Method of suicide

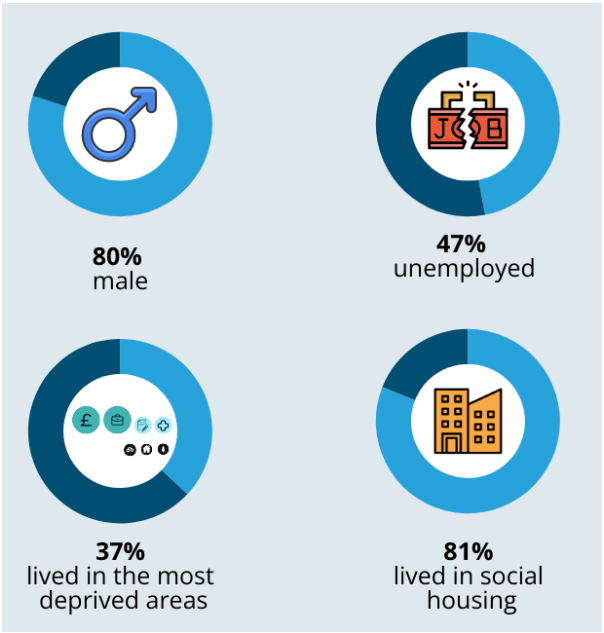
The most common method of suicide was hanging/strangulation, accounting for 55% (n=237) of all suicides by people in contact with drug and alcohol services (Figure 3). The second most common method was self-poisoning (98, 23%). Of the 98 deaths by self-poisoning, the main substance used (where known), was opiates (8, 36%).

Figure 3. Method of suicide by people in contact with drug and alcohol services



Social adversity

Just under half (175, 47%) of people who died by suicide and were in contact with drug and alcohol services in the year prior to death were unemployed. They more often lived in areas of high deprivation, with 140 (34%) of those who died by suicide living in the most deprived areas in England and Wales (see box 1). The majority (282, 81%) of people who had contact with drug and alcohol services in England lived in socially rented housing[†]. This is compared to 17% of the general population.[15]



Box 1. Social features of people in contact with drug and alcohol services who died by suicide in England and Wales

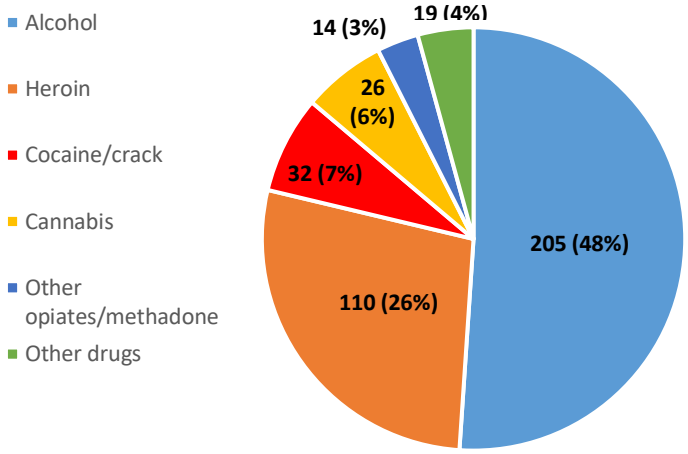
[†] Information unavailable for Wales

Main substances used and treatment

Two-hundred and five (48%) people were using alcohol as the main substance that brought them into contact for their last episode of treatment prior to death and 201 (47%) were using drugs. The most common drugs used were heroin, followed by cocaine/crack cocaine, and cannabis (see Table 1, Figure 4). Forty percent of people using drugs were recorded as using more than one drug. In England, 60 (17%) were using both alcohol and drugs. Six percent of people had injected substances, either at the time of death or historically.

As shown in Table 1, most people in contact had psychological interventions provided by drug and alcohol services in the year prior to death, including motivational interventions, cognitive/behaviour therapy, relapse prevention, and contingency management. A quarter received pharmacological interventions.

Figure 4. The substance that brought the client into treatment for their last treatment episode prior to death



A quarter of people who died by suicide had completed their treatment with drug and alcohol services at the time of death and were said to be substance-free or an occasional user at last contact. 191 (45%) were in contact with drug and alcohol services in the month prior to death with 161 (84%) people still in treatment at the time of death.

Alcohol as primary substance of use

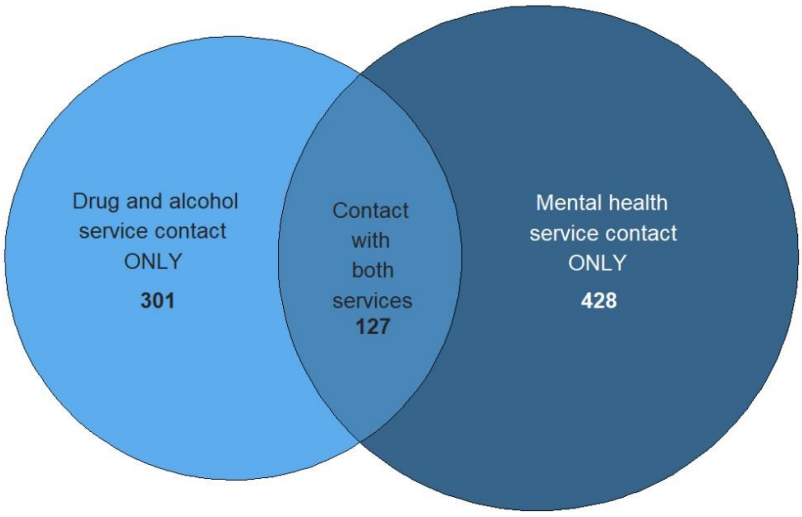
Of the 428 people in contact with drug and alcohol services in England and Wales who died by suicide, 205 (48%; 77% male) were recorded as having alcohol as their primary substance of use when their episode of care began. People who used alcohol as their primary substance of use were more likely than those who used other substances to be older (mean (range) 45 years (18-76 years) vs. 40 years (15-67 years), $p<0.01$), including being more likely to be 55 and over (35, 17% vs. 11, 6%). They were less likely to be unemployed when compared to people who used drugs as their main substance, though unemployment remained high (76, 40% vs. 100, 54%). Forty-three (21%) were using an additional secondary substance. They were more likely to have completed their episode of treatment at the time of death (65, 32% vs. 43, 19%). In England, they were more likely to be on their first episode of treatment (92, 53% vs. 59, 33%, $p<0.01$) compared to people who used other substances.

People in contact with both drug and alcohol and mental health services

Of the 428 people in contact with drug and alcohol services who died by suicide in the 12-month study period, 127 (30%) had also been in contact with mental health services in the 12 months prior to their death (Figure 5). For these patients we were able to extract additional information on their clinical and behavioural characteristics from the NCISH questionnaire which is completed by the clinician responsible for the patient's care.[16] Ninety-five (75%) of these 127 patients were male, and most were aged between 35 and 44 (38, 30%).

The most common primary diagnosis was affective disorder (27, 22%), followed by personality disorder (25, 20%). Eighty-seven (76%) had a history of self-harm, including 41 (43%) who had recently self-harmed (within 3 months of death). Six (4%) were in-patients at the time of death; 9 (8%) had been recently discharged from in-patient care. Fifteen (12%) were under the care of crisis resolution/home treatment teams (CRHT). Twenty-two (20%) had missed their last appointment with mental health services and 15 (14%) had not taken medication as prescribed. Seventy-eight (61%) were seen by mental health services in the month prior to death and 54 (43%) were seen by drug and alcohol services in the month prior to death.

Figure 5. Number of people who died by suicide who were in contact with drug and alcohol services, the number of patients who were in contact with secondary mental health services and are known to use drugs and alcohol and the overlap between the two in England and Wales (deaths registered 1st October 2021 to 30th September 2022)[†].



[†] These numbers are likely to be an underestimate due to mental health patient data being incomplete for 2022

Study 2: Case-control study: Comparison of people who died by suicide in recent contact with drug and alcohol services (cases) and other people in contact with drug and alcohol services (controls)

We matched the 428 people who died by suicide within recent (12 month) contact with drug and alcohol services (cases) to 3,465 controls (people who were in contact with drug and alcohol services at the same time and were alive on the date that their matched case died). Eighty-seven (20%) were women; we ran a case-control analysis for these women, and a separate case-control analysis for men. We found that the variables that remained significant for women and men were similar. Therefore, the following findings relate to the whole sample.

Socio-demographic characteristics

Table 2 shows the socio-demographic characteristics. Compared to controls, people who died by suicide were less likely to be from an ethnic minority group. Proportions of those who were unemployed and living in socially rented housing were high and was the same for people in contact with drug and alcohol services who died by suicide and controls. People who died by suicide in England were more likely to have a disability including any behavioural/emotional disability when compared to controls[†].

Care characteristics

Table 3 shows the care characteristics. Compared to controls, people who died by suicide were more than twice as likely to have alcohol recorded as their primary substance of use at the start of their current treatment episode and less likely to be using heroin. People who died by suicide were more likely to be receiving psychosocial interventions from drug and alcohol services in the year prior to death. They were less likely to have completed treatment at the time of death[‡]. They were also more likely to have been in treatment for less than a month than controls. Of the 66 people in England with a behavioural/emotional disability[††], 37 (56%) were receiving treatment for their identified unmet mental health need[†]. People who died by suicide were significantly less likely than controls to be receiving treatment for their unmet mental health need[†].

[†] This information is unavailable in Wales
[‡] Substance free or as an occasional user
[††] This is based on self report to services

When adjusted for the primary substance used (alcohol vs. opiates vs. non-opiates), all factors but polysubstance misuse and length of treatment remained significant (see Table 2 and Table 3).

Table 2. Socio-demographic characteristics of cases and controls.

	Cases (n=428)	Controls (n=3,465)	OR (95% CI)	OR (95% CI) Adjusted for main substance used (alcohol/opiates/ non-opiates)
Age at triage[1]				
<25	26 (7%)	233 (8%)	0.44 (0.20-1.00)	0.44 (0.19-1.02)
25-34	81 (23%)	725 (23%)	0.78 (0.52-1.16)	0.94 (0.62-1.42)
35-44	104 (30%)	1171 (38%)	0.63 (0.46-0.86)*	0.71 (0.51-0.99)
45-54	101 (29%)	759 (25%)	1.86 (1.28-2.71)*	1.47 (1.00-2.17)
55+	39 (11%)	204 (7%)	7.20 (2.96-17.05)*	4.58 (1.85-11.34)*
Living in social housing^	282 (81%)	2370 (78%)	1.21 (0.89-1.65)	1.01 (0.74-1.38)
Long-term sick^	94 (28%)	740 (26%)	1.16 (0.88-1.53)	1.30 (0.98-1.71)
Ethnic minority	18 (4%)	296 (9%)	0.47 (0.28-0.78)*	0.47 (0.28-0.79)*
Unemployed	175 (47%)	1,386 (46%)	0.96 (0.76-1.22)	1.16 (0.91-1.48)
Any disability^	109 (31%)	624 (20%)	1.84 (1.42-2.38)*	1.58 (1.22-2.06)*
Any behavioural/ emotional disability^	66 (19%)	314 (10%)	2.12 (1.56-2.89)*	1.83 (1.34-2.50)*
Any physical disability^	43 (12%)	375 (12%)	0.97 (0.68-1.39)	0.86 (0.60-1.24)

* Statistically significant (p=0.01); ^ Data not available in Wales

Table 3. Care characteristics of cases and controls.

	Cases (n=428)	Controls (n=3,465)	OR (95% CI)	OR (95% CI) Adjusted for main substance used (alcohol/opiates/ non-opiates)
Primary substance used				
Alcohol	205 (48%)	870 (25%)	2.77 (2.22-3.45)*	-
Heroin	110 (26%)	1,789 (52%)	0.33 (0.25-0.42)*	-
Methadone/other opiates	14 (3%)	222 (6%)	0.49 (0.28-0.88)	-
Crack/cocaine	32 (7%)	178 (5%)	1.33 (0.89-1.99)	-
Cannabis	26 (6%)	190 (5%)	0.89 (0.55-1.42)	-
Other drugs	19 (4%)	73 (2%)	1.93 (1.13-3.30)	-
More than one problem substance	171 (40%)	1,838 (53%)	0.63 (0.50-0.79)*	0.98 (0.76-1.26)
Ever injected substance	102 (26%)	1335 (42%)	0.50 (0.38-0.64)*	1.06 (0.77-1.46)

* Statistically significant (p=0.01); ^Data not available in Wales

Table 3 (continued). Care characteristics of cases and controls.

	Cases (n=428)	Controls (n=3,465)	OR (95% CI)	OR (95% CI) Adjusted for main substance used (alcohol/opiates/ non-opiates)
Interventions				
Any psychosocial	349 (82%)	2,113 (61%)	2.61 (2.02-3.37)*	2.27 (1.68-3.08)*
Any pharmacological	112 (26%)	1,171 (34%)	0.85 (0.67-1.07)	1.48 (1.13-1.94)*
Any other	6 (1%)	59 (2%)	0.72 (0.30-1.73)	0.56 (0.22-1.39)
Client receiving treatment for their mental health need^	154 (44%)	1,233 (78%)	0.16 (0.11-0.21)*	0.17 (0.12-0.23)*
Treatment completed	108 (25%)	801 (33%)	0.60 (0.47-0.77)*	0.45 (0.35-0.59)*
Treatment length <1 month	66 (15%)	300 (9%)	1.68 (1.22-2.30)*	1.38 (0.97-1.97)

* Statistically significant (p=0.01); ^Data not available in Wales

Study 3: Collection of serious incident reports

We obtained 100 serious incident reports on people who had died by suicide within recent contact with drug and alcohol services, 34 from NHS-providers and 66 from one of the four larger third sector organisations[†]. Most (87, 87%) had contact with drug or alcohol services in the 3 months prior to death, including 35 (35%) who were seen within a week prior to death.

Serious Incident Investigations have an important role to play in improving safety in services. We examined the variability of the reports we obtained from NHS and third sector organisations. The length of reports and the detail contained within them varied both between services and internally, with different emphasis in different sections (e.g., detailed chronology), and some reports completed using standardised forms, which had varying degrees of missing data. The shortest incident report obtained was 2 pages and the longest 43 pages (median length 9 pages). The new Patient Safety Incident Response Framework (PSIRF), implemented from September 2022, may reduce this variability in the NHS as part of developing and maintaining effective NHS systems and processes for responding to patient safety incidents.[17]

The purpose of looking at these reports was to gain a more in-depth understanding of the immediate antecedents to suicide in a sample of people in contact with drug and alcohol services, as drug and alcohol service databases are not designed to capture this level of detail. We identified some important themes:

Recent adversity

There was evidence of recent socio-economic adversities; 14 (14%) of the reports cited social isolation, 22 (22%) accommodation problems (23, 23%), which included homelessness (13, 13%).

Interpersonal adversities were common, relating to relationship and family problems (9, 9%), and issues of personal safety and violence; 10 reports (10%) referring to being a victim of violence, and 12 (12%) citing violence as a perpetrator.

Physical ill-health was frequently mentioned in the reports, both chronic (37, 37%) and acute (27, 27%).

[†] Change Grow Live, Kaleidoscope, Turning Point, We Are With You

Warning signals

Sixty-six (66%) had a history of self-harm noted in the reports. In 21 (32%) the most recent episode of self-harm had occurred in the 3 months prior to death, including 4 (6%) occurring in the week before death. Sixty-three (63%) were described as having expressed suicidal ideation and/or suicidal intent, including 57 in the year prior to death.

Thirty-four (34%) people had their last contact with drug and alcohol services in the month prior to death; 25 (25%) in the week prior to death and 10 (10%) on the day of death. These last contacts were mostly over the phone (60, 60%) and most were routine/non-urgent in nature (47, 78%). Evident at last contact were; increased use of alcohol/drugs (19, 19%); depression (17,17%) and anxiety (13, 13%). Thirty-two (32%) people missed their last contact with drug and alcohol services. At the time of death, 8 (8%) people were on the waiting list for detoxification and 8 (8%) for other treatment.

Forty-seven (47%) were known to be in contact with mental health services, of whom 77% (36) were known to be in contact within the 3 months prior to death. In 29 (62%) cases, there had been contact between professionals working in mental health and drug and alcohol services, although the detail of this contact between professionals was unknown.

Summary of findings

This study examined suicide by people in contact with drug and alcohol services over a one-year period. Our findings describe the characteristics of these people, details relating to their care, as well as presenting a matched case-control analysis identifying factors associated with suicide. To our knowledge, this is the first study in England and Wales to establish the number and rate of people who die by suicide within 12 months of contact with drug and alcohol services.

Suicide by people in contact with drug and alcohol services

We identified that 428 people who died by suicide in England and Wales had contact with drug and alcohol services within 12 months of death; 8% of all suicides, a rate of 119.2 deaths per 100,000 people in treatment (England). Most of the people who died were men (341, 80%); half (213, 50%) were men aged 35-54 years.

Economic adversity was common. Almost half (175, 47%) of people were unemployed, and most (282, 81%) lived in social housing. Over a third (140, 34%) lived in the 20% most deprived areas.

Main substance used and treatment

In almost half (48%), the primary substance identified at the start of their treatment episode was alcohol; this group were older than those using other substances. 40% of people who died by suicide had more than one substance identified as a problem substance. The majority (349, 82%) of people who died by suicide within recent contact with drug and alcohol services had received psychosocial interventions. One hundred and eight people (25%) had completed treatment with these services, and at last contact were recorded as being substance free or an occasional user. Just under half (191, 45%) had contact with drug and alcohol services in the month before their death. One hundred and sixty-one people (38%) remained in treatment with services at the time of death.

Just under a third of people in contact with drug and alcohol services (127, 30%) also had contact with mental health services in the previous 12 months. These people had high rates of self-harm (76%), including recent self-harm in the 3 months prior to death (43%). 20% of these people had missed their last contact with mental health services, and 14% were not adherent with prescribed medication. Our findings add to the evidence that only a minority of mental health patients who die by suicide are also in contact with specialist drug and alcohol services.[3]

Case-control analysis

Our analysis identified high rates of social adversity - including living in socially rented housing and unemployment - among people who died by suicide, and among other people in contact with drug and alcohol services. More people who died by suicide (205, 48% vs. 874, 25%) used alcohol as the main substance compared to those who did not die. They were more likely to have been in treatment for less than a month, and less likely to have been receiving treatment for a mental health need (154, 44% vs. 1,234, 78%) when compared to those in contact who did not die.

Serious incident reports

We extracted information from 100 serious incident reports and identified common themes of (1) socio-economic adversity, (2) interpersonal problems, (3) physical ill-health, (4) warning signals of recent self-harm and suicidal ideation/intent, and (5) recent contact with services. The length of reports and the detail within them varied between and within services.

What this study cannot tell us

- These findings are aggregated for England and Wales and findings may be driven by the larger number of deaths in England. Findings may not apply to Scotland and Northern Ireland.
- We do not have any information about what happened in the period between the last recorded contact and death, i.e., whether the person relapsed.
- The NDTMS and WNDSM databases were set up for national drug and alcohol treatment monitoring and not specifically for this study. The databases do not include all people with drug and alcohol problems but do include all those in contact with local authority commissioned services. Some information which may have been of particular interest (e.g., last contact, intervention, all contact with primary care) was not available in the data sources.
- We acknowledge that probabilistic linkage is an estimate of the number of people in contact with drug and alcohol services who died by suicide, although we cross-checked the results of probabilistic linkage with the largest third sector provider and found high levels of agreement.
- It was not an aim of this study to obtain copies of serious incident reports on all deaths but overall, there were few systematic differences in cases with and without reports. Within the reports, where a particular factor was not mentioned we assumed it was unlikely to have been present. This may have led to the underestimation of some antecedents.

Clinical messages

1. Eight percent of people who died by suicide in England and Wales had contact with drug and alcohol services in the 12 months prior to death (over 400 deaths per year). Many of those were under the care of these services at the time of their death, suggesting important opportunities for intervention.

2. We identified that suicide by people in contact with drug and alcohol services is often complicated by deprivation and socio-economic adversity. Frontline staff should have the information to signpost people to and encourage engagement with sources of financial support and advice.

3. Reducing excessive alcohol consumption and drug use for those under the care of services and at a population level is a key area for suicide prevention. Training of staff in frontline agencies in assessment and management of alcohol and drug use is crucial. Alcohol misuse may be associated with a particularly high risk of suicide.

4. A quarter of people who died had completed treatment and were reported as being substance free or an occasional user. Services need to be aware of ongoing risk even in those who appear well. Services should signpost people to voluntary services and provide reassurance that they can return to treatment if required.

5. Among people in contact with drug and alcohol services, receiving treatment for mental health needs appeared to be protective. In line with national recommendations, mental health care for people who are using drugs and alcohol needs to be improved. Drug and alcohol services should work jointly with local mental health services to improve care.

6. Just under a third of people were in contact with both drug and alcohol services and mental health services in the 12 months prior to death. Those people had multiple complex needs. Every effort should be made to engage them with both mental health and substance use interventions.

7. Serious incident reports can contain useful information relevant to suicide prevention which is not available on routine databases. However, we found the reports varied in length and detail. Services should consider assessing incident reports against available standards such as our NCISH 10 standards for investigating serious incidents.

8. There is scope for continuing linkage of mortality data and national drug and alcohol treatment data to monitor trends in suicide by people in contact with drug and alcohol services, identify antecedents, and inform suicide prevention initiatives.

Ethical approval

Approvals were received from the University of Manchester Research Governance and Ethics; National Research Ethics Service (NRES) Committee London – Surrey Borders Research Ethics Committee (22/LO/0362); Health Research Authority Confidential Advisory Group (HRA-CAG) (22/LO/0362); and Research Management and Governance approvals from individual NHS Trusts and Health Boards in England and Wales; Research Ethics from third sector organisations in England and Wales.

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Appendices

Appendix 1. People with a history of drug or alcohol misuse who died by suicide within recent (12 month) contact with mental health services in Scotland

The National Records of Scotland (NRS) notify NCISH of deaths by suicide/undetermined deaths quarterly and NCISH obtain patient data on these deaths. There were 162 patient deaths in Scotland in 2021, 14% of those who died by suicide during this time period (N=1,123). Of these, 100 (68%) had a history of alcohol or drug use (alcohol use, n=81, 58%; drug use, n=69, 45%). This includes 50 (36%) patients who were using alcohol and 42 (30%) patients who were using drugs in the 3 months prior to death. Thirty-nine patients (24%) were known to be in contact with alcohol or drug services at the time of death.

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Appendix 3. Study Consultants

Name	Affiliation
Nic Baker	Change Grow Live
Lee Barnsdale*	Information Services Division Scotland
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Appendix 4. Definitions

Behavioural/emotional disability*	Whether the client considers themselves to have a disability. Should be used where the client has times when they lack control over their feelings or actions.
BOLD	BOLD (Better Outcomes through Linked Data) is a government data-linking programme which aims to improve the connectedness of government data in England and Wales.
Contact with mental health services^	Contact with adult mental health services, including crisis resolution home treatment (CRHT) services, IAPT, assertive outreach services, and NHS-based drug and/or alcohol services.
Deterministic linkage	Deterministic linkage is defined by a clear set of rules. In this project individuals on NDTMS/WNDSM and NCISH data were checked for the same set of initials, date of birth, sex and partial postcode. Where a pair of records exist across the 2 data sets, our interpretation is that these are the same individuals.
Ethnic minority*	"Ethnic minorities" is used to refer to all ethnic groups except the White British group, in line with ONS guidance. This information is provided by the client.
Contact in the month before death^	Contact in the month before death is estimated from the length of time between the last noted appointment/discharge recorded and the date of death.
Controls	People who were in contact with drug and alcohol services at the same time, and were alive on the date that their matched case died by suicide.
Primary/main substance of use*	The substance that brought the client into treatment at the point of triage/initial assessment during that treatment episode, even if they are no longer actively using this substance as their treatment progresses.
Probabilistic linkage	Probabilistic linkage is a more flexible approach that can lead to a higher linkage rate than deterministic linkage. Linkage is 'probabilistic' in the sense that it subject to uncertainty and relies on the balance of evidence. In this project individuals on NDTMS/WNDSM and NCISH data were checked for the same set of initials, date of birth, sex and partial postcode. Researchers then quantified the probability that a pair of records referred to the same person by considering evidence in favour and against a match and weighting it appropriately. This identified records from each dataset with a high likelihood of referring to the same person (i.e., people who matched on initials, date of birth, sex but only matched the first two characters of postcode).
Psychosocial interventions*	Includes a wide range of interventions provided by drug and alcohol services. Examples include motivational interventions, contingency management, family and social network interventions, CBT relapse prevention, psychodynamic therapy, 12 step work, IAPT for coexisting mental health disorders, and counselling.
Pharmacological interventions*	Examples include managing physiological dependence and facilitating medically assisted withdrawal and to managing withdrawal symptoms.

*definition from drug and alcohol database ^definition from NCISH case series

Appendix 4 (continued). Definitions

Receiving treatment for mental health need*	Completed by front line treatment service staff and self-reported by client to record whether they are receiving treatment for their mental health needs. This could include pharmacological and/or talking therapies/psychosocial/primary care support rather than specific contact with a secondary mental health team. See NDTMS website for further information.
Secondary/tertiary substance*	Additional substances that brought the client into treatment at the point of triage/initial assessment during that treatment episode, even if they are no longer actively using this substance.
Socially rented housing	Socially rented through a local council or housing association.
Treatment complete*	The client no longer requires structured drug (or alcohol if an alcohol client) treatment interventions and is judged by the clinician not to be using heroin (or any other opioid, prescribed or otherwise) or crack cocaine. In some cases clients may be discharged 'treatment completed' while there is evidence of use of other illicit drug use but this is not judged to be problematic or to require treatment for any other illicit drug. This variable does not include people who disengaged with treatment.
Treatment episode*	A treatment episode includes time spent in treatment at one provider, where they record one triage date and one discharge date but can (and in most circumstances will) include multiple treatment interventions.
Treatment journey*	A treatment journey consists of one or more episodes of structured treatment, at one or more providers, where there has been less than 21 days break between treatment episodes. A treatment journey ends once a client has been exited entirely from structured drug/alcohol treatment once all structured interventions and the episode have been closed. A client may be discharged from one provider but if they continue structured treatment (within 21 days of discharge) at another provider, their NDTMS treatment journey is continued. Multiple treatment episodes make up a treatment journey.

Appendix 5. Data sources

Office for National Statistics (ONS)

ONS collect, analyse and disseminate official statistics, including mortality data for England and Wales. ONS inform NCISH of all deaths by suicide. More detailed information, including the type of data held, can be found on the ONS website.

National Drug Treatment Monitoring System Dataset (NDTMS)

The Office for Health Improvement and Disparities (OHID) collect data from treatment providers on people receiving treatment for drug and alcohol use where consent has been given. The data are held by the NDTMS and include sociodemographic characteristics, details of their treatment and treatment outcomes. A full description of the methodology is available via the NDTMS website.

The Welsh National Database for Substance Misuse (WNDSM)

Digital Health and Care Wales (DHCW) collect data from treatment providers and people referred for treatment for alcohol or drug use where consent has been given. The data are held by the WNDSM and include sociodemographic characteristics of people in contact with treatment providers, as well as details of their treatment and treatment outcomes. A full description of the methodology is available via the DHCW website.

Serious incident reports

Serious incident reports (or critical incident review, significant adverse incident report, or clinical review reports, referred to as serious incident reports throughout) describe internal investigations of patient deaths, including the contributory factors leading to death, and make recommendations for future prevention.