CALDERDALE SUICIDE AUDIT: 2016-2018

Created as part of the Bradford, Calderdale, and Kirklees Joint Suicide Audit: 2016-2018

Document Information

Version History:

Version	Purpose
1.0 Generic Draft	Draft Methods
1.1 Generic Draft	Methods Feedback
2.0 Generic Draft	Early Draft
3.0 Generic Report	Consultation version
4.0 Calderdale Report	Consultation version
4.1 Calderdale Report	Update to 2020 PHE Suicide Date

Authors and Acknowledgements

Author of Report

Richard James, Public Health Registrar (Richard.james@kirklees.gov, Richard.James14@nhs.net)

On behalf of Kirklees Public Health Directorate, Kirklees Council.

Auditors

Bradford representative: Kate Varley, CCG Quality Lead

Calderdale representative: Caron Walker, Consultant in Public Health

Kirklees representative: Richard James, Public Health Registrar

Acknowledgements

Thanks to HM Coroner Martin Fleming, Marian Connelly and the staff and the Coroner's office for their assistance and support with the data collection.

Thanks to Jill Longbottom and the staff at Birksland archive for their help in accessing inquest files.

Thanks to the following for their help in organising and carrying out the suicide audit.

Caron Walker, Consultant in Public Health, Calderdale Council

Duncan Cooper, Consultant in Public Health, Bradford Council

Emily Parry-Harries, Consultant in Public Health, Kirklees Council

Rebecca Elliott, Mental Health Theme Lead, Public Health Manager, Kirklees Council

Sharni Athwal, Health Improvement Practitioner Specialist, Kirklees Council

Contents

List of Figures

List of Tables

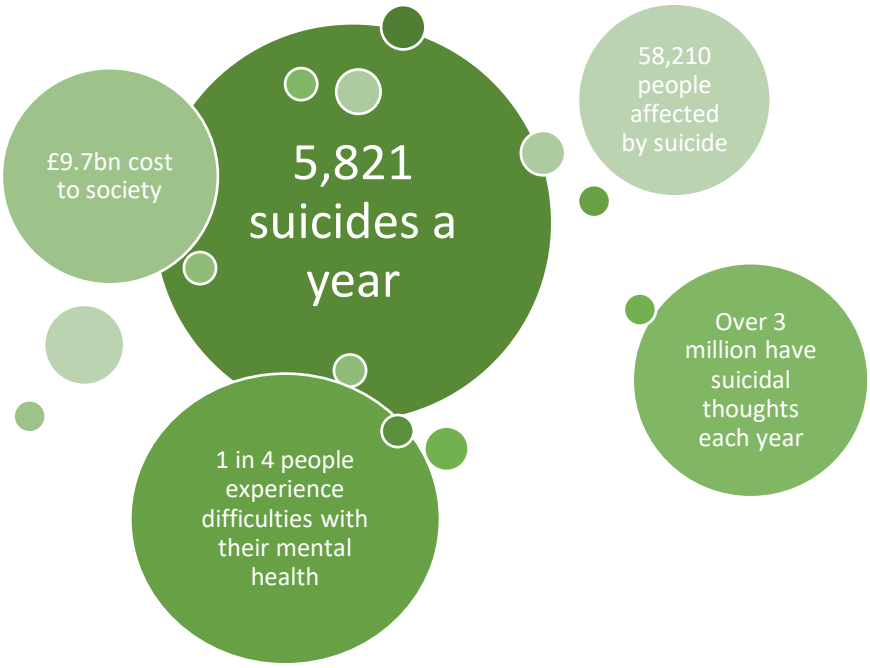
CALDERDALE SUICIDE AUDIT 2016-2018: HIGH-LEVEL SUMMARY

Background

Suicide has a far-reaching and long-lasting impact on individuals, families, and communities. Throughout England the rate of suicide in 2017-2019 was 10.1 deaths per 100,000 people[1]. Unfortunately, this only represents the tip of the iceberg (figure 1). Not all suicides are reported, each suicide affects more than just the life of the individual involved, and these suicide figures do not include the many individuals who attempt suicide without losing their lives. Suicide and attempted suicide are crisis points, but an estimated 5% of the populations have suicidal thoughts each year, whilst a further 25% of the population experience difficulties with their mental health.

Although anyone can be affected by such a tragedy, the weight of burden is not spread evenly across society. Individual, community and societal risk factors affect those who are socio-economically deprived disproportionately to such a degree that those living with the most socio-economic deprivation are ten times more likely to die from suicide as those living with the least[2].

Figure 1: The impact of suicide (extrapolations from ONS data)



To aid in achieving the goal of reduced incidence and inequality, the Government's 2012 suicide prevention cross-Governmental outcomes strategy highlighted the need to focus on six key objectives [3]:

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

This has since been updated and reviewed, with focus on addressing self-harm, providing support to those affected by suicide, and using local suicide prevention action plans[4,5]. To aid in the creation of suicide prevention action plans, as well as to meet the cross-Governmental outcomes strategy's goal of supporting data collection, PHE and the All-Party Parliamentary Group on suicide and self-harm prevention recommend suicide audits are carried out within local authorities to aid in the creation of local suicide action plans[6,7].

The suicide rate (age-adjusted deaths from suicide per 100,000) in Calderdale (14.8) is above both the national (10.1) and regional (12.0) average[1]. Calderdale, and the other authorities involved in the audit

(Bradford and Kirklees) have carried out previous suicide audits, providing recommendations that have influenced the creation of their respective suicide prevention strategies. The data collected in these audits ranged from 2011-2015 (the most recent Calderdale audit was 2012-2014) and is now in need of updating through further audit if it is to guide future suicide prevention action plans[8]. The need for good audit data to support suicide prevention is well established, of the 84% of local authorities that have carried out an audit 95% found them useful in directing strategy (100% in West Yorkshire and the Humber). Given that Bradford, Calderdale, and Kirklees share a coroner, the audit was carried out as a joint project, reducing the capacity required from each council, and allowing provision of authority specific data as well as combined narratives for less common outcomes.

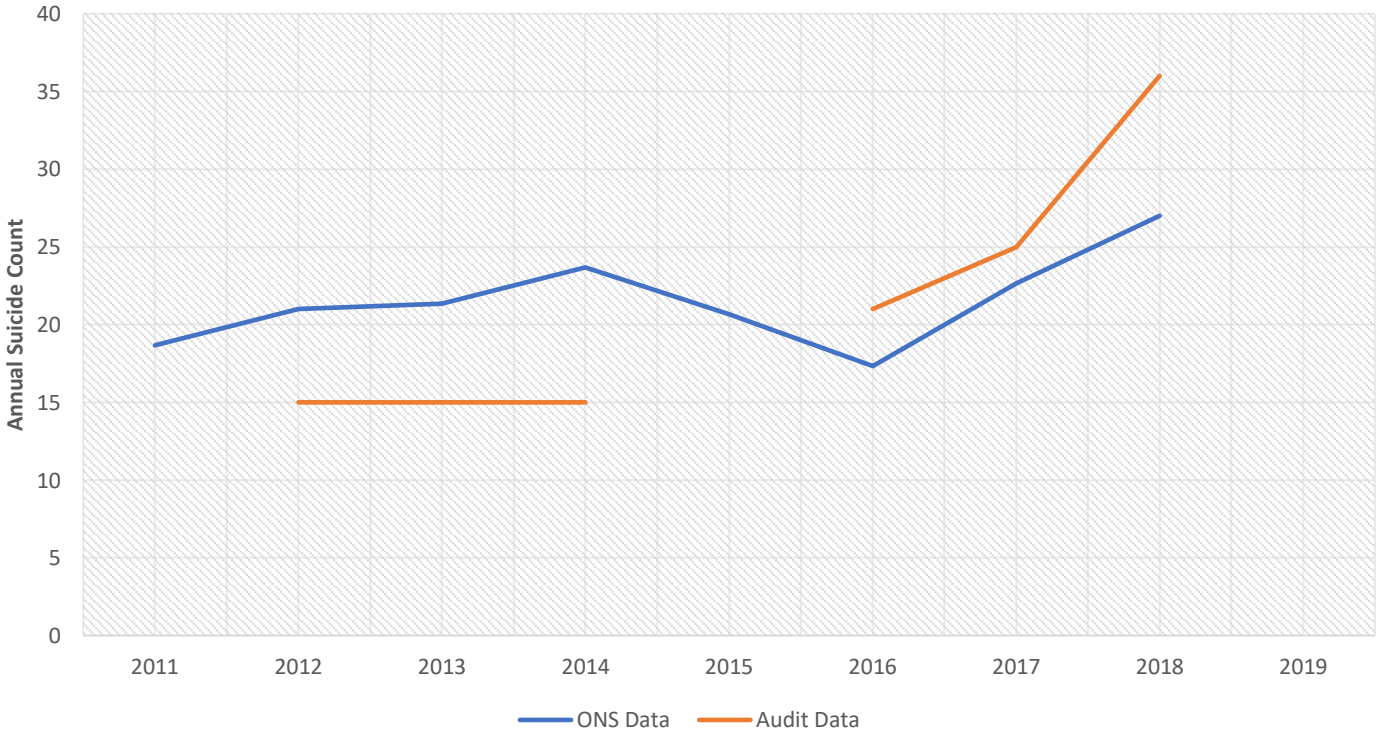
Methods

Data was collected by officers from all three local authorities, working with HM Coroner's office and archive in Bradford over two phases. The first phase involved the review of all Coroner's inquests with a verdict of "killed self" and "suicide". The second involved the review of all other inquests with alternate verdicts in which on the balance of probability, auditors determined suicide could have been the cause of death. Indicators were collected from the inquests based on each local authority's previous audit methodology, and on current strategy, local concerns, and recent literature. Information governance and Caldecott principals were considered throughout, with all data collected being thoroughly justified and suppressed where appropriate.

Local Findings

The suicide rate is much higher than in the 2012-2014 audit, this is most likely due to alterations in audit scope. The audit does suggest that locally, ONS figures may be underestimating suicide rate, especially amongst females[1].

Figure 2: Comparison of ONS and Audit Suicide Incidence in Calderdale.



Demographics

- Around two thirds of suicides occur in men, and a third in females, with most being heterosexual. However, less predominant genders and sexualities remain at risk of suicide.
- Most people who die from suicide in Calderdale were born in Calderdale, although recent international migrants are also well represented.
- Most people are White British, although this does not diminish the risk of suicide in BAME populations.
- A much higher proportion of the audit are unemployed than the general population in Calderdale, of those in employment, low-wage, skilled-manual, and self-employed work seems especially well represented.
- Most people live alone, and are single, however there is a wide spread of housing and marital statuses represented within the audit.

Risk Factors

- The most common adverse life events acting as antecedents to suicide included relationship difficulties, bereavement, illness, social isolation, debt, and work difficulties.
- Most individuals audited had a diagnosed mental health condition, most commonly depression, but anxiety, addiction, insomnia, and psychotic disorders also prevalent. Fewer had physical health diagnoses, the most common being long term conditions such as hypertension.
- Alcohol and substance abuse are common, with cocaine, cannabis, and opioid use being the most prevalent. Around half of people had drugs and/or alcohol at non-fatal levels on post-mortem toxicology.
- Around a quarter of those who died from suicide had a history of self-harm, and a third had a history of attempted suicide.
- A history of adverse events in childhood, although difficult to obtain, also appears as an emerging and important theme.

Access

- Most suicides take place within the home, around a third occur in public places, most often parks, woods, and bridges. Individuals usually walk or drive their own vehicle to these destinations.
- Around half of people hung themselves, usually with a rope, belt or other item of clothing, or cable, around a quarter poisoned themselves, usually with prescription medication (most commonly antiarrhythmics, antidepressants, antipsychotics, and analgesics).
- Most people were in contact with services prior to their suicide, with primary care and mental health services having the greatest access.
- Nearly a third of people reached out to share their intentions before enaction on suicidal ideations, slightly more left a note following the act.

Table 1: Summary of Calderdale audit findings in comparison with the previous audit.

Findings	Calderdale 2012-2014	Calderdale 2016-2018	BCK Average 2016-2018
Male:Female ratio	80:20	65:35	75:25
Mean age	49	42.8	44.5
Modal method	Hanging	Hanging	Hanging
Public Location	31%	31.7%	24.6%
Diagnosed mental Illness	51% (depression only)	78.0% (58.5% Depression)	76.0% (59.0% Depression)
Previously Attempted Suicide	-	33.0%	40.4%
Modal recent life event	Relationship Issue	Relationships	Relationships
Modal living Arrangement	Alone	Alone	Alone
Modal Marital Status	Alone	Single	Single
Drugs/Alcohol used	38% (history of use)	35.4% Alcohol (history) 25.6% Drugs (history) 43.9% Either/Or	30.0% Alcohol (history) 29.8% Drugs (history) 45.5% Either/Or
Primary care contact	29% (last 1 month)	34.2% (last 1 month)	33.8% (last 1 month)

Combined Results

The greatest value of the combined results comes from the discussion of quantitative and qualitative data around less frequent variables, which are detailed in the full report. The following provides a brief comparison of key trends as identified in authority's previous audits.

Table 2: Summary of unadjusted suicide rates 2016-2018

Year	2016	2017	2018	Overall Suicide Rate
Bradford	47	45	47	8.8 per 100,000
Calderdale	21	25	36	13.2 per 100,000
Kirklees	46	34	39	9.1 per 100,000

Table 3: Summary of key findings

	Bradford 2013-2015	Bradford 2016-2018	Calderdale 2012-2014	Calderdale 2016-2018	Kirklees 2011-2013	Kirklees 2016-2018	Joint 2016-2018
Male:Female Ratio	78:22	78:22	80:20	65:35	74:26	78:22	75:25
Mean age	40-49	45.8	49	42.8	30-39	44.3	44.5
Modal method	Hanging	Hanging	Hanging	Hanging	Hanging	Hanging	Hanging
Public Location	22%	22.3%	31%	31.7%	9%	21.0%	24.6%
MH Diagnosis	57%	75.5% (61.9% Depression)	- (51% Depression)	78.0% MH (58.5% Depression)	-	71.4% (58.0% Depression)	76.0% (59.0% Depression)
MH Services	-	55.4%	-	47.6%	47%	50.4%	52.4%
Previously Attempted Suicide	32%	46.7%	-	33.0%	32% (last 12 months)	21.0% (last 12 months)	40.4%
Modal recent life event	Family Difficulties	Relationships	Relationship Issue	Relationships	Relationship Difficulties	Relationships	Relationships
Modal living Arrangement	Alone	Alone	Alone	Alone	Alone	Alone	Alone
Modal Marital Status	Alone	Single	Alone	Single	Alone	Single	Single
Drugs/Alcohol at PM	50%	30.9% Alcohol 36.7% Drugs 53.2% Total	-	41.4% Alcohol 26.8% Drugs 53.6% Total	-	33.6% Alcohol 29.4% Drugs 43.9% Total	33.9% Alcohol 31.6% Drugs 51.7% Total
Drugs/Alcohol History	-	29.5% Alcohol 32.4% Drugs 48.2% Total	38%	35.4% Alcohol 25.6% Drugs 43.9% Total	46%	28.6% Alcohol 31.1% Drugs 47.1% Total	30.0% Alcohol 29.8% Drugs 45.5% Total
Primary care contact	41% (last 1 month)	36.7% (last 1 month)	29% (last 1 month)	34.2% (last 1 month)	54% (last 3 months)	49.6%	54.7% (last 3 months)

Recommendations

Recommendations have been made around the CGOS recommendation categories, as has been seen in previous audits, a summary of recommendation structure and titles is outlined in table 4[3]. They outline how the findings of the audit may relate to furthering efforts for suicide prevention in Calderdale and are made with understanding of the limitations of the audit's cross-sectional data.

Table 4: Summary of Audit Recommendation Areas

CGOS Domain	Sub-Domain	Core Recommendation Areas	Additional Recommendation Areas
REDUCE THE RISK OF SUICIDE IN KEY HIGH-RISK GROUPS	CGOS groups	"Young and middle-aged males"	
		"Those receiving care from mental health services"	Services at crisis Substance misuse Childhood events Serious incident reviews Primary care Emergency care Addiction services Multi-agency partnership working
		"History of self-harm"	Risk Targeting self-harm
		"Those in contact with the criminal justice system"	Those with concurrent risk factors Those accused of high-stigma crimes Custody
		"Those working in agriculture and healthcare"	
	Non-CGOS groups:	Underrepresented groups	Females Minorities
		Relationship and living status	Isolation Relationships Homelessness
		Occupation	Unemployment Self-employment Insecure employment At risk work environments Carers
TAILOR APPROACHES TO IMPROVE MENTAL HEALTH IN SPECIFIC GROUPS	CGOS groups	Ex-service personnel	
		Long term conditions	Pain Mental health Cancer investigation
		Untreated depression	
		Economic vulnerability	
		Those misusing drugs and alcohol	Drugs Alcohol
		Those in BAME communities	Migrants Young male migrants from eastern and central Europe
	Life-course Outcomes	Life-course outcomes	
REDUCE ACCESS TO THE MEANS OF SUICIDE	Public Places	Public Places	Travel
	Mechanism	Rope ligatures	
		Improvised ligatures	
		Pharmaceuticals	
	Catalysts	Drugs and Alcohol	
PROVIDE BETTER INFORMATION AND SUPPORT TO THOSE BEREAVED OR AFFECTED BY SUICIDE	Bereavement	Access	
		Services	
SUPPORT THE MEDIA IN DELIVERING SENSITIVE APPROACHES TO SUICIDE AND SUICIDAL BEHAVIOUR	Media	Traditional media	
		Social media	
		Online resources	
SUPPORT RESEARCH, DATA COLLECTION, AND MONITORING	Inquest data	Ethnicity Data	
		Data consistency	
		Online risk factors	
		Gambling	
		Homelessness	
		Electronic records	
		Data inclusion	
		Relationships	
	Supplemental data	Supplemental Data	
	Future Audits	Future Audits	

CALDERDALE SUICIDE AUDIT 2016-2018: MAIN REPORT

Introduction

Suicide has a far-reaching and long-lasting impact on individuals, families, and communities. Throughout the UK the (age-standardised) rate of suicide is 10.1 deaths per 100,000 people, with a total of 5821 suicides registered across the country in 2017 [1]. Unfortunately, this represents just the tip of the iceberg. For each of those 5821 or more individuals, there will be 5821 families and communities living with the effects of what has happened. Even at a societal level the effect is felt, with each working age adult suicide costing the economy £1.67m; most of that cost coming from the emotional impact on relatives[9]. Suicide and attempted suicide are crisis points, but an estimated 5% of the populations have suicidal thoughts each year, whilst a further 25% of the population experience difficulties with their mental health.

Although anyone can be affected by such a tragedy, the weight of burden is not spread evenly across society. Inequalities exist in who is most at risk of experiencing difficulties with their mental health, including suicide[2]. Socio-economic status is often used to display the impact of inequalities, and in the case of suicide, individual, community and societal risk factors affect those who are socio-economically deprived disproportionately. Individuals who live with the greatest socioeconomic disadvantage have a ten times greater risk of suicide that those with the greatest socioeconomic advantages[2]. Even at a population level, suicide rates are three times as high in areas of deprivation as they are in affluent areas[2].

Despite all of this, there are ambitions reducing the incidence of suicides, and the following pages outline the importance of suicide audits in realising this goal[7].

National Suicide Prevention Strategy

The Government's 2012 Cross-Governmental Outcomes Strategy (CGOS) was produced to support suicide prevention at a national and local level[3–5]. The initial publication highlighted the need to focus on:

1. Reduce the risk of suicide in key high risk-groups, including young and middle-aged men, those receiving care from mental health services, those with a history of self-harm, those in contact with the criminal justice system, and those working in agriculture and healthcare.
2. Tailor approaches to improve mental health in specific groups, such as young people, survivors of abuse, ex-service personnel, those with long-term health conditions, those with un-treated depression, those with economic vulnerability, those misusing drugs and alcohol, those in the lesbian, gay, bisexual, transgender and queer (LGBTQ) communities, those in black and minority ethnic (BAME) communities, and asylum seekers.
3. Reduce access to the means of suicide, especially in public spaces, at frequently used locations, and through limiting access to toxic pharmaceuticals.
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, and measure progress against the outcomes established in suicide action plans/strategies.

The first report, in 2012, identified unemployment and poor physical health as factors that increased the risk of suicide, and of effective discharge planning for inpatients as a factor that decreased this risk. The key at risk groups highlighted were men between 35 and 54 with depression, and those with alcohol and substance misuse, relationship problems, and social isolation.

Advice was put in place:

- Develop a local suicide action plan
- Directors of public health to monitor local suicide trends
- Engage with local media to encourage the appropriate reporting of suicides
- Identify local priorities for improving mental health as a whole

The second report, in 2015, identified frequent attendance at GP practices and self-harm as risk factors for increasing suicidal behaviour. The disproportionally high incidence of suicide among those self-harming in prison, and among those under crises services was highlighted. Again, males remained a key at risk group, potentially because of cultural expectations, reluctance to seek help, and a tendency to choose more dangerous methods of suicide. The use of social media and cyberbullying as potential risk factors and assets were discussed.

The third progress report in 2017 announced the vision of a 10% reduction in suicides by 2021[4]. Key areas of focus include:

- Expand the strategy to include self-harm prevention
- Ensure that every local authority produces a multi-agency suicide prevention action plan/strategy
- Improve suicide bereavement support
- Better targeting of suicide prevention and help seeking in high risk groups
- Improve data at both national and local levels

The most recent progress update, in 2019 adds the following[5]:

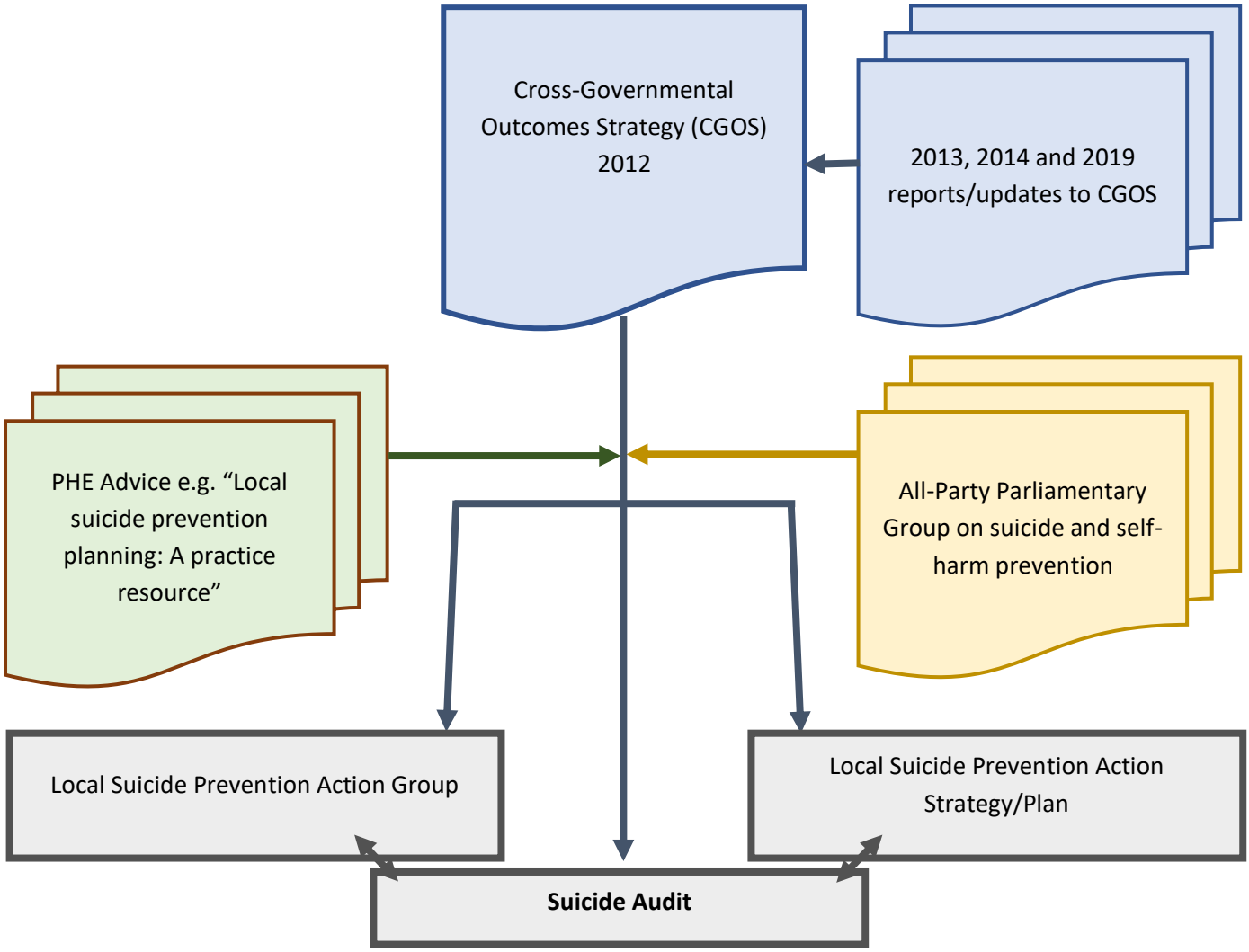
- Partnership working with local government
- Zero suicide ambition
- Prioritisation of middle-aged men and vulnerable groups
- Tackling societal drivers of suicide such as debt, gambling, substance misuse, and online material
- Addressing increasing rates in young people
- Improving support for people bereaved by suicide

This prevention strategy and its subsequent reviews are complemented by the "cross-governmental suicide prevention work-plan", highlighting the importance of local and national data collection, and the crucial role local authorities have to play in implementing suicide prevention action plans. To aid the implementation of local action plans through health and wellbeing boards, the All-Party Parliamentary Group on suicide and self-harm prevention (APPG) recommend three steps[6]:

1. Establish a multi-agency suicide prevention group involving all key statutory agencies and voluntary organisations
2. Complete a suicide audit
3. Develop a suicide prevention strategy and/or action plan that is based on the national strategy and the local data

This document focuses on the second of those steps, around fully understanding suicide in the context of local intelligence. Once understood, the complex and variable web of risk factors for suicidal behaviours becomes a tool with which suicide can be prevented. PHE provide guidance on how to thoroughly complete each of these steps in a local authority setting[7]. There is further guidance available on key areas discussed in the governmental documents such as suicide occurring in clusters, or in public places[10,11].

Figure 3: Understanding how governmental, PHE, and local suicide prevention strategies work together



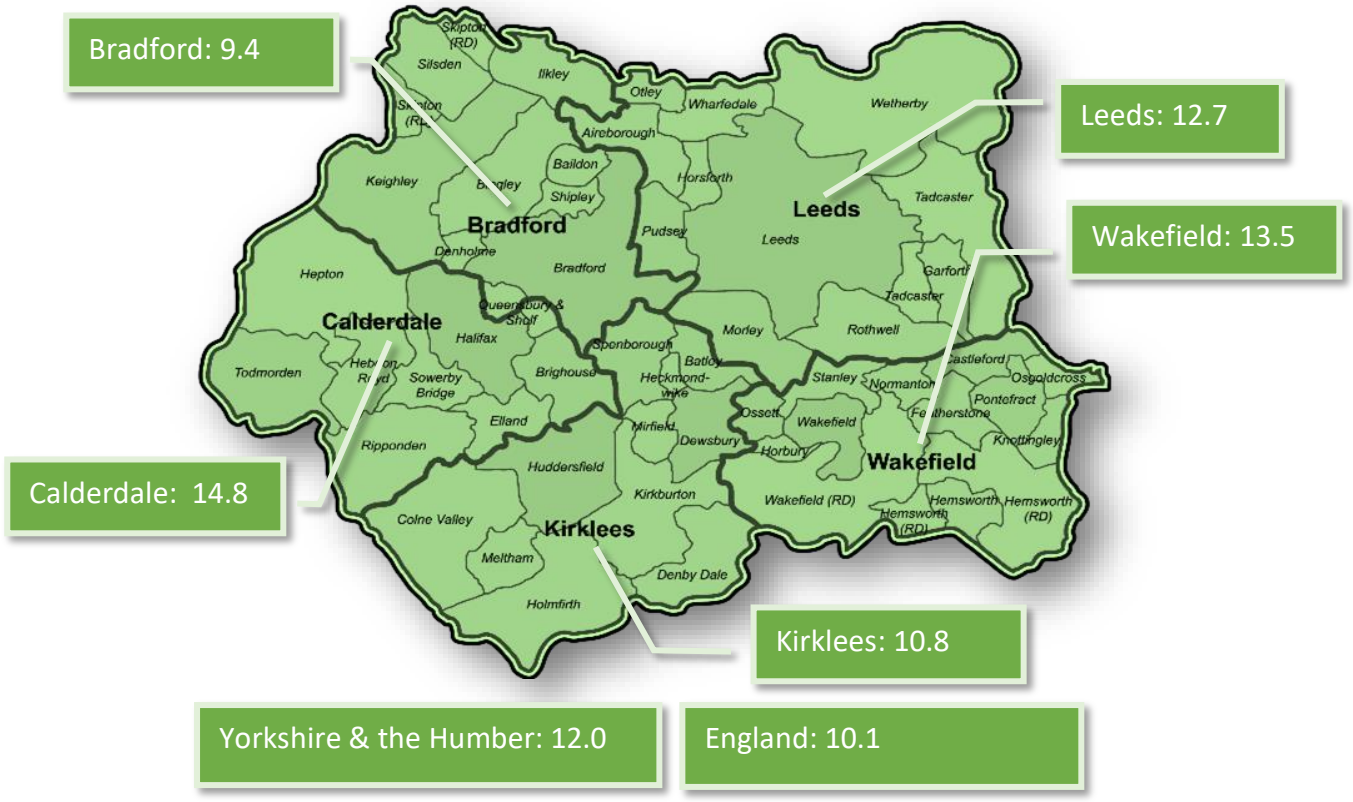
The Local Setting

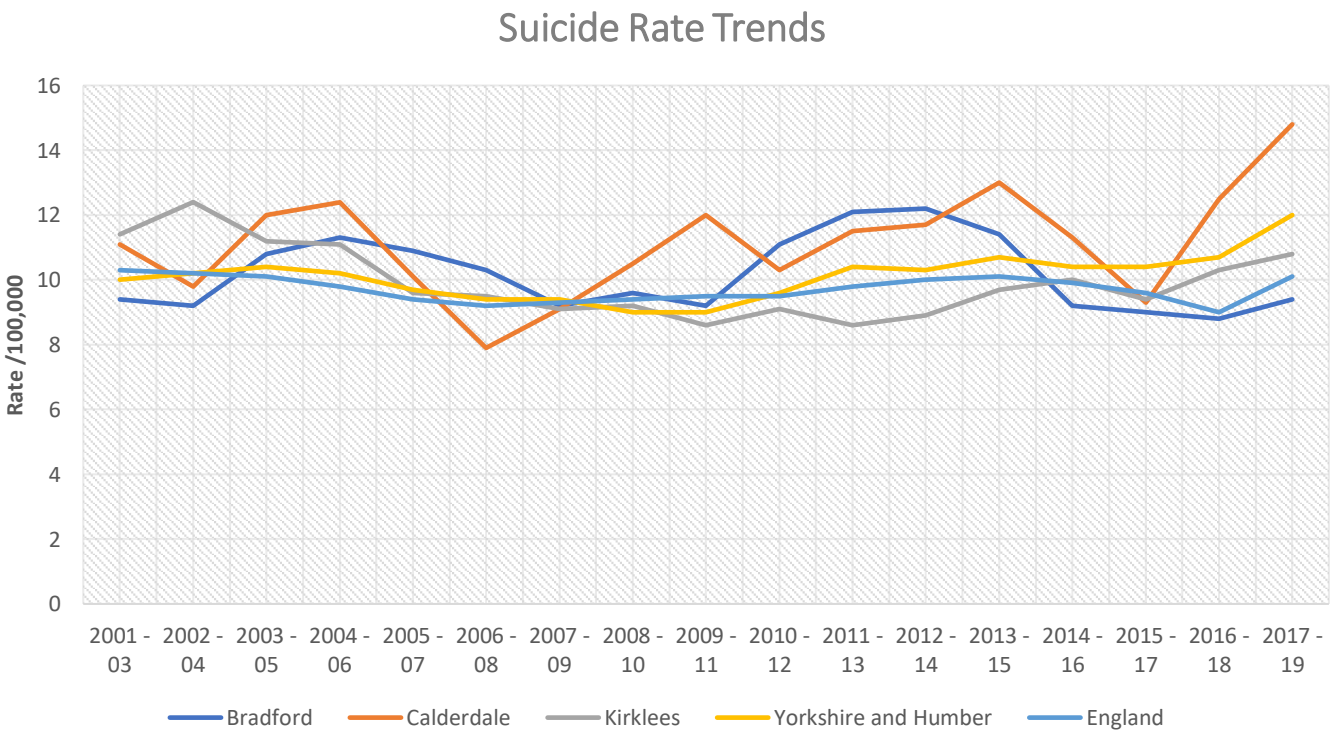
Please not the following information has been written to apply to all three authorities included in the audit, to give context both the local results, and to results from the "joint" audit findings.

Bradford Calderdale, and Kirklees are local authorities in the West Riding of Yorkshire. The county is a large, populous, and multi-cultural area with both dense urban and isolated rural communities. In 2016 Bradford had a populations of 532539, Calderdale of 209069 and Kirklees of 435236, with all three containing a wide variety of affluent and deprived areas[12]. They are all served by the Coroner's office in Bradford, where inquests into suspected suicides in the region are held. The suicide rates in Bradford and Kirklees are a little below the national and regional average, the rates in Calderdale are above (figure 1).

Despite the current picture, the suicide rates in Bradford, Calderdale and Kirklees have not always been in line with the national average. Figure 4 demonstrates how the incidence has fluctuated over time and highlights the fact that current prevention performance is not necessarily a predictor of future performance. It also highlights the fact that over the last fifteen years or so the overall suicide rate has not decreased significantly; clearly more needs to be done.

Figure 4: ONS Suicide rates across West Yorkshire as of 2019 displayed as suicides per 100,000





Suicide Prevention Plans

Suicide prevention is lead at a local authority level. Bradford, Calderdale, and Kirklees have taken a partnership approach to mental health, in terms of prevention as well as treatment. Further to this, the APPG requires specific action plans/strategies outlining what each local authority is going to do about suicide prevention[6].

Bradford

Bradford MDC have based their aspirations around the 2012 CGOS, aiming for a 10% reduction in 10 year average suicide rate by 2021[13]. The plan is based around the six key areas for action identified in the national strategy.

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

These have been broken down into key priorities, and then into key actions with a lead and a timescale. This is evidenced by national HM Government, PHE, and NHS documentation, as well as other local strategy papers, and the 2017 suicide audit[4,7,14,15].

Calderdale

Calderdale council have announced in their suicide prevention plan a vision "for Calderdale to be a place where suicides are eliminated, and where people do not consider suicide as a solution to the difficulties they face; also a place that supports people at a time of personal crisis and builds individual and community resilience for improved lives"[16].

The plan is built around the 2012 CGOS, the Calderdale suicide audit, and ONS data available at the time[3,8]. Each aim is then broken down into objectives, actions, potential beneficiaries, providers, and timescales.

Kirklees

Kirklees local authority have a three year plan that expires in 2020, which includes self-harm prevention within its remit in line with the more recent 2019 work-plan[5,17]. This is emphasised by the outcome measures, which include both the "five year forward view" ambition of a 10% reduction in suicide by 2020/21, as well as non-mortality measures such as hospital presentation following self-ham and referral rates for treatment of depression. The plan was developed by the Kirklees Suicide Prevention & Self Harm prevention group, a multi-agency collective designed to involve those ultimately responsible for delivery of the plan.

The objectives are structured around the 2012 CGOS, in line with the rest of the region. These are accompanied by "steps that need to be taken", suggested partners and leads, a timescale, expected outcomes, and up to date progress reports. The plan's approach to tackling men at high risk of suicide was highlighted as a positive example of practice by Samaritans[18].

How does a Suicide Audit help?

The suicide audit is carried out to help update and re-develop the action plans/strategies, in line with national guidance[6,7].

Nationally, 84% of local authorities have carried out suicide audits (86.7% in Yorkshire and the Humber) but only 58.7% have carried them out since 2017 (15.4% in Yorkshire and the Humber)[18]. Of the local authorities that have carried out a suicide audit, 95.3% have found them useful in determining their local suicide prevention action plans/strategy (100% in Yorkshire and the Humber). Samaritans have collected data nationally on how suicide audits have influenced local strategy. Figure 6 shows which areas were most commonly given as examples of where the audit had influenced change. The fact that the pie chart has so many slices demonstrates both how varied the paths into suicidal behaviour are, and how wide the scope of suicide prevention strategy needs to be. It is key for those championing suicide prevention to have influence in many different spheres, and the suicide audit gives them the direction, support, and evidence to do this effectively.

In Bradford, Calderdale and Kirklees, the action plans/strategies are set out around the six key themes highlighted in the cross-governmental strategy. The audit is designed to mirror this, providing intelligence to help support suicide prevention across these themes (figure 7).

Figure 5: The six priorities set out in the cross-governmental strategy mapped out to priorities of the suicide audit.

Reduce the risk of suicide in key high risk groups

- Identify groups with disproportinately high risk
- Identify risk factors for suicidal behaviours

Tailor approaches to improve mental health in specific groups

- Identify groups with disproportinately high risk

Reduce access to the means of suicide

- Identify what the means of suicide are, and how they are accessed

Provide better information and support to those bereaved or affected by suicide

- Understand the effect of bereavement on suicide risk
- Identify what points of contact exist to support those at risk of suicide

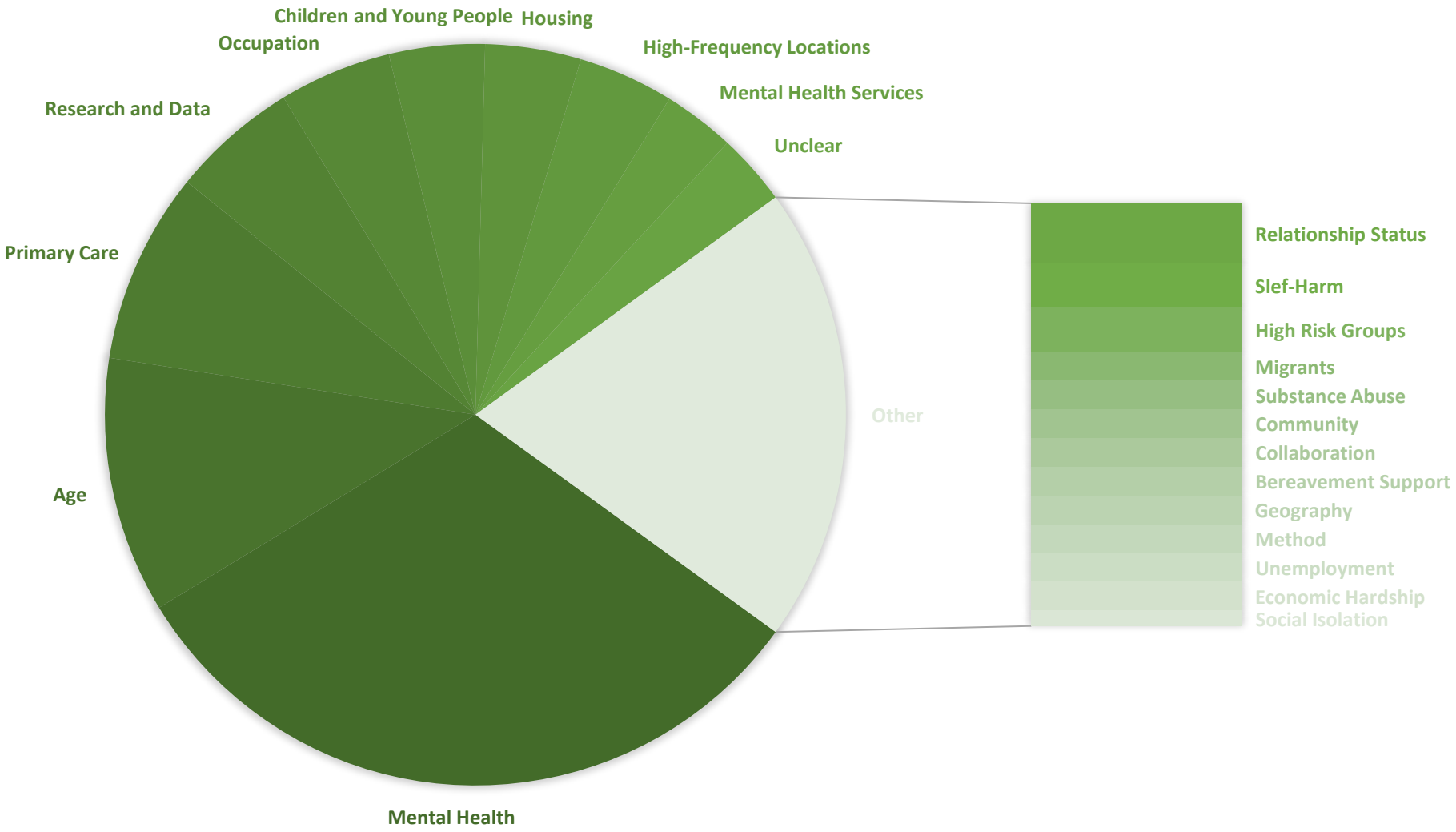
Support the media in delivering sensitive approaches to suicide and suicidal behaviour

- Identify whether traditional and social media are identified as risk factors in Coroner's inquests

Support research, data collection, and monitoring

- Provides up to date data
- Support further monitoring through clear and reproducable design

Figure 6: Examples provided by local authorities nationally on which areas suicide audits had influenced their suicide prevention strategy



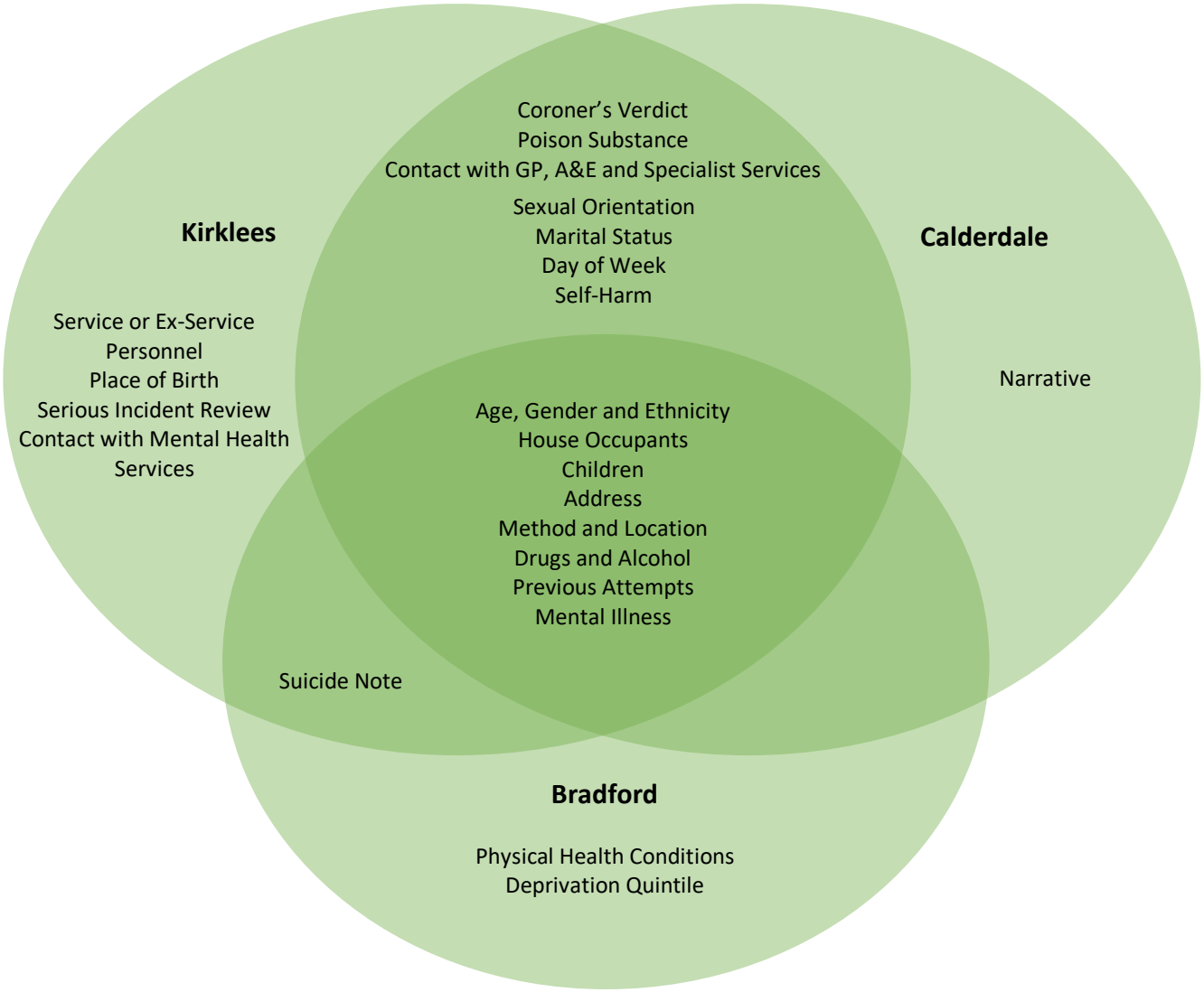
Previous Suicide Audits

Each authority has previously carried out audits alone:

- The last Bradford wide audit was carried out in 2017, collating data from 2013-2015[15].
- The last Calderdale wide audit was carried out in 2016, collating data from 2012-2014[8].
- The last Kirklees wide audit was carried out in 2014/15, collating data from 2011-2013[19].

Each audit focused on several shared key issues, as well more unique indicators (figure 7). Despite the variation in indicators included, the overarching trends found were similar (Table 5). In line with national data, they found that being middle aged, male, having a mental illness, having previously attempted suicide, having relationship difficulties, being single or alone, and using drugs and alcohol correlate with increased risk of suicide. They also demonstrated that people often had recent contact with primary, secondary, and social care services before their suicide.

Figure 7: Venn diagram displaying Indicators collected in each Authority's most recent suicide audit.



The Kirklees and Calderdale audit finished with a list of recommendations (Table 6)[8,19]. The Bradford audit has not yet had its accompanying narrative published at this date[15]. The Calderdale audit recommendations traced the previously discussed CGOS advice laid out in 2012[3,8]. There was a focus on limiting access at crisis

point, something that PHE have since given national consideration to, as well as providing tailored and targeted support[11]. The Kirklees audit focussed more on addressing risk, and on wider factors around prevention[19]. It is notable that both highlighted the importance of an integrated approach to implementing these ideas[8,19].

Table 5: Summary of previous local audit results

Findings	Bradford	Calderdale	Kirklees
Date	2013-2015	2012-2014	2011-2013
Male:Female ratio	78:22	80:20	74:26
Mean age	40-49	49	30-39
Modal method	Hanging	Hanging	Hanging
Public Location	22%	31%	9%
Diagnosed mental Illness	57%	51% (depression only)	47% (MH services contact)
Previously Attempted Suicide	32%	-	32% (last 12 months)
Modal recent life event	Family Difficulties	Relationship Issue	Relationship Difficulties
Modal living Arrangement	Alone	Alone	Alone
Modal Marital Status	Alone	Alone	Alone
Drugs/Alcohol used	50% (found on PM)	38% (history of use)	46% (history of use)
Primary care contact	41% (last 1 month)	29% (last 1 month)	54% (last 3 months)

Table 6: Summary of previous local audit recommendations

Area	Calderdale	Kirklees
Risk	Reduce the risk of suicide in young and middle-aged men and other high-risk groups	Target men at risk of suicide through a multi-professional and multi-agency approach
	Front line agencies need to assess for depression, especially when co-existing with other risk factors	Professionals need to be aware of the synergistic effect of multiple stresses
		Past behaviour can predict future behaviour, do not ignore past suicide attempts wen considering risk of suicidal behaviour
		Be aware of the risk posed by alcohol and drugs
Access	Reduce access to means of suicide in terms of location and method	-
Support	Provide better information and support to those recently bereaved by suicide Support people in contact with the criminal justice system	Provide ongoing support and vigilance to those with diagnosed mental illness
	Support the media in delivering sensitive approaches to suicide	
	Support research, data collection, and monitoring, including regular audits and real time monitoring	
Strategy	Multi-agency partnership working between statutory and voluntary sector organisations must be strengthened	Develop and integrated and effective suicide prevention strategy

Suicide audits require a large amount of work, time, and valuable capacity. In an environment of austerity and reduced public spending it is necessary to make efficiencies where possible. Given the shared Coroner, approaches, and need, a joint suicide audit offers the opportunity to save the Coroner and local authorities work, time, and capacity. It also offers the benefit of a larger pool of data, without losing valuable local context. Similarly, the audit has provided a framework for shared understanding, ideas, and working around problems that are not limited to geographical boundaries.

Methodology

The identification and collection of the data took place based off methods used in previous Bradford, Calderdale and Kirklees suicide audits, and on methods used by the most recent, and very thorough, Leeds suicide audit[15,19–21]. Following consultation with the auditors and the Coroner, a data collection protocol was created and approved by all parties, outlining the following methods.

Data Collection

The data collection was carried out in two phases by three auditors, one each from Bradford, Calderdale, and Kirklees. The lead auditor was present for all sessions of data collection.

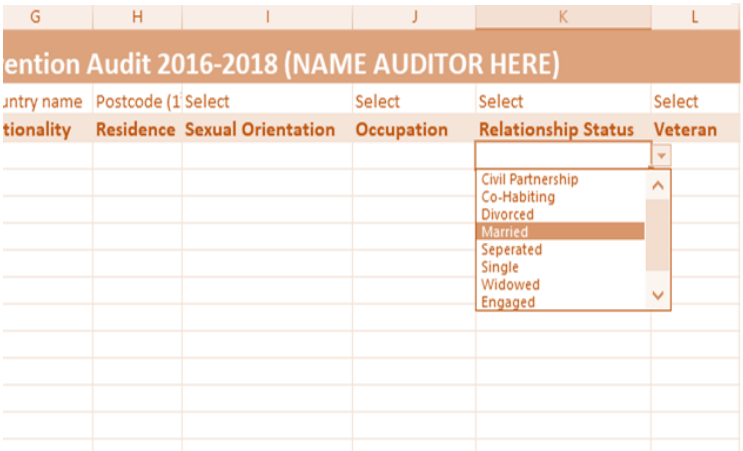
Phase 1

Records were included in the first phase of the audit if the individual lived or died in Kirklees, Calderdale or Bradford Local Authorities area, the case went to inquest at the HM Coroner's office in Bradford, and was listed on HM Coroner's database as having a verdict of "suicide", "killed self", or equivalent.

Records for collection were listed by the Coroner's office, working backwards chronologically from 2018, and provided to the auditing officers in a secure on-site premise. Each paper record was reviewed by an officer, and indicators extracted onto a pre-prepared template on a secure council laptop (figure 8). The template was designed to ensure consistency of recording across auditors, with drop down menus used instead of free text where possible. The template was tested during the first few weeks of collection, and iteratively improved. Where this created the need to re-audit previously included files, files were re-audited.

Officers reviewed cases from any of the three authorities but shared any narrative details with the relevant local officer where appropriate (and in a "narrative" section of the data collection pro-forma). This was done both to improve the efficiency of the progress given limited resource and capacity, and to reduce within-authority auditor biases. Any uncertainties in data collection were discussed and consensus reached and communicated to other auditors to maintain consistency. To further aid in consistent data collection the lead auditor was always present during data collection.

Figure 7: Screenshot of Data Collection Pro-forma used in shared data collection.



The indicators agreed upon between the three authorities were largely compiled from indicators used in each authority's most recent respective audit, as described in Figure 7[8,15,19]. Further indicators arose from a review of recent literature, and concerns from local stakeholders. All information collected is justified and complies with GDPR. Given the homogeneity of structure in the action plans, the data collection is further justified by mapping it to the key areas identified in the 2012 strategy[3], as seen in table 3.

Phase 2

Given the recent change in legislation towards suicide conclusion, inquests needed to be included in which suicide could have been the cause of death based on the "balance of probabilities" rather than "beyond a reasonable doubt" to ensure future compatibility[22]. Accordingly, records were reviewed in the second phase of the audit if the individual lived in Kirklees, Calderdale or Bradford Local Authorities area, the case went to inquest, and had a conclusion of "Misadventure", "Accident", "Narrative", "Road Traffic Collision", "Open", or any drug and alcohol related verdict, but auditors believed that given the evidence available, on the balance of probabilities, suicide could have been the cause of death. There was considerable variation in terms used for conclusions, meaning that ultimately every inquest's paper files had to be reviewed in this manner regardless of verdict to ensure no possible suicides were missed. Similar inclusion criteria were used in the previous Kirklees suicide audit, allowing comparison between suicide rates.

Clearly balancing evidence around cause of death is not an easy job and is normally one carried out by professionals in that field. This audit was not an attempt to question judgements already made, but merely an attempt to make sure that inclusion was consistent across the 2016-2018 timespan and to make sure that cases from which lessons could be learnt were not excluded because of legal definitions. Inquest verdicts can be considered "routine data" and are not made purely for the benefit of public health interventions, it is for this reason that ONS and other estimates based on routine data are often proxies to the true statistic. The audit provides a chance to collect data specific to the problem at hand, and so a definition of suicide, different from the previous legal one, is not only possible, but preferred. The team discussed cases in which inclusion was difficult to assess, creating iterative but consistently applied guidelines, with the lead auditor always available to participate in discussion and ensure consistency in approach. Common causes of discrepancy between HM coroner and auditor verdict included:

- Cases in which intent was described in files as a "cry for help" but involved fatal mechanisms were included.
- Cases in which the individual was intoxicated and therefore "evidence of suicidal intent was invalid" were included.
- Cases with suicidal intent and clear mechanism of suicide coded as open or narrative for unknown reasons were included.

Common cases in which there was agreement between auditor and HM coroner included:

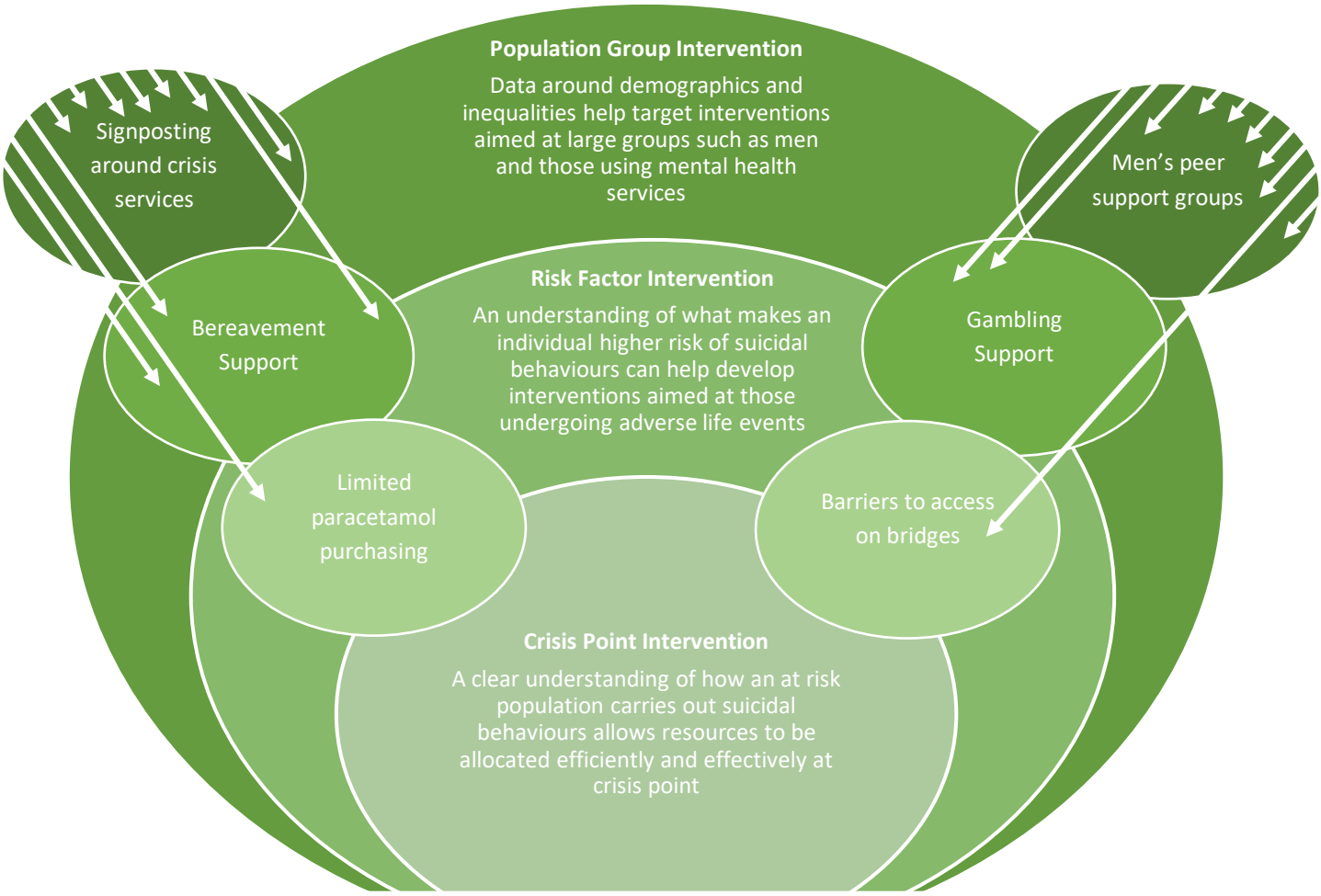
- Cases of drug overdose with no evidence of suicidal intent, regardless of current life situation.
- Cases of death due to auto-erotic asphyxiation.

Data collection on included records was otherwise as in Phase 1.

Data Justification

In accordance with good information governance practice, all data collected should be justified. There are three main "categories" of data identified that need collecting, demographic details, risk factors, and means of access, all of which are justified by their direct relevance to action around suicide prevention (figure 8).

Figure 8: Mapping data justification: how different types of data lead to different types of action.



The white arrows represent individuals at risk of suicidal behaviour, with services in the smaller circles examples of interventions at different levels. In reality, risk does not follow simple linear progression but is instead form an interconnected matrix.

Demographic factors such as a person's age, gender, ethnicity, and sexuality allow them to be placed in population groups. Different demographic groups have different proportional risk of poorer health outcomes; this forms the basis for health inequalities. Understanding inequalities helps address their root causes and allows targeted suicide prevention strategies.

Risk factors are considered here to be individual characteristics or exposures that increase the likelihood of suicidal behaviours. These might be thought of as the mechanisms that transform predisposed demographic risk into suicidal intent. For example, relationship breakdown, previous self-harm attempts, and terminal illness may increase the risk of suicidal behaviours. An understanding of what puts people at risk of suicide allows further targeted intervention.

Access is the means to which suicidal intentions are converted to suicidal behaviours. Understanding the population and the risk factors is important in knowing who to help, but it does not always reveal when, where, and how this help can be offered. Collecting data on how and where the act of suicide is carried out may not help identify at risk populations, but it does provide potential information on guiding crisis point intervention. One third of suicides occur in public spaces, and some sites are used by multiple individuals[23]. Identifying "frequently used locations" has allowed successful targeted "last minute interventions", such as reduced access to a means of suicide, human interventions, and access to self-help[11,24–26]. Extrapolating from this it would be useful to know how individuals reached the location and whether they had to bring equipment with them. Moving away from the crisis point, in the previous audits many individuals had recent contact with primary healthcare, secondary healthcare, and mental health services. A good understanding of where at-risk individuals can be offered intervention provides another chance for prevention to be effective.

Indicators

Most of the indicators included within the audit were chosen based on inclusion in each authority's preceding audit (figure 7)[8,15,19]. However, several novel indicators were added based on advice from stakeholders, review of PHE advice, and recent literature. Their justification is explained below in table 4:

Table 7: Justification for indicators included not used in previous Bradford, Calderdale or Kirklees audits

Indicator	Justification
Social Media and the Internet	At a very coarse resolution, access to the internet is correlated with increased suicide incidence[27]. As a risk factor, social media provides a platform for cyberbullying, which can increase suicidal behaviours[28]. The internet can also provide a means of access, or alternately, a platform for intervention. When searching the internet for terms relating to suicide just under a third of resources accessed are "suicide-neutral", a similar proportion are "anti-suicide", and a little over 1 in 10 are "pro-suicide"[29]. However of the first 10 results that appear for searches such as "how to kill yourself" nearly half are "pro-suicide", many of which are chatrooms[30]. As a tool for suicide prevention a recent systematic review of thirty different studies, suggested there is potential for social media based prevention strategies to reach a large number of hard-to-engage individuals[31].
Media	Media coverage is a known risk factor for suicide, with reported suicides likely to incite copycat behaviours[32]. Because of this link Samaritans provide advice for media on how to report on suicides[33].
Adverse Childhood Experiences	Those who have experienced adverse childhood experiences are significantly more likely to attempt suicide than those with no adverse childhood experiences[34].
Gambling	Gambling has been highlighted as a public health concern and is linked to suicidal behaviours[35]. Individuals with a gambling disorder were found to have a 15-fold increase in suicide mortality in a longitudinal study[36]. Further to this, new NHS support services have been put in place locally, providing potential access to at risk individuals.
Debt	Debt is correlated to increased suicidal ideation and hopelessness[37]. Further to this, a meta-analysis in 2013 found a significant relationship between debt and suicide attempts and completion, as well as other mental health disorders[38].
Season	Suicide prevalence has previously been found to have seasonality, with a recent systematic review describing increased frequency in late spring and early summer[39].
Method of Transport	Little evidence exists around how people reach their destination of suicide. However in the PHE advice on tackling suicide in public places the requirement for an understanding of how people reach the locations of suicide is stated[11]. This can potentially guide strategy around raising awareness and offering training to transport providers.

A single indicator from previous audits was not included. The previous Kirklees audit looked at whether serious incident reviews had taken place following suicides, as reviewing cases is built in to community mental health practices, revealed little narrative comment in the audit, and is not ideally collected from inquest data, it has been excluded from this audit[40]. However, there is still scope for narrative consideration of information with relevance to serious incident reviews.

Combining all of this gives a final list of indicators (table 8), categorized according to how they might influence strategy according to figure 8.

Table 8: Indicators collected from Coroner's records, divided by demographics, risk factors, and access

Demographics	
Age at death	Ethnicity
Gender	Country of birth
Sexual Orientation	Employment Status at time of death
Postcode of usual residence	Occupation (SOC Category)
Relationship Status at time of death	Nationality
Service/ Ex-service personnel	Housing status at time of death
Carer Status	Other house occupants
Risk Factors	
History of self-harm	Adverse life-events
Suicide note/message left	Reason for last contact with GP
Previous history of suicide attempts	Reason for last contact with A and E
Alcohol/drugs at time of death	MH Diagnoses
History of alcohol abuse	Physical health problem
Substance misuse (and main drugs used)	Terminal illness
Ever had contact with criminal justice system?	Long term health condition affecting QoL
Debt/financial worries	Gambling
Mention of social media/online resources	Mention of media
Adverse childhood experiences	Recent Suicide Bereavement
Access	
Recent criminal contact?	Method of Transport to Location of Death
Method of suicide (inc. substance if poisoning)	Last contact with GP – time
Day of week of death	Last contact with A and E –time
Season of death	Contact with specialist MH services –time
Location of death	Serious Incident Review
Contact with other specialist services	Coroner's conclusion

The Report

The report was written following data collection, in combination with reports for the neighbouring authorities. A demonstration report was shared prior to the completion of each individual authority's report to allow feedback and help shape what is included in the final report. It should be clear that this is not so that any difficult findings are hidden, but so that those using the audit for suicide prevention have access to the specific data and intelligence that they think would be useful in their work.

Additional information

The auditors used a secure room within the Coroner's office or within the council's document storage centre to extract the data. Paper files were extracted and returned according to the Coroner's office protocol. Data was collected directly onto secure files using council laptops and stored on encrypted hard drives. Use of the data was in accordance with the Data Protection Act 1998. Publication of any audit data has followed Caldecott Principles to ensure anonymity of the deceased. Numbers under five have been suppressed. In the "results" section concerted efforts have been taken to prevent back-calculation of suppressed data, including from the included figures and tables. Figures that include or exclude suppressed results have been labelled accordingly.

Limitations and Interpretation

Underpinning Methodology

The most obvious limitation of this (and other) suicide audits is that it is not a true audit. It might better be described as a quantitative and qualitative cross-sectional study of who, why, where, and how people die from suicide in Bradford, Calderdale and Kirklees over a three-year period between 2016 and 2018. The title of "suicide audit" has remained as although it does not best describe the methods, it does best describe how this piece of work is mean to fit into the framework of suicide prevention according to CGOS, PHE, and the APPG (as outlined in figure 3)[3,6,7].

The limitations of a cross-sectional approach do remain; findings do not infer causality, and although distributions can be discussed, without external data, relative risks of suicide among different groups cannot be calculated. Accordingly, comparisons to general population demographics, prevalence, and other statistics are purely to add context to the findings, not to denote a significant increase in risk for that group. Between study statistics and within study chi squared analyses are carried out to direct the focus on discussion, rather than to provide concrete proof of trends in risk. This does not detract from the impact the audit can have on suicide prevention. It aims at collecting local data to guide local suicide prevention strategy, and the methods are appropriate for this objective.

Temporality

Suicide audits cannot possibly be completely "up to date"; inquests take time, small numbers across small time windows need suppressing, and the lessons learnt rarely have instant solutions. This is especially true now that more in depth suicide audit intelligence is complemented with live suicide data from the police, which can address more urgent concerns, such as suicide cluster surveillance. Despite this, the audit does make recommendations about how future audits may be facilitated in creating useful intelligence whilst using limited capacity efficiently.

Narrative Data Collection

Data collection across a large variety of indicators, by different auditors, can lead to both auditor biases and a loss of narrative details. Steps were taken to reduce auditor biases, and have been described in the methods section (such as the use of coding, group discussion, auditor consistency, and random inquest allocation). To make sure narrative details were not lost, coded data collection was combined with space at the end of each case for free text comments that might contribute more to the narrative of the report. The combination of free-text and coded variables in this manner can lead to the de-valuation of coded records,

as free-text descriptions may be used to "over-ride" coded recording[41]. To avoid this, space was provided for free text to be added next to drop-down menus to allow comments to be added if there was uncertainty around coding. When data was reviewed at the end of the day, clarification over current categories was offered, and where free-text had been used where coded data may have been more appropriate, data was re-coded, occasionally involving re-review of inquests.

The inclusion of these narrative details, along with analysis of sub-categorised data, have provided more depth to the results and recommendations. However, even qualitative data collected in this manner has been suppressed, and only those narratives that occurred in sufficient frequency (at least five cases) have been discussed. This can be overcome through the use of "joint narratives" taken from inquests across Bradford, Calderdale, and Kirklees; where this approach has been taken, it has been clearly denoted.

A formal qualitative analysis was not planned, both because it was unlikely to be viable given the suspected population size, and because the capacity does was not available to include this in all three reports.

Routine Data

Inquests are a valuable and rich resource; however, they were not designed specifically with suicide audits in mind, and therefore data that may be relevant to the audit but was not relevant to the inquest is often missing. Missing data was coded as such, and either included in analysis, or is excluded labelled as "excluding unknown data", but it is possible that biases exist in what we aren't seeing; this uncertainty was appreciated when discussing variables with a large proportion of missing data.

COVID-19

There is a constant need for action on suicide prevention, and therefore a continued need for underpinning data and intelligence. However, the pressures of COVID-19 have reduced capacity within the council, and led to delays in production of the report, and slight decrease in ambition and scope. However, it is hoped that through consultation with suicide prevention action groups the report will still contain all of the information required to support ongoing action.

Calderdale Results

Suicide Incidence

The suicide count in Calderdale seems to have increased since the time of the last audit, and seems to have increased more noticeably over the duration of this audit from 21 to 36 suicides per year. ONS data over the 2012-2014 period estimated 64 suicides, the audit over the same period counted only 45[1,8]. This difference may been put down to ONS data including cases in which intent is unconfirmed, whilst the initial audit was more limited in its scope, looking only at verdicts of suicide which were available from the coroner[8]. This current 2016-2018 audit has accounted for the difference and has itself included cases with uncertain verdict. In fact, the inclusion of these cases suggests the ONS data may in fact be an underestimate rather than an overestimate[1], although once more up to date ONS data is available, the validity of this claim may be more apparent.

Figure 9: Comparison of ONS and Audit Suicide Incidence in Calderdale.

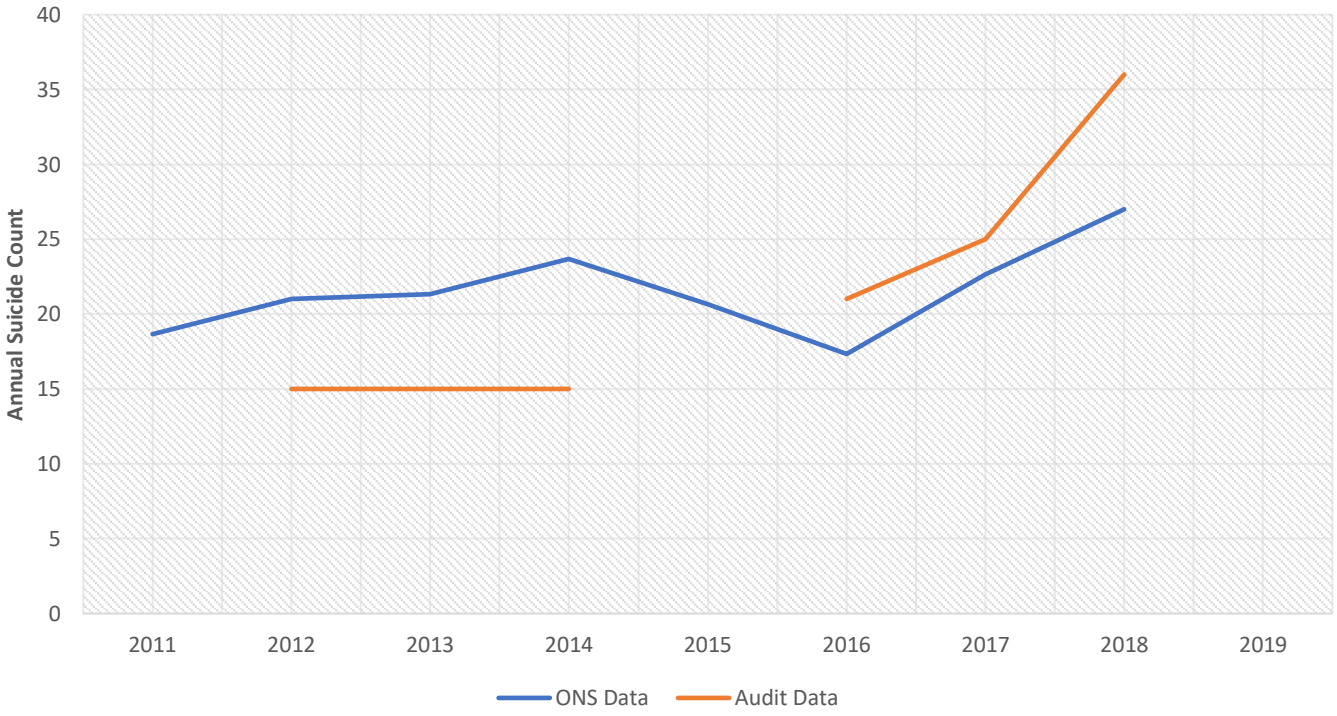


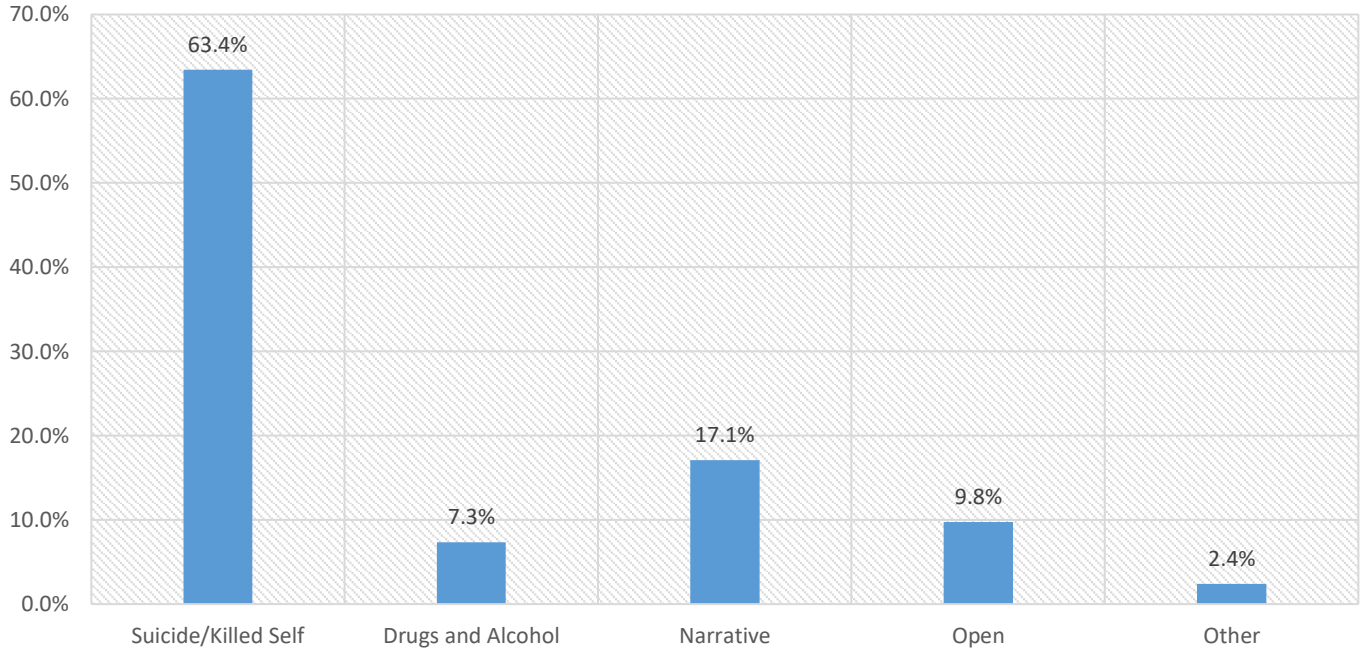
Table 9: Suicide incidence trends in Calderdale from audit data.

Year	2011	2012	2013	2014	2015	2016	2017	2018
*Calderdale Audit**	-	15	15	15		21	25	36
*Calderdale ONS***	19	21	21	24	21	17	23	27

**2012-2014 Audit data is not available by year, the total (45) had been divided evenly by the 3 years the audit covered. **ONS data is extrapolated as a third of the three-year count spanning the year either side as plotted in the table.*

When looking at the suicide rates, the ONS and audit data are similar, with ONS estimating suicide rate at 14.8 per 100,000, and the audit at 13.2 per 100,000[1]. The similarity in rates, despite contrasting difference in counts, potentially comes from the fact that the ONS figures are age adjusted, and the figures from this audit are not.

Figure 10: HM Coroner's Verdict of inquests included within the Calderdale 2016-2018 suicide audit



Cases which did not meet the "beyond reasonable doubt" criteria applied by HM Coroner prior to changes in the law were considered to be suicide on the "balance of probabilities" by auditors[22]. This could account for some of the variation between both this and the previous audit, and this and ONS data. Over a third (36.6%) of suspected suicides were coded as something else, most frequently as a narrative verdict (17.1%), an open verdict (9.8%), or a "drugs or alcohol" (7.3%) related death.

Commonly, drug and alcohol related verdicts were given where overdoses were taken, but intent was not certain, or may have been clouded by intoxication. This is important as those choosing poisoning as a mechanism of suicide are more likely to belong to certain groups; younger people, doctors, and drug addicts have previously been found to prefer this mechanism[42]. The narrative and open verdicts included were more varied, however generally the verdict seems to have been chosen as evidence for suicidal intent was deemed insufficient. Common themes among this group included struggles with physical and mental health, however these did not appear to occur disproportionately when compared to the larger audited population.

Focussing further on the potential for reporting bias around suicide verdicts, trends around gender were also apparent, with females significantly more likely to have a non-suicide verdict, this is discussed in greater detail in the relevant demographic section.

Demographics

Overall, the demographics of the 2016-2018 audit were similar to those seen in the 2012-2014 audit. However, the larger population size of the more recent audit has allowed some areas to be explored in more depth.

Table 10: Summary statistics for the demographics of suicides in Calderdale

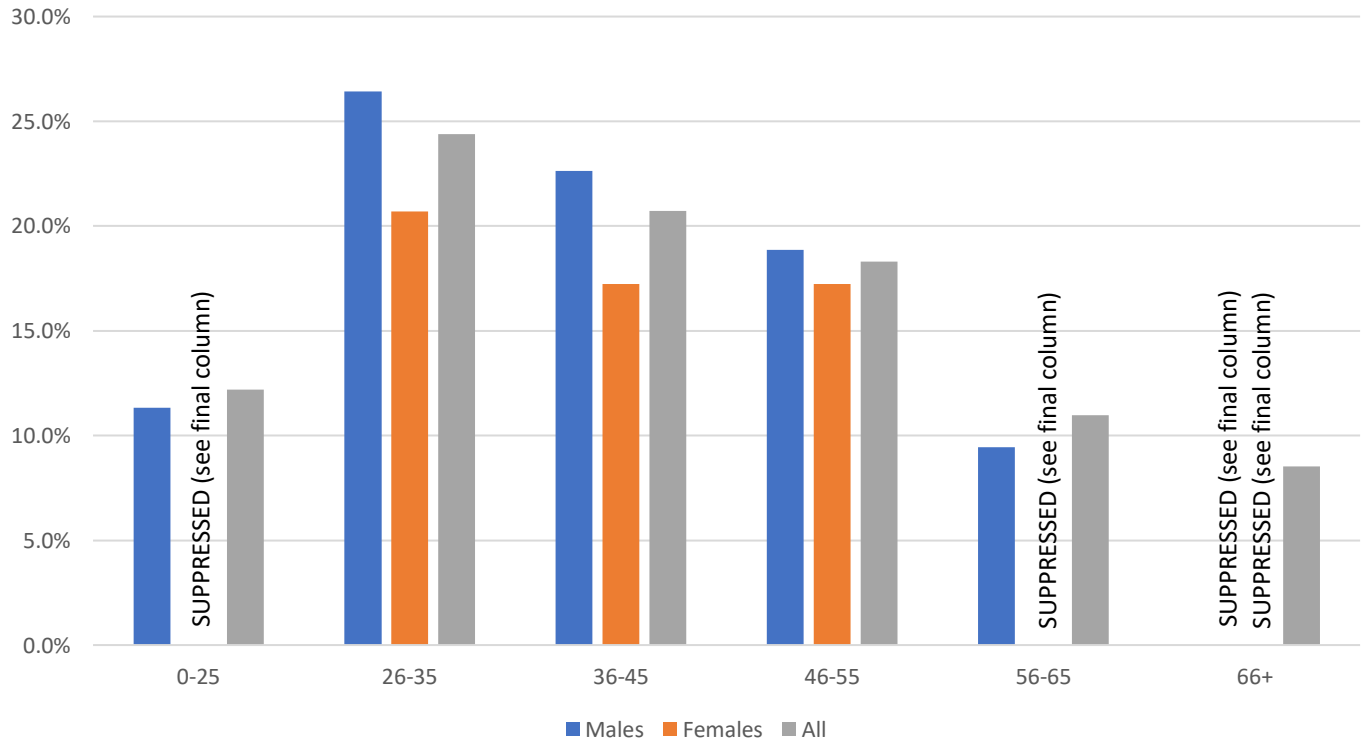
Findings	**Calderdale 2012-2014**	**Calderdale 2016-2018**	**Joint Average 2016-2018**
Male:Female ratio	80:20	65:35	75:25
Mean age (SD)	49	42.8 (16.0)	44.5 (16.8)
Sexuality	68.9% Heterosexual	85.4% Heterosexual	86% Heterosexual
Modal living Arrangement	White British	White British	White British
Modal Marital Status	Alone	Alone	Alone
Employment Status	Single	Single	Single

Age, Gender, and Sexuality

The mean age was 42.8 (SD 16.0), younger than in the previous Calderdale audit (49). The mean age of males was 42.4 (SD 17.0), and is distributed with negative skew, with 25-36 being the modal category. The mean age of females was 43.1 (SD 15.8), it appears that the distribution of female ages is also skewed, with most suicides occurring in the 26-35 category.

Figure 11: Distribution of age (rounded to nearest decade) in Calderdale, subcategorised gender.

Includes suppressed/unknown values within percentages to prevent back-calculation of "female"/"male" counts from "all" counts.



The ratio of males to females was more even than in the previous audit (from 80:20 to 65:35, males: females). The male predominance is in line with national trends, in line with the overall audit findings (75:25). However, the degree of male predominance is lower than that generally seen elsewhere, both locally and nationally.

Despite males making up 64.6% of the suicide verdicts, they made up only 46.7% of the suspected suicides with alternate verdicts. A Chi-Squared test to examine whether this variation was greater than what should be expected by change was significant (p=0.04); non-male individuals are less likely to receive a suicide verdict than male individuals. The number of females was 81.3% more than might have been expected based off ONS counts, whereas the number of males was only 1.9% greater[12]. Although this does not detract from the apparent elevated suicide risk in males, it does demonstrate the potential for gender reporting bias in previous statistics.

Because of data suppression, little can be said to describe the distribution of non-binary genders.

Similarly, little can be said about the sexual preferences of the audited population, other than that they were predominantly heterosexual (85.4%), as with the previous audit (68.9%)[8]. Sexual preferences were difficult to identify from inquests, as despite being a protected characteristic, it was not included in HM Coroner's documentation. It was either ascertained from medical or police records, from family and antecedent statements, or assumed from current and previous relationships the individual was in. There is a chance this might lead to the underestimation of those with non-heterosexual sexuality, bi-sexuality, or who had either hidden, or not shared their sexuality widely. This problem was identified in the previous audit.

Although data on age, gender, and sexuality gives an idea of some at CGOS described high-risk-groups within the population, it does not provide useful information on smaller populations who may be equally at risk[3]. suppression of some of these subgroups within the data is not evidence that they have reduced risk of suicide, merely a sign that information to support suicide prevention in these groups may need to come from either nationally available data, or other locally generated intelligence beyond the scope of this audit.

In Depth Analysis: Middle Aged Men

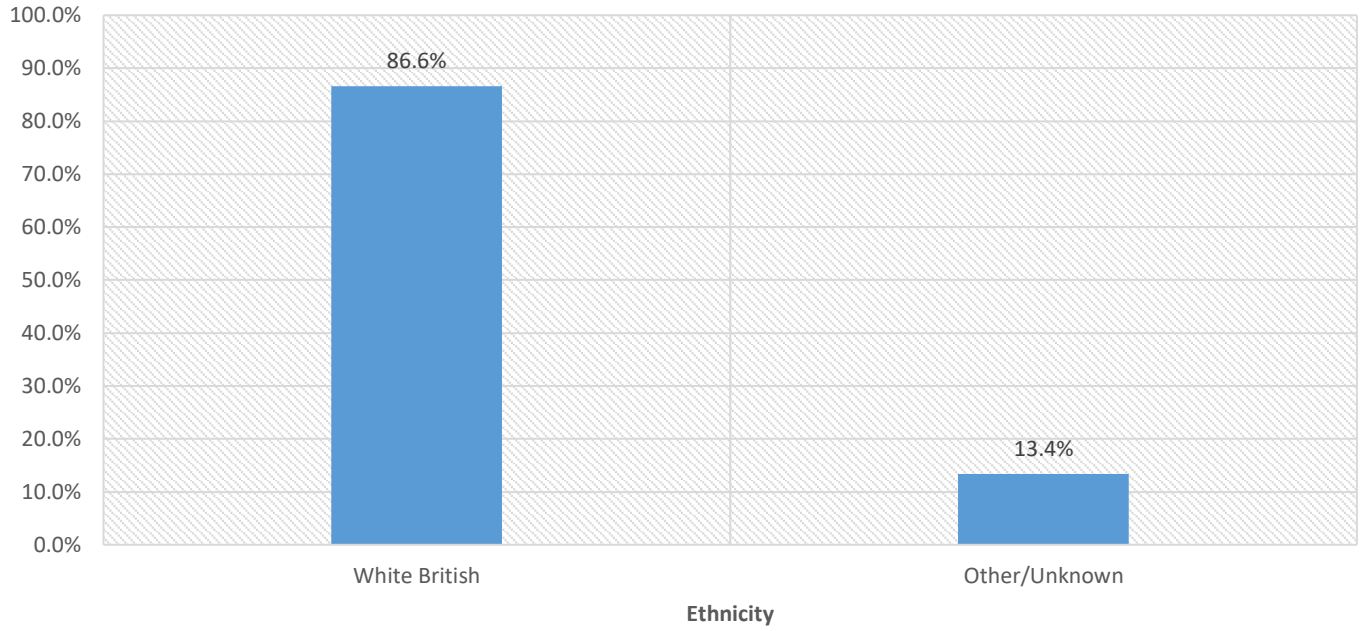
"Middle aged men" have been identified as a priority population in the West Yorkshire and Harrogate Health and Care Partnership ICS Suicide Prevention Programme[60]. In Calderdale 36.6% of suicides occurred in "middle aged men", aged between 35 and 65.

Within this group most are White British and were born in Calderdale or elsewhere in West Yorkshire. 70% were employed, most worked with a skilled trade, or with plants and machines (SOC code 5 and 8). A total of 43.3% have a history of alcohol addiction, and 36.7% have a history of substance misuse, most commonly with cannabis (16.7%). Common antecedents include relationship difficulties (43.3%), issues at work (23.3%), bereavement (23.3%) and difficulties with illness (20%). 90% had a mental health diagnosis, most commonly affective disorders, with 36.6% having had contact with mental health services in the preceding year, and 73.3% having had contact with their GP in the same period. 56.7% of suicides occur through the mechanism of hanging, with most occurring within the home.

Ethnicity and Nationality

There were 82 cases of suicide included in the Calderdale audit, and for ethnicities to be coded in a "useful" way, categories had to be broad. The following discussions do not intend to suggest that the myriad of global ethnicities can be described in a few broad categories, nor do they necessarily assume that all those in similar ethnic groups will have shared culture, religion, and behaviours. Despite this, prevalence, mechanisms, and risk factors for suicide do vary between ethnicities[43,44], and an understanding of this variation is needed to make sure that all populations and communities are considered in a needs based manner in suicide prevention work.

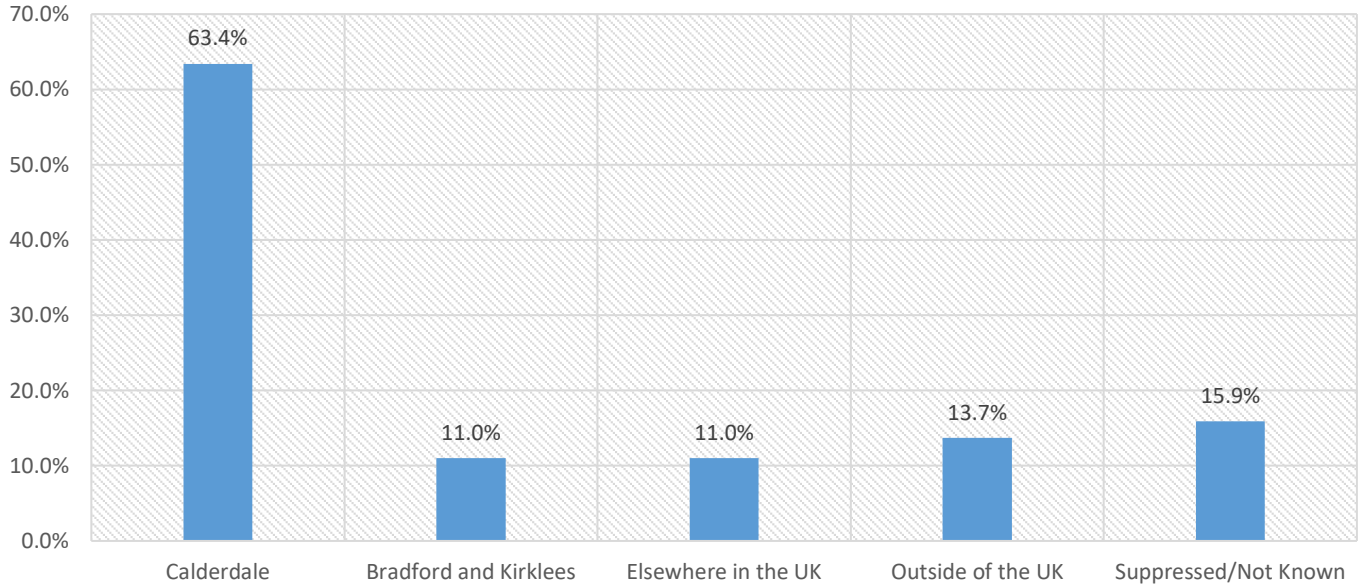
Figure 12: Distribution of Ethnicity amongst people residing in Calderdale at the time of their suicide.



Most suicides, nearly nine in ten, in Calderdale involved White British people, this was very similar to the demographic spread seen in the 2012-2014 Suicide Audit[8]. Other ethnicities were not present in numbers large enough to overcome data suppression. Looking at the wider audit, Pakistani and Central Eastern European ethnicities were well represented, however Bradford, Calderdale, and Kirklees each have their own unique mix of ethnicities, and extrapolation of these trends to the smaller Calderdale population may not be appropriate.

Previous studies in the US have suggested that those of Black and Hispanic ethnicities are more likely to have suicides misclassified[43]. Although "misclassification" implies error in verdict, this audit has not aimed to identify "misclassification" of HM Coroner's verdicts, but instead taken a broader "reclassification" of suicide that better suits the audit's purpose. Numbers are not sufficient for analysis of ethnicities of the "reclassified" verdicts,; those with non-suicide verdicts (e.g. open, narrative, accident…). However, the joint findings do suggest that some South Asian ethnicities may be over-represented in this population. Rationale for such an inequality does exist, with reporting of self-harm lower in this group, and possible (but by no means universal) religious beliefs complicating the impact of a suicide verdict.

Figure 13: Distribution of Place of Birth amongst people residing in Calderdale at the time of their suicide.



Place of birth does not necessarily define nationality; however, there was very little discrepancy between the two in the audit. This may be a result of the fact that where nationality was recorded in inquest documents, it had been assumed based on place of birth. They have therefore been considered together in the audit discussion.

Nearly two thirds of the people who carry out suicidal actions in Calderdale were born in Calderdale (63.4%), more than in the previous audit (46.7%)[8]. This is important; for many people suicide prevention strategies have the potential to act over the entire life course. 22.0% of those included in the Calderdale audit came from elsewhere in Yorkshire and the Humber, with half of these people coming from the neighbouring authorities of Calderdale and Kirklees, which were also covered in this audit.

A total of 13.7% of people came from outside the UK. Looking at the wider joint audit findings, particular groups identified within this population included Central and Eastern European migrants, who were typically male and employed in the low-wage economy.

Geography and Deprivation

Post-code area data was recorded as part of the audit, full post-codes were not recorded, the benefit in improved resolution did not warrant the collection of this identifiable information. Given this, the limited sample size, and a mismatch in geographical level between indices of multiple deprivation (IMD) and data recorded in the audit, it is not possible to carry out useful robust statistical analysis between suicide rate and IMD decile. However, it is possible to comment on the distribution of suicides throughout the authority.

There were a large number of suicides around the Halifax urban area (HX1, HX2, HX3), and fewer in the surrounding rural areas. This urban centre corresponds to several areas of higher deprivation. Other areas of higher deprivation occur around HX5 and HD6, and OL14, where suicide counts were lower. HX7 and HX8 are more rural areas, with lesser overall deprivation, however around Sowerby and Hebden bridge there are areas of higher deprivation. These trends should be understood in the context of the caveats of this data. There are more people living in urban areas, and although mortality was calculated for post-code region, the

Figure 14: Suicide count by post-code area in Calderdale 2016-2018 compared to the IMD.

Where counts are zero or less than five an "X" has been used to denote data suppression. Post-code areas within Calderdale but not labelled on the map contain suppressed data only.

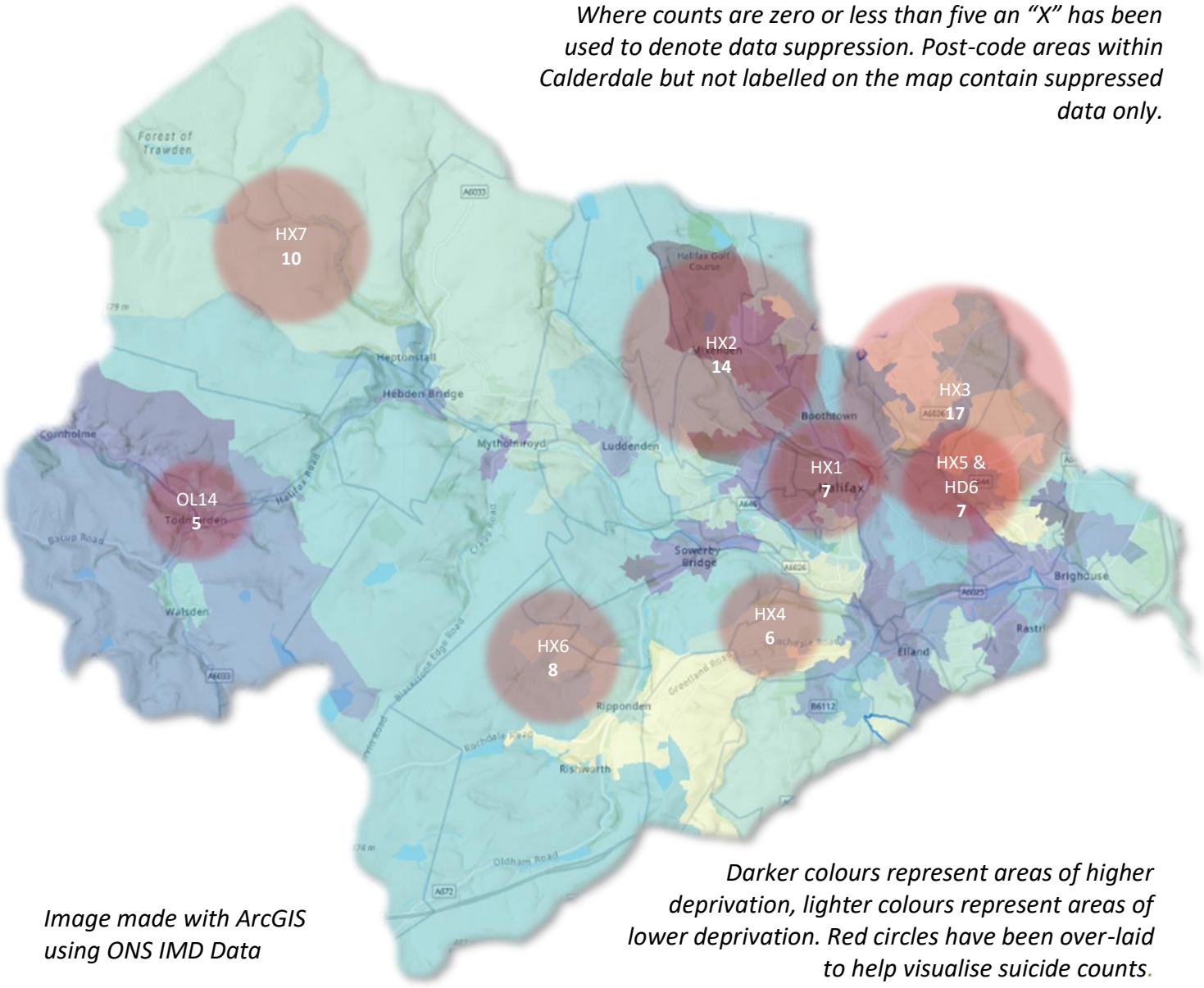


Image made with ArcGIS using ONS IMD Data

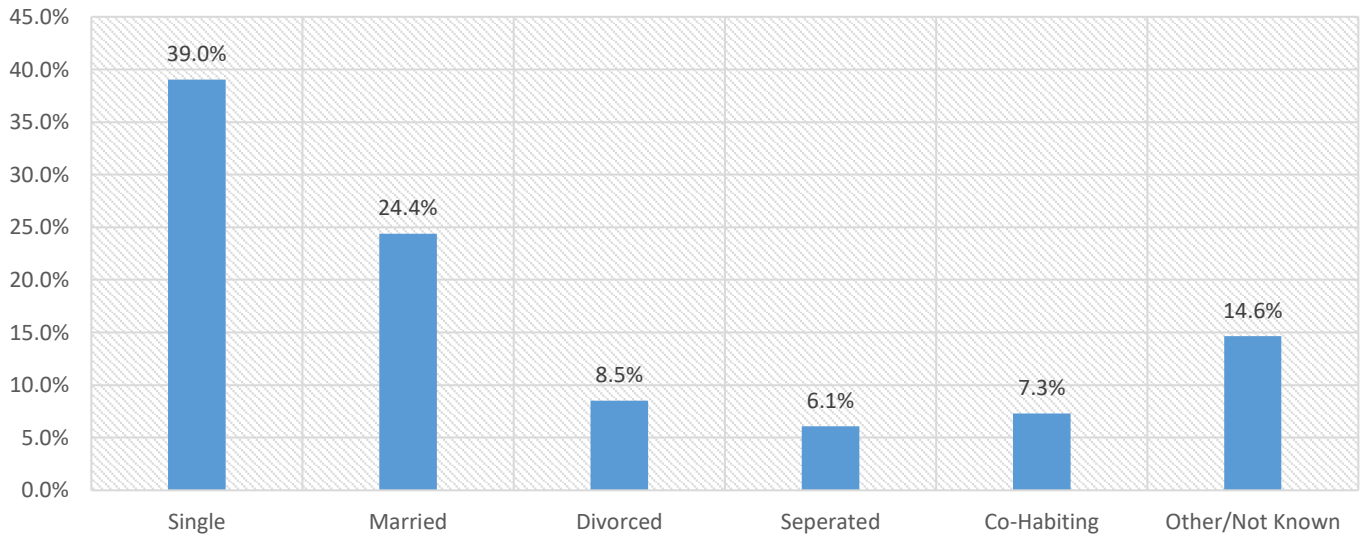
Darker colours represent areas of higher deprivation, lighter colours represent areas of lower deprivation. Red circles have been over-laid to help visualise suicide counts.

population sizes considered are not large enough to generate useful results. Accordingly, it should be remembered that this data does not tell us that urban and deprived locations are more at risk, just that in Calderdale, most, but by no means all, suicides may occur within these areas.

Living and Marital Situations

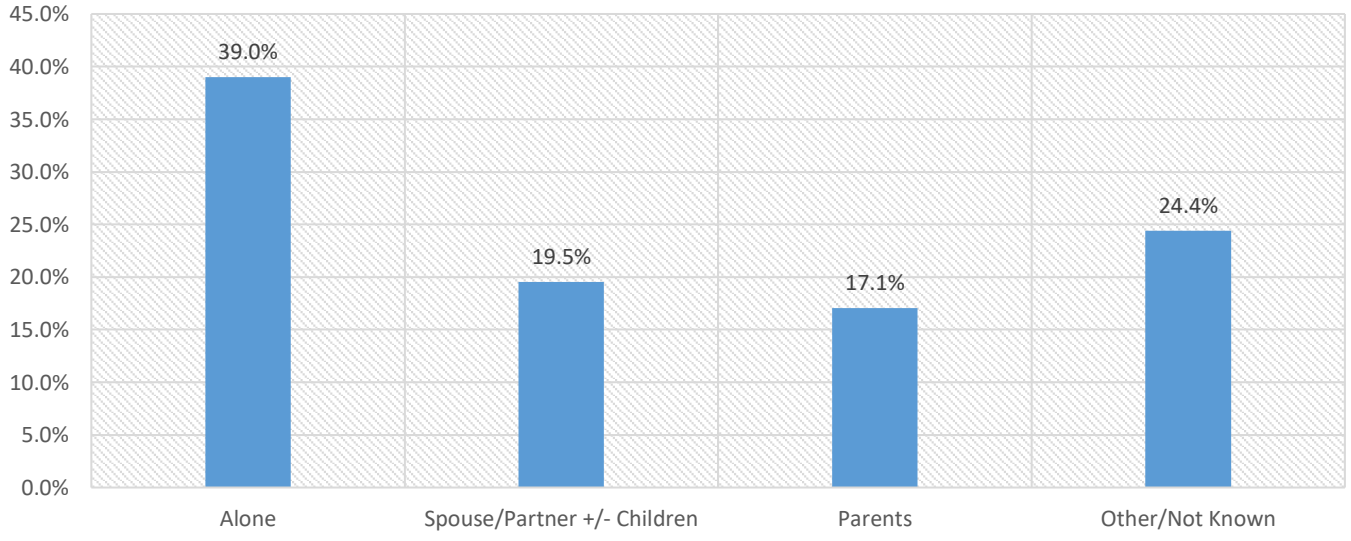
Data on marital and living situation was obtained largely from HM Coroner's documentation within inquest files, with family, police, and medical records complementing this where it was lacking.

Figure 15: Distribution of Marital Status amongst people residing in Calderdale at the time of their suicide.



In line with previous audit (28.9%), most people (39.0%) were single[8]. Nearly a third of people (31.7%) were in a relationship, slightly fewer than in the previous audit (33.3%). Around a seventh of people (14.6%) had ended a relationship and not yet found a new serious partner (a "serious" partner was counted as a co-habiting partner, married partner, or civil partner; a "separation" or "divorce" could only follow a "serious" relationship), again this was like the 2012-2014 audit (35.6%)[8]. As well as similarities to the previous audit, similarities were seen in the distribution of marital statuses across Bradford and Kirklees.

Figure 16: Distribution of Living Status amongst people residing in Calderdale at the time of their suicide.



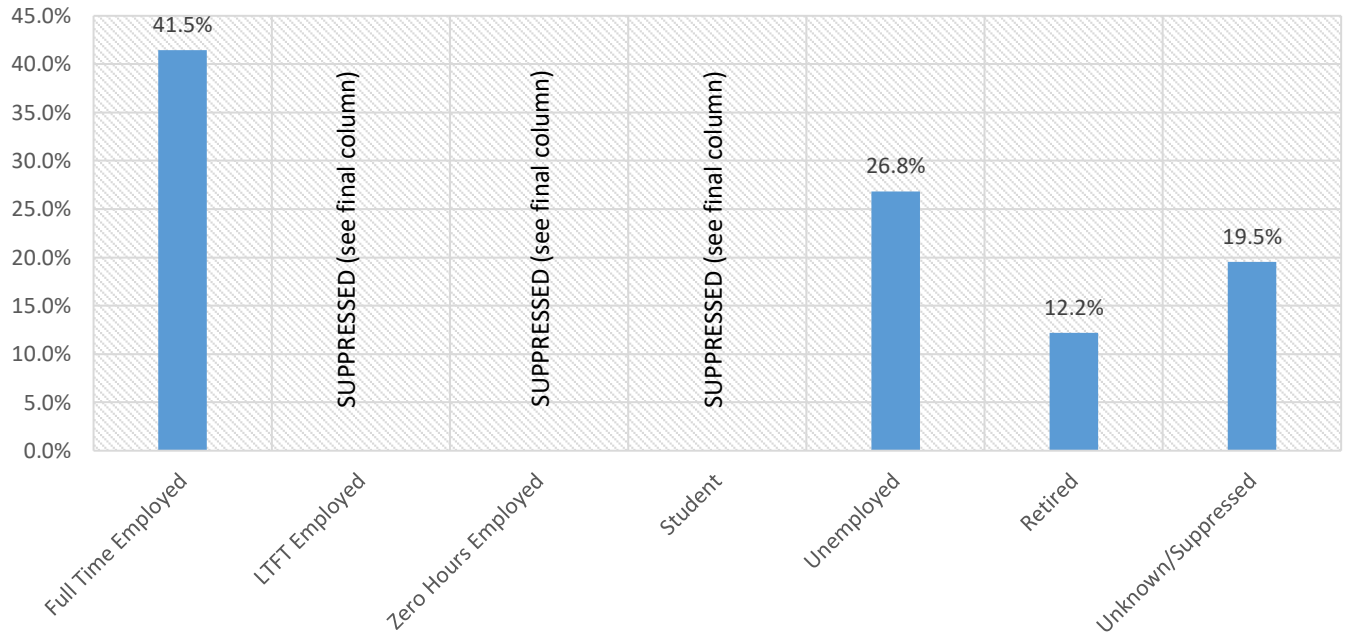
As expected, given marital statuses and results from the previous audit, most people lived alone (39.0%), this figure has increased from the previous audit (36.7%)[8]. Again, this can be contextualised by census data, in which 13% of people in England and Wales reported to be living alone. Just under a quarter lived with their partners (19.5%). A similar proportion (17.1%) lived with their parents, this was a much higher percentage than was seen in Bradford and Kirklees. The remaining quarter (24.4%) were single parents, living with other family, living with friends, in houses of multiple occupancy, or in alternate accommodation.

The audit found that living alone, and experiences of social isolation, were apparent in people of all ages, and not limited to the elderly[45].

Employment

Employment was considered both by employment status, and by SOC code of the current or predominant previous employment.

Figure 17: Distribution of Employment Status amongst people residing in Calderdale at the time of their suicide.

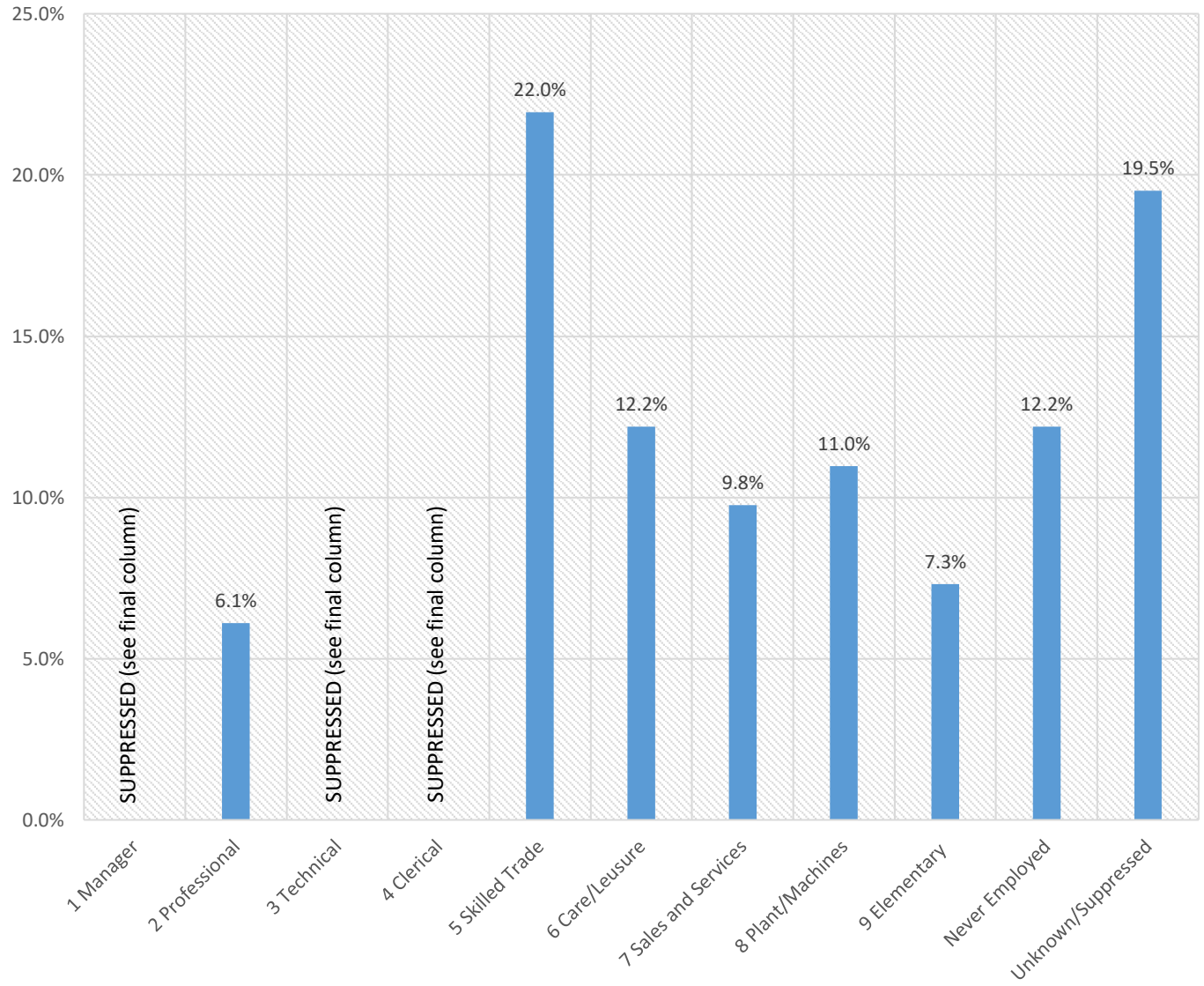


Around half of people were employed, with about a quarter being unemployed (26.8%), fewer than in the Bradford and Kirklees audit. Although many of the unemployed had been unemployed for several years, some had only recently become unemployed because of the other issues that led to their suicide. The unemployment rate among 16-64 year olds rate across West Yorkshire is around 5%, with a further 15% not contributing to the economy, largely because they are enrolled as students[46]. Although the suicide audit involves a wider population range (and as such may contain more students and retirees than the ONS data), these figures highlight the importance of considering unemployment in suicide risk.

There were very few to no less than full time (LTFT) employees, zero-hour contract employees, or students. In many cases it wasn't clear from the inquest what type of employment contract people worked with, in these cases they were assumed to work full time, and so there is possibly underrepresentation of LTFT employees and zero-hour contracts. 12.2% of people were self-employed, and although many may have

worked on unpredictable short-term contracts, they were listed as full time employed unless there was convincing evidence to the contrary.

Figure 18: Distribution of Employment SOC codes amongst people residing in Calderdale at the time of their suicide[1]



Although SOC codes do not represent a linear "ranking" of jobs, those nearest "1" are generally associated with higher incomes, and potentially higher job security. It is notable that there is skew towards jobs coded nearer to "9", traditionally lower paid and less secure jobs. The exception to this trend is seem amongst those working with a skilled trade, often within the construction, electrical and vehicle trades, a common theme here, as is later discussed, were difficulties with self-employment, especially when those owning small businesses were responsible not just for their own income, but for those of colleagues, friends, and family.

[1] ***SOC Summary Definitions:***
1 Managers, directors, & senior officials, 2 Professional occupations, 3 Associate professionals & technical occupations, 4 Administrative & secretarial occupations, 5 Skilled trade occupations, 6 Caring, leisure, & other service occupations, 7 Sales & customer service occupations, 8 Process, plant, & machine operatives, 9 Elementary occupations

Traditionally healthcare, agriculture, and cooking are perceived as at-risk professions[3], these professions were coded for, with 8.5% of the audited population working in healthcare (the other professions were not found with sufficient frequency to overcome suppression).

Suicide count among those currently serving in the armed forces, or ex-service veterans, cannot be displayed for Calderdale because of data suppression regulation. However, looking at the broader joint findings, this group was well represented, and it was apparent that not all of those who had served in the military had served in the UK Armed forces.

Similarly, local data for carers is limited, although both paid and unpaid carers were represented throughout the joint findings. Most were unpaid, with common themes from carers, and those in care, being that care needs were beyond what a partner, family member, or professional could provide.

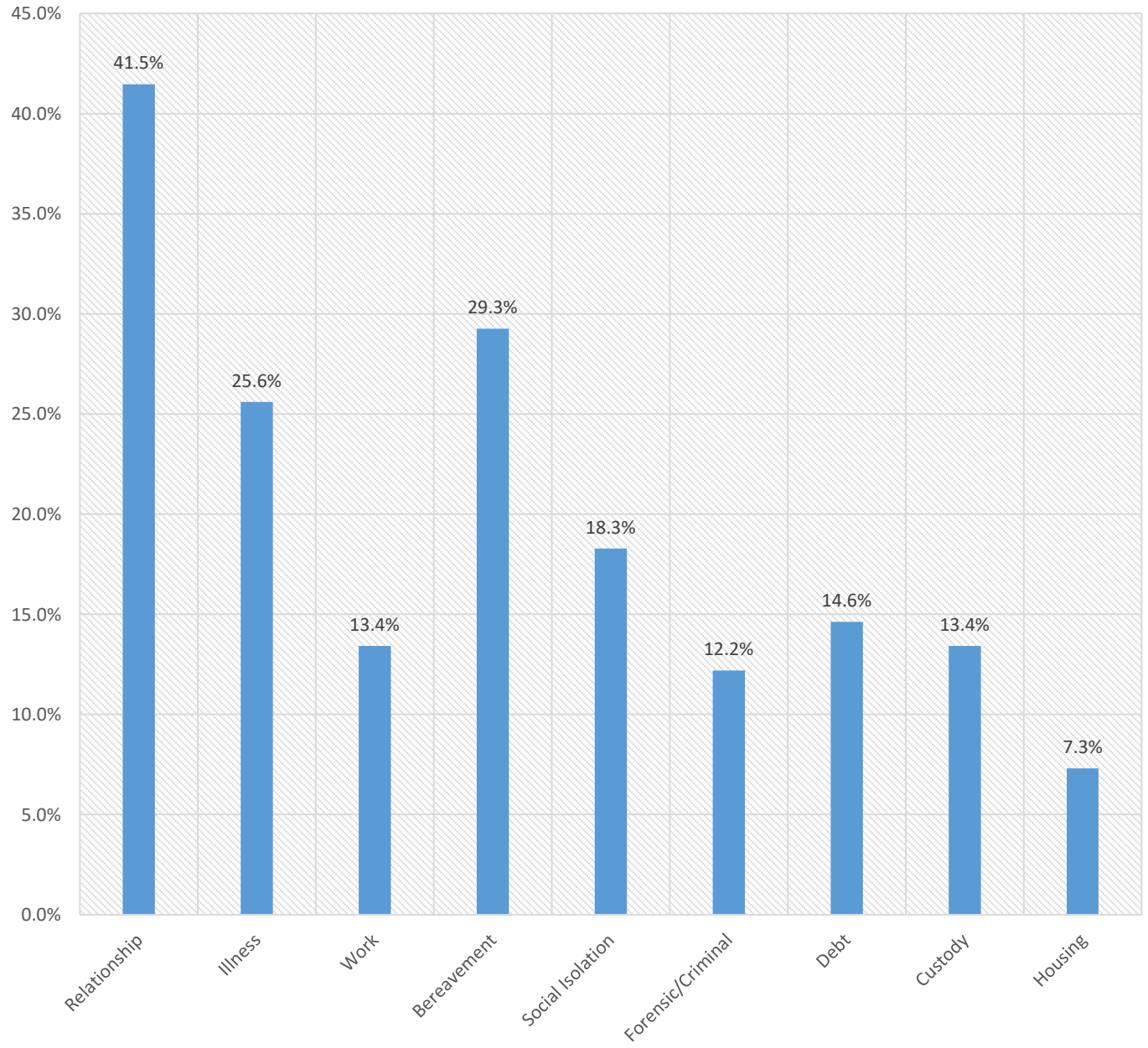
Those who are self-employed were also considered in the audit; around one in eight (12.2%) suicides occurred in people working for themselves, with business stresses, failures, and debts a common narrative in antecedent statements and suicide notes. To put this in context, across the UK roughly 7% of people are self-employed[46]. Similar trends have been found in dedicated research abroad, with a recent South Korean study finding increased risk of suicide among those who are self-employed when compared to those in standard employment[47].

Short Term Risk Factors (Adverse Life Events)

Where data was available, 93.4% of individuals had identifiable recent adverse life events described in their inquest that seem to have contributed to their suicide. This contribution was not assumed by the auditors, but only included where specific evidence of adverse life events impacts on mental health were made. This was often through suicide notes, text messages, family and friend's antecedent statements, mental health trust documentation, and occasionally other medical and police records.

A single risk factor was less frequently responsible; 61.0% of the suicides audited had multicomponent risk. Those causes most likely to be "sole" risk factors included bereavement (in 20.8% of cases bereavement occurred, no other adverse events were recorded), illness (19.0%), and relationship difficulties (26.5%).

Figure 19: Distribution of adverse life events as antecedents to suicide in Calderdale 2016-2018



Relationships and Custody

Relationship difficulties, as has been seen in the previous audit (48.9%), were the predominant adverse life event prior to suicide[8]. Relationship issues were suspected to have contributed to around two in five suicides (41.5%). A newer theme that developed from this audit was the role losing custody or contact with children played; it was a possible risk factor event in 13.4% of cases.

Bereavement

Bereavement contributed directly to nearly a third (29.3%) of suicides, more than in the previous audit (15.6%)[8]. Over a third of bereavements (36.8%) occurred because of suicide, around one quarter of this population had sought professional help (28.6%), the rate was lower, 16.7%, for people bereaved by other means. The importance of bereavement as a risk factor is highlighted by the fact that around one in five (20.8%) suicides secondary to bereavement had no further associated adverse life events.

Looking at the narrative details from across the combined audit around bereavement demonstrated limited further trends, however two aspects are worthy of comment. The first is that the time since bereavement did not seem consistent, in some cases it was a very recent bereavement, and in some cases, it had been a number of years. The second point is that the although bereavement was usually of a close family member, this was not always the case. There were examples of bereavements of friends, more distant family, and even pets that suicide notes and antecedent statements clearly correlated to suicidal ideation.

Illness

The third most common trigger was a struggle will illness, as was seen in the previous audit (22.2%)[8]. This does not include everyone with a substance misuse diagnosis, mental health diagnosis, or physical health diagnosis; if it did then this would include a greater proportion of the audit. This only includes people whom the inquest described as struggling with their mental or physical health to such an extent that it contributed towards their motivations for suicidal action. Often this information came from suicide notes, and family statements, but no assumptions were made based of coded GP or Mental Health records. Accordingly, it is likely that mental health diagnoses specifically contributed to more than 25.6% of suicides; however, this is discussed later.

Work

Nearly a seventh (13.4%) of people had been struggling at work prior to their suicide, more than in the previous audit (6.7%)[8]. Common themes linked in with other risk factors, such as self-employed individuals struggling with unsuccessful businesses, or issues elsewhere, especially with mental health, physical health, or forensic activity, spilling over into work. Looking at the narrative information, employers were generally supportive where appropriate, but often problems escalated after choosing, or having to, leave work through illness or criminal charges. This is perhaps highlighted by the fact that so many (26.8%) people were unemployed prior to their suicide.

Social Isolation

Social isolation was cited as an antecedent in 18.3% of cases. There is potential that this value should be higher; especially as many of the individuals who were socially isolated had limited family and friends available to give statements that might outline why they were having suicidal ideations.

Financial Concerns

One in five (20.7%) individuals were struggling with debt at the time of their suicide, and almost none had accessed professional help. Much of this data came from police and GP records. Debt and financial concerns were specifically cited as an antecedent to suicide in 14.6% of inquests.

Looking at the narrative data, debt was rarely the sole short-term risk factor, often combining with difficulties from self-owned businesses, illness, and redundancy or difficulties at work.

Forensic and Criminal Involvement

12.2% of suicides cited forensic involvement, as a victim or an assailant, as a potential adverse life event leading to the suicide. Nearly a fifth (17.1%) of individuals had forensic involvement prior to their suicide, with most of these cases being as perpetrators of crime, and not victims (although much of this data came from police records, and victims of crime may have been underreported). Criminal activity was usually combined with other risk factors such as substance and alcohol misuse, debt, and often adverse events during childhood.

Other less common narratives can be drawn from across the entire audit but remain pertinent to each of the three local authorities. Examples include accusations of highly stigmatised crimes such as possession of child pornography, individuals awaiting charges and nervous about potential conviction, and perpetrators of domestic abuse subsequently losing both contact with their partner, and custody over children.

Housing

A total of 7.3% of people were struggling with housing concerns to such a degree that it is suspected to have contributed to their suicide.

Drawing from across the whole audit population to avoid comment on suppressed data, narratives included issues with homelessness, unsuitable or vulnerable housing, and flood damage. Looking at homelessness, often antecedent statements were lacking, incomplete, or very brief within this population, making it difficult to assess whether the subject of the inquest's housing status formed part of their decision making around suicide. However, common themes identified involved difficulties throughout the life-course including childhood and struggles with addiction. Most of those identified as homeless in the audit attempted to reach out and inform someone of their intention prior to suicide, similarly, most were using social media prior to their suicide. Beyond this, it appears that a larger number of the population may have met criteria for being vulnerably housed, although this data was not formally recorded [48]. There were cases where following difficulties with relationships, finances, or addiction people were staying with friends or family temporarily at the time of their suicide, however from available data it was unclear if this contributed as an antecedent to suicide.

Other

"Other" reasons were wide-ranging and cannot all be discussed in depth without compromising confidentiality. However, many were either linked to risk factors discussed elsewhere in the report, or to difficulties with a traumatic event in the distant or recent past.

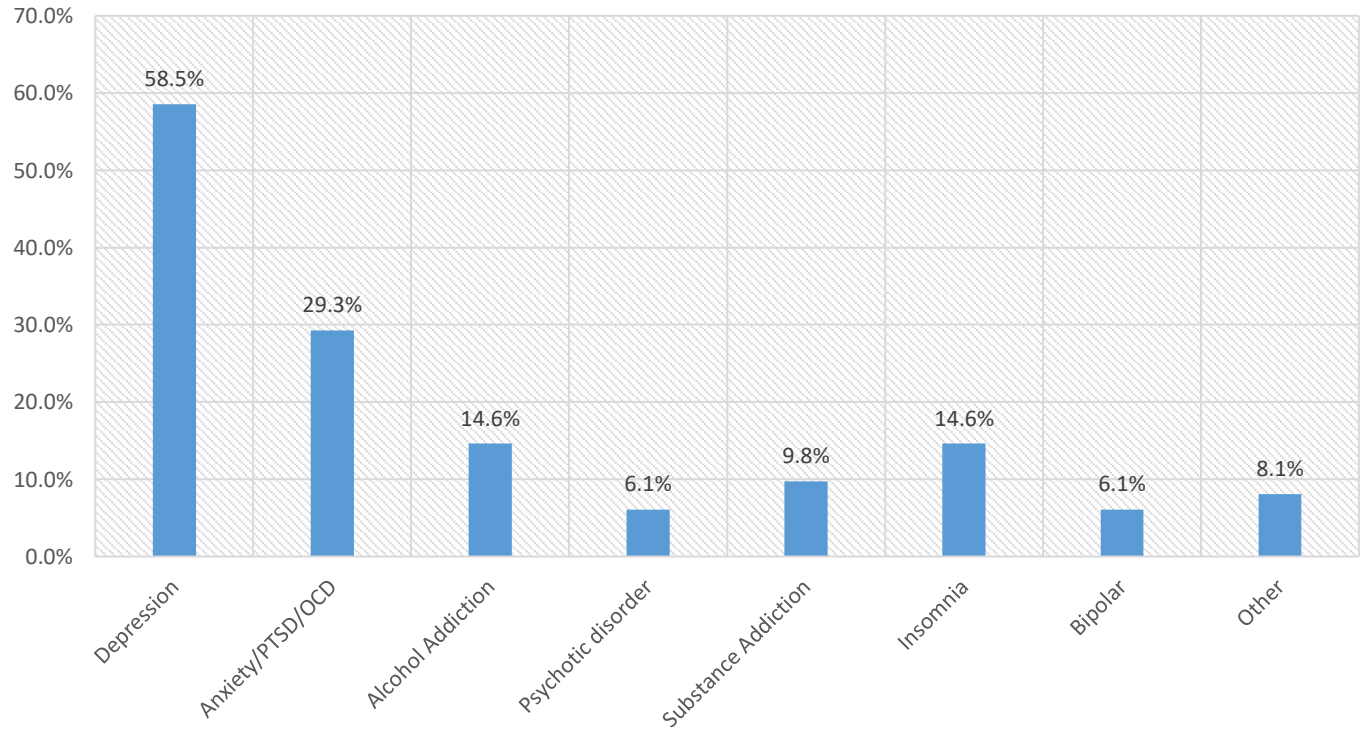
Long-Term Risk Factors

Mental Health

Over three quarters of those audited had a pre-existing mental health diagnosis (76.8%). As might be expected from general prevalence data the most common were affective disorders. Diagnosed alcohol addiction was common (14.6%), as would be expected given that 31.7% of those audited drank an excessive amount. Similarly substance misuse was a common mental health diagnosis (9.8%), although given that 19.5% of those who died from suicide were abusing drugs, it would seem primary care, mental health, and addiction services are missing the opportunity to help over half of those struggling with drug addiction. It is possible that some of this gap are being seen in addiction services, but that primary care and mental health practitioners are not aware of this; addiction service notes were not universally present.

Psychotic disorders were coded when primary care of mental health case notes specifically referred to psychotic symptoms, whether they be drug induced, part of a diagnosis such as schizophrenia, or of unknown origin. This was still limited to information found from primary care and mental health professionals, and not from antecedent references or suicide notes, i.e. the auditors did not make any diagnoses themselves. 6.1% of suicides occurred in combination with a psychotic disorder Looking at audit data from across the three authorities, two strong narrative themes emerged from these cases; those having an acute psychotic episode and those who had spent years dealing with psychosis and could no longer manage. Although this audit purposefully did not review serious incident reports by mental health trusts and is in no way an audit of their performance, a common theme amongst the latter category was a feeling that services weren't listening to them or taking their risk seriously.

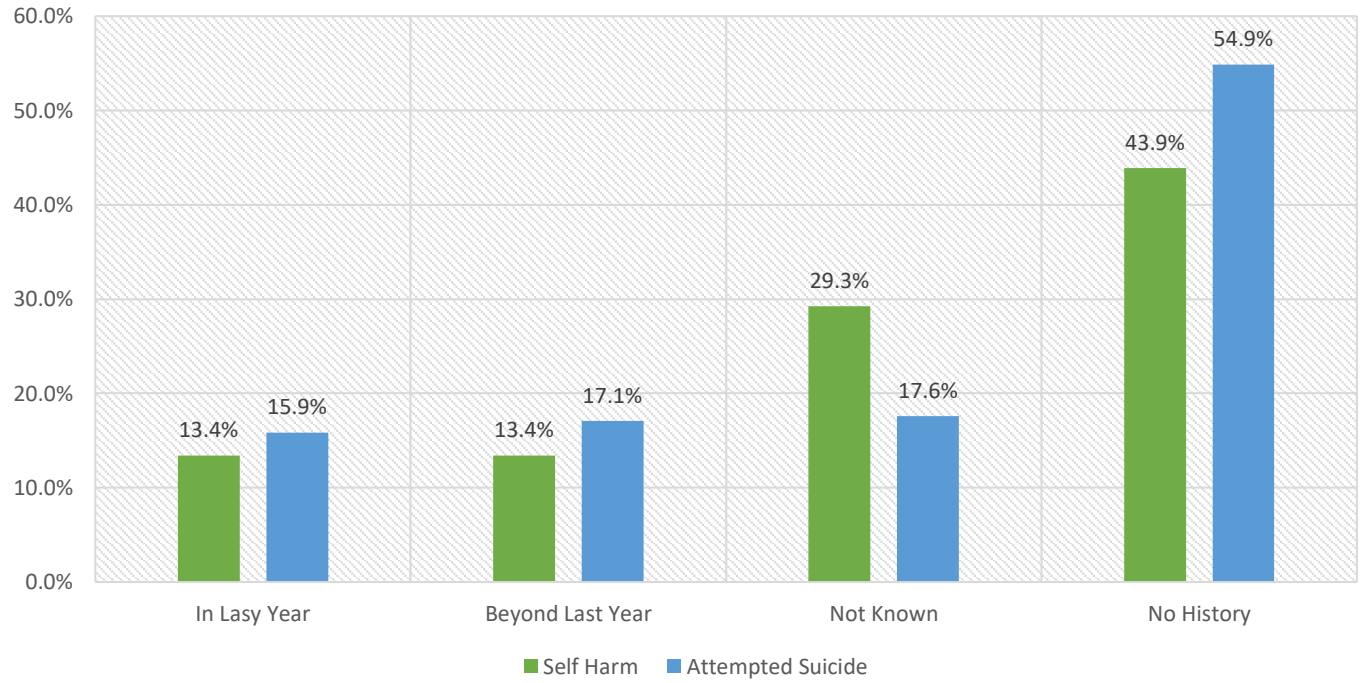
Figure 20: Prevalence of mental health conditions in Calderdale Suicides 2016-2018



Insomnia, again only coded if formally diagnosed, was present in 14.6% of cases, although sleep problems were a common narrative theme among those struggling with depression and anxiety. Personality disorder prevalence was not high enough to overcome suppression, but from the joint audit, from reading antecedent, GP, and personal statements, it appeared possible the diagnosed prevalence of personality disorder is an underestimation of the actual amount.

Outside of this diagnosis-based framework, adverse childhood events were also considered. This did not require diagnosis form a mental health professional but was coded for when there was evidence that a significant adverse had event had occurred in the individual's life before the age of 18. This included but was not limited to bereavement, sexual abuse, serious physical and mental illness, and expulsion from schooling. Data was gathered mostly from antecedent statements and mental health records, with evidence of adverse events found in 22.0% of inquests. The true percentage may be higher; 31.7% of cases did not contain enough information to assess whether there was a history of adverse childhood events.

Figure 21: History of self-harm and attempted suicide in Calderdale Suicides 2016-2018



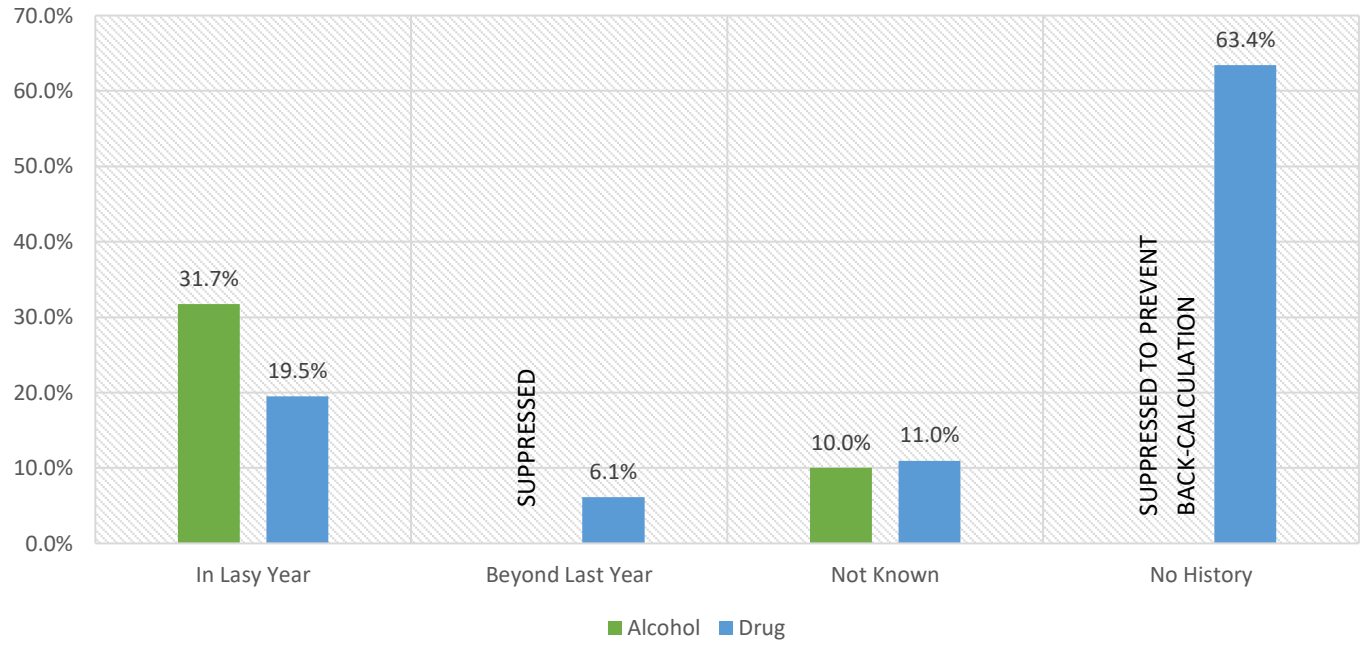
History of suicide attempts and self-harm was sometimes difficult to establish, especially when in-depth antecedent statements and mental health documentation were unavailable. Despite this, around one in six suicides were preceded by an attempt in the previous year (15.9%), whilst 33.0% of suicides were preceded by an attempted suicide at any time.

The prevalence of historic self-harm was a little lower, 18.7% in the last year, and 35.2% at any time. Self-harm and attempted suicide can be difficult to distinguish, especially in the case of overdoses. A "balance of probabilities" approach was taken, and although there is a large margin of error given the limited information available in the inquest on historic acts, this does not detract from the overall pervasiveness of both previous self-harm and attempted suicide.

Addiction

Alcohol, drug, and gambling addiction were considered within the audit; from reviewing the notes it did not seem there was any obvious alternate addiction missed by the protocol. It remains possible that other addictive behaviours contribute to suicide in Calderdale, however these were not described in the inquest notes.

Figure 22: Prevalence of alcohol and drug misuse in Calderdale Suicides 2016-2018

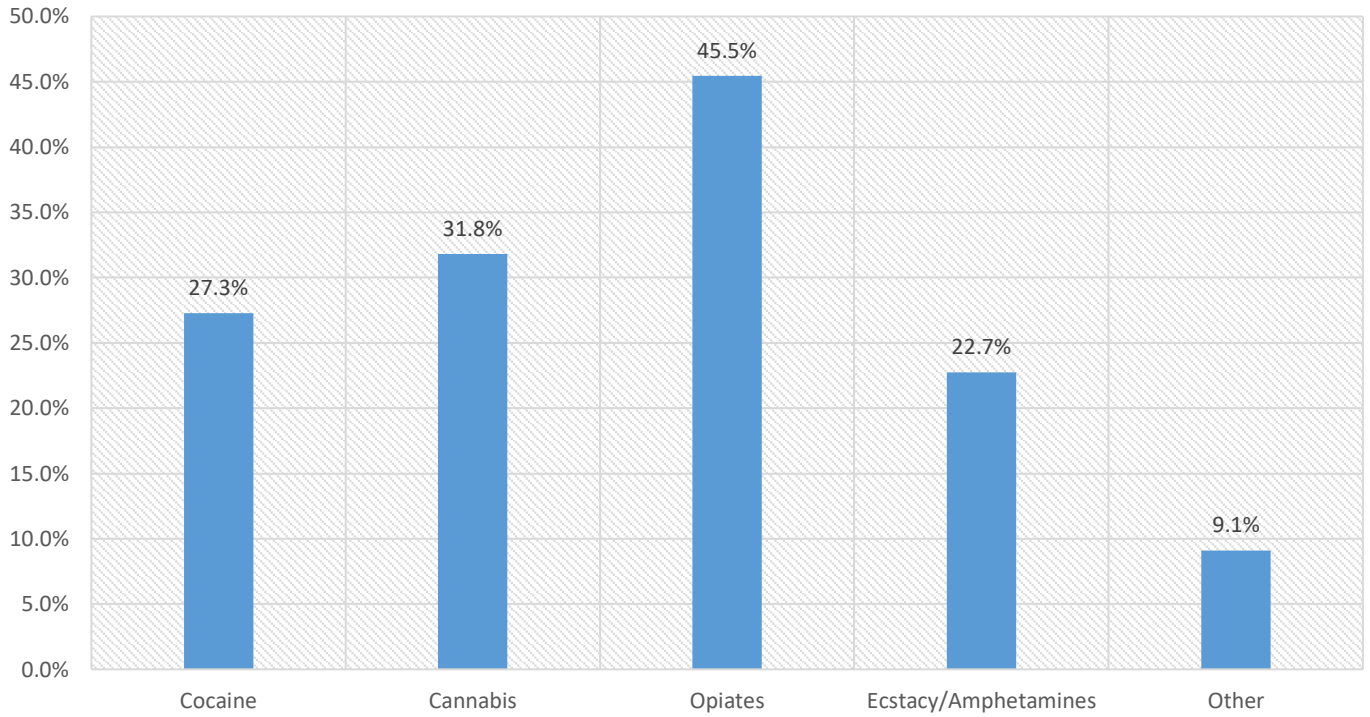


A little over a quarter of suicides occurred in combination with a recent history of alcohol or drug misuse (31.7%, 19.5%), with slightly more having recovered from previous addiction.

This information came from a wide array of sources but was usually alcohol or drug use defined as problematic by a family member or healthcare professional. Drugs found on suicide toxicology were not sufficient evidence to suggest an extant or extinct history of misuse. Of those using drugs, the most common were cannabis, cocaine, opiates (most commonly heroin), and other stimulants. Cocaine use was especially common in men under 40, with 29.2% of this group having issues with cocaine abuse. Other drugs such as ketamine, solvents etc. were considered but not found in sufficient quantities to overcome suppression.

These trends are notably different from the previous audit, where 11.1% (compared to 7.3%) of suicides involved cocaine misuse, just 4.4% (compared to 12.2%) abused heroin, and 8.9% (compared to 8.5%) abused cannabis. Opiate abuse would appear to be more common amongst those dying from suicide, whilst cocaine abuse it slightly lower. These changes may in part be accounted for by the change in audit scope. A greater proportion of overdoses are included in the current audit given the inclusion of accidental and drug and alcohol verdicts, several of which occurred in combination with opiate addiction. Similarly, it is not clear if the previous audit looked at post-mortem data to ascribe substance misuse, if this was done here, cocaine use would in fact be even higher than in the previous audit, at 15.9% of the whole population.

Figure 23: Prevalence of different substances being used by those with a history of substance misuse in Calderdale Suicides 2016-2018



Gambling addiction was rarely commented on; occasionally items such as betting slips were found suggesting a history of gambling, but with no evidence as to whether this was a problematic activity, such examples were not included as "gambling addiction". Accordingly, little can be said about this potential issue in Calderdale.

In Depth Analysis: Dual Diagnosis

Those with the "dual diagnoses" of addiction and mental health condition were raised during discussions around what the audit should cover as a particularly high-risk group, accordingly they have been covered in all three audit reports. Of those with substance misuse, 95.2% had a mental health diagnosis (excluding diagnoses of addiction).

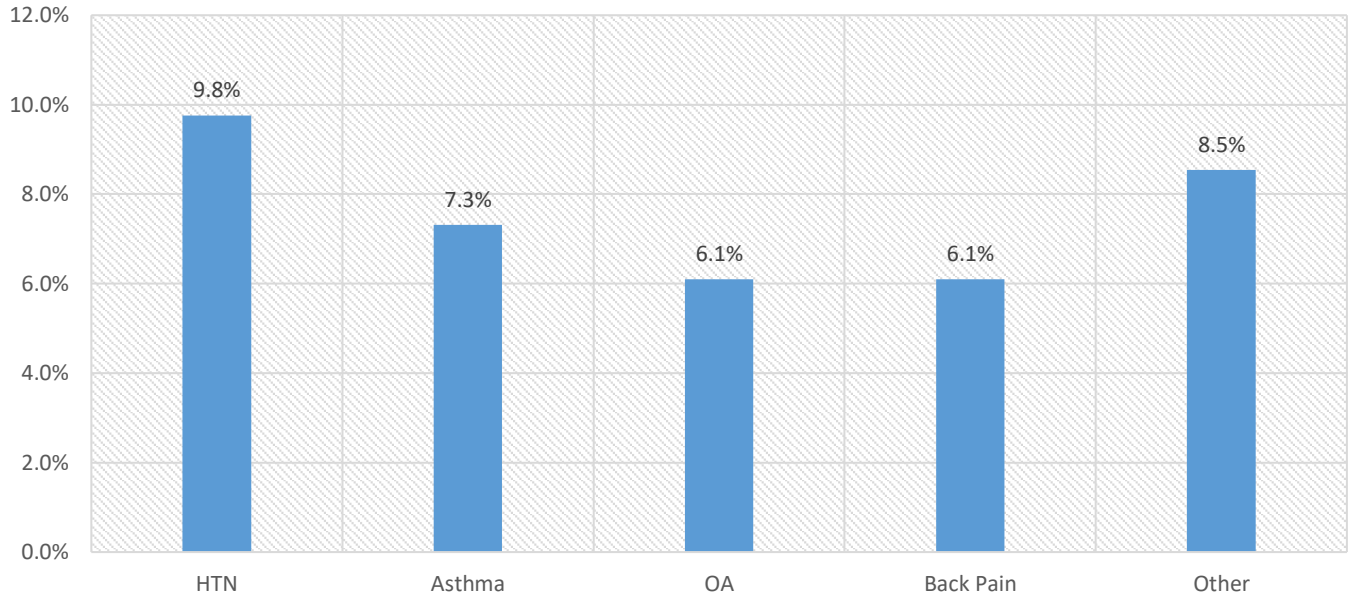
Common themes during this "dual diagnosis" group included difficult relationships, forensic involvement, and most notably, a history of adverse childhood events, some of which appear to have been direct antecedents to addiction.

It can be difficult to access mental health services whilst misusing alcohol and drugs. It is possible that these difficulties are reflected in the audit findings; of those using addiction and alcohol/substance misuse services, 61.9% had had no contact with Mental Health services in the year preceding their suicide.

Physical Health

Just over a third of those audited had a physical health diagnoses (35.3%), with common long-term conditions such as hypertension (HTN) and asthma well represented. Conditions such as back pain and osteoarthritis (OA) were also common, with wider joint narratives around these conditions focussing on difficulties with symptomatic control leading towards suicidal ideations. There was limited narrative link between asymptomatic long-term conditions and suicide. The one exception to this from the combined audit findings was in new cancer investigations, in which some individuals became very anxious about the possibility of cancer, even though they were still waiting for preliminary investigations to be carried out, and there actual risk of malignancy may have been low.

Figure 24: Prevalence of physical health conditions in Calderdale Suicides 2016-2018



Access and Crisis Point Intervention

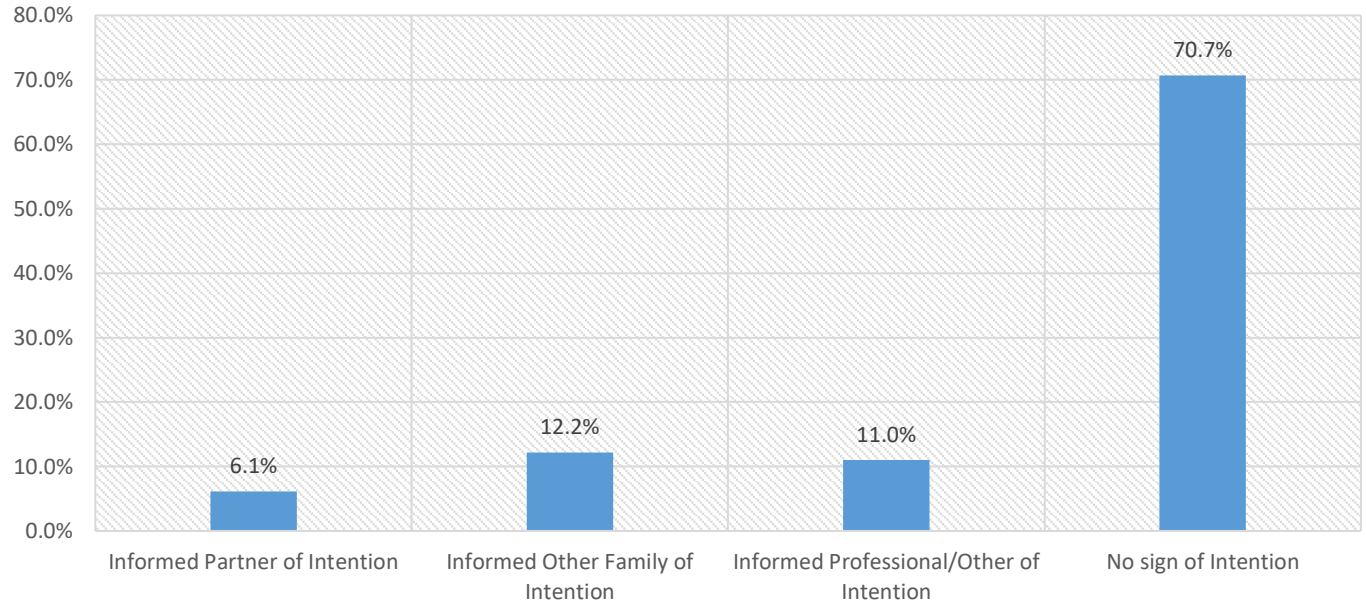
Reaching Out

Nearly a third (29.3%) of people reach out and tell someone before suicide. Most people told a partner or family member, with professionals less likely to be informed than in findings from Bradford and Kirklees.

Looking at the narrative details from across the combined audit findings, often, those related both professionally and personally were used to hearing about the subject's suicidal intent, and so either ignored them, or did not take them seriously. Others did try and reach out, but were often either too late, or turned away by the individual contemplating suicide. Of course, there are likely many cases of personal and professional contacts responding to similar signals of suicidal intent successfully, which obviously will not make their way into the audit.

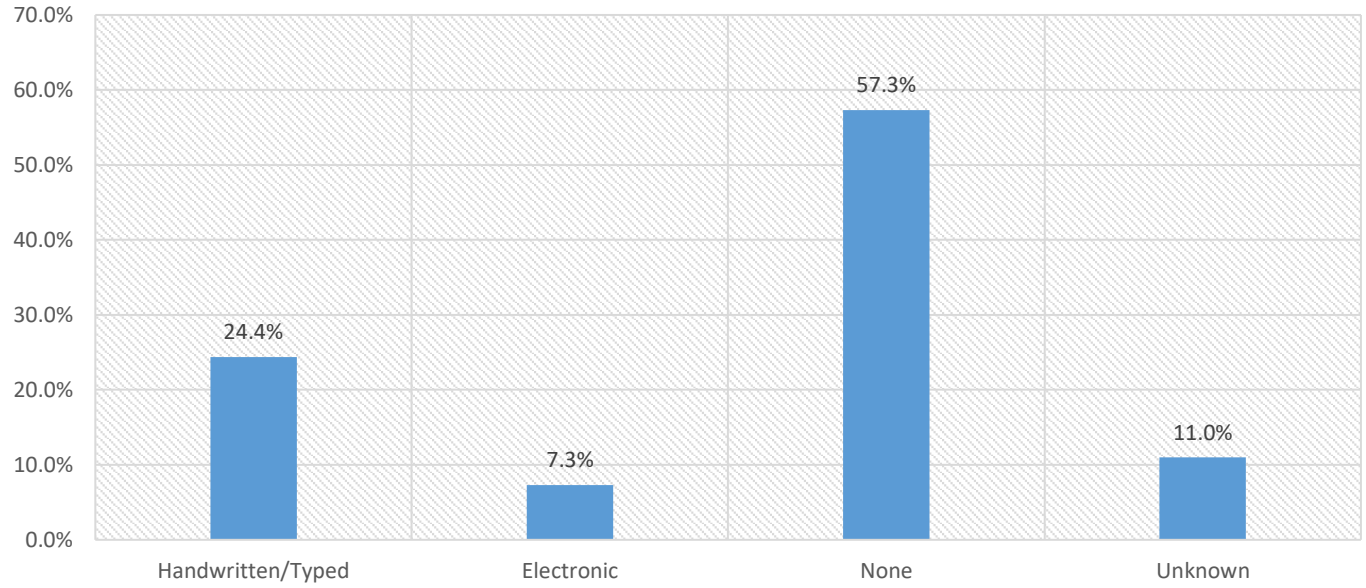
Whilst auditors did not make judgement about whether or not individuals reached out in time for the other involved party to act, messages sent out via text intended as suicide notes were excluded as demonstrations of suicidal intent, and included in the "suicide note" figure.

Figure 25: How do people reach out before suicide; Calderdale Suicides 2016-2018



As with reaching out before suicide, a similar proportion (31.7%) of people reach out afterwards with a suicide note. Most are handwritten or typed, a small number were sent via text or email to specific recipients. The nature of the notes was not audited, with causal observation noting a mix of both pre-prepared and considered notes, and last minute or impulsive warning, explanations, and messages. Whilst often difficult to read, these notes were invaluable in providing both narrative and coded information elsewhere in the audit.

Figure 26: Suicide Notes; Calderdale Suicides 2016-2018



Drugs and Alcohol

Although around a quarter of people struggled with alcohol misuse at some point in their lives, and a similar proportion struggled with drug misuse, a much larger proportion (53.6%) were under the influence of drugs or alcohol at the time of their suicide.

Figure 27: Post-Mortem evidence of recent drug and alcohol use; Calderdale Suicides 2016-2018

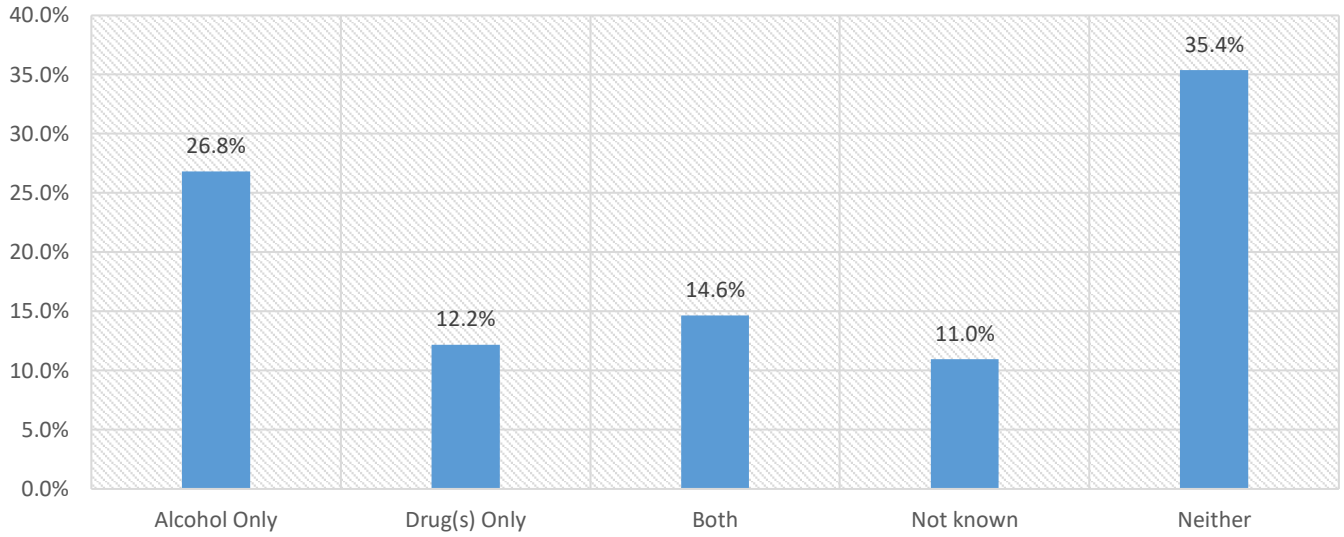
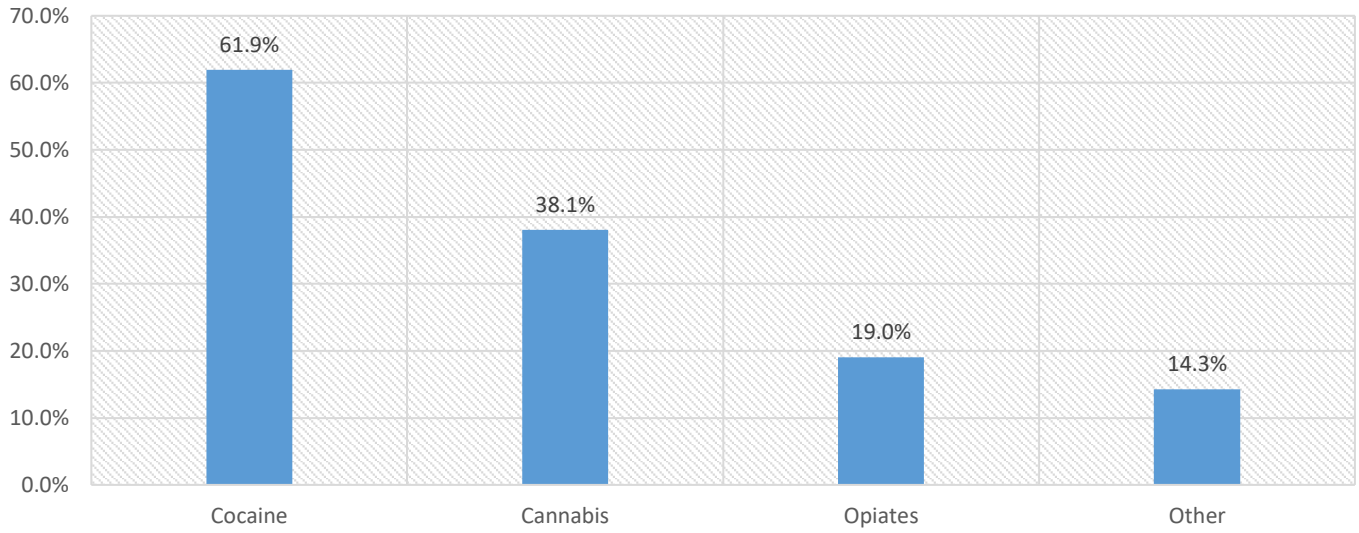


Figure 28: Breakdown of drugs used by those with recent drug use at Post-Mortem; Calderdale Suicides 2016-2018



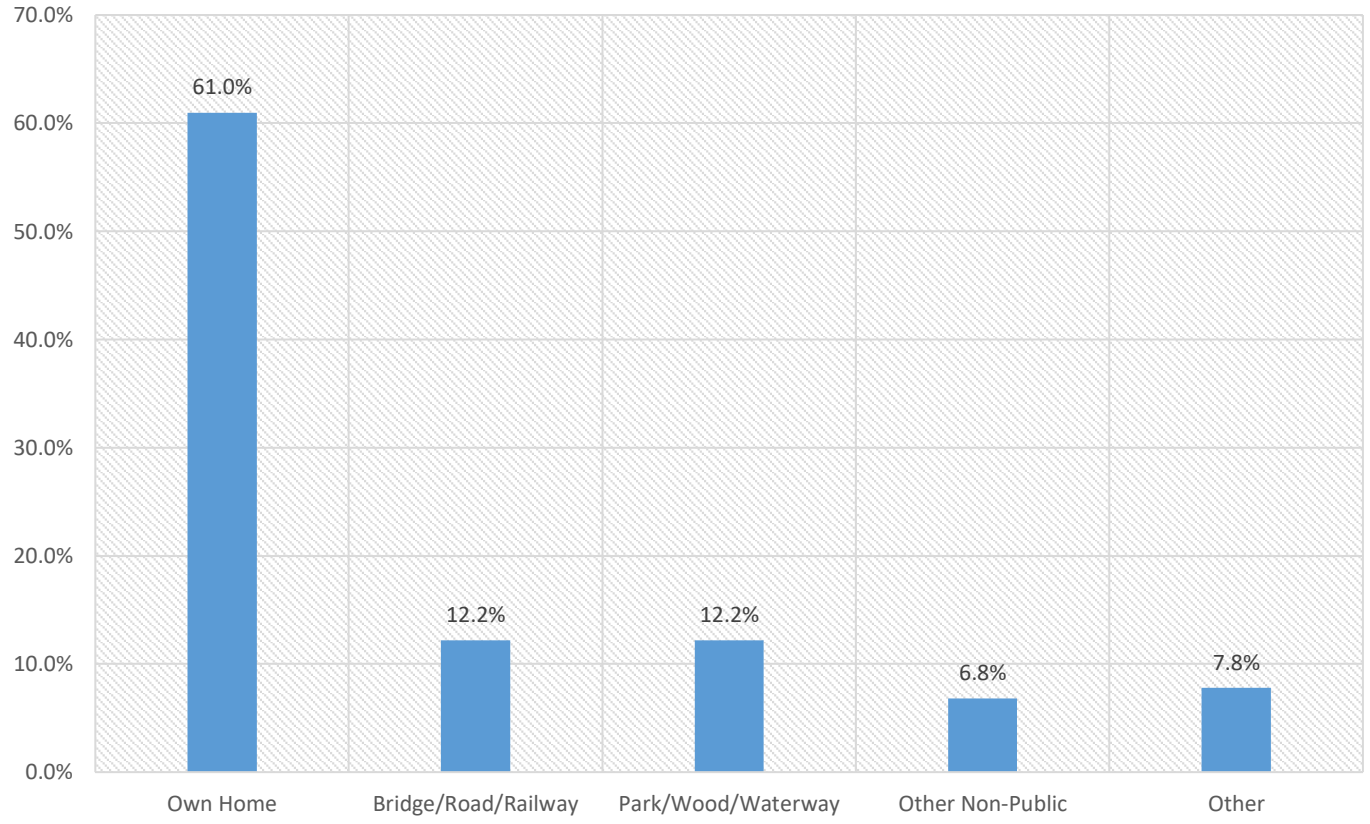
Over a quarter of people (26.8%) took illicit or unprescribed drugs, prior to suicide, as detected by post-mortem toxicology, similar to the previous audit (30.3%). Cocaine was the most frequently used drug, present in 61.9% of those that took drugs, and 15.9% of the entire audited population. Cannabis was taken prior to suicide in 9.8% of the audit population, and opiates in 4.9%, most commonly methadone, but also heroin and codeine. Several other substances were used, most commonly stimulant recreational drugs, and prescription anti-psychotics. Many took a combination, the most common being cocaine and heroin, or cocaine and cannabis. The distribution of usage prior to death does not reflect the distribution of usage as part of historical substance misuse; 53.8% of those taking cocaine prior to suicide appeared to have no history of cocaine abuse.

A total of 41.4% of people had drank alcohol prior to their suicide. Looking at the joint findings, intoxication was sometimes found to have impaired judgement to such a degree that a “suicide” verdict was not given. Certainly it would appear that alcohol and drugs may be acting as catalysts to suicide on a background of longer and shorter term risk factors.

Location

In the previous audit, the location of suicide was considered, with most (69.0%) occurring within an individual's own home[8]. A similar picture was seen in the contemporary audit with nearly two thirds (61.0%) of suicides occurring in the home, and around a third (32.2%) in public locations. The location of "public place" suicides was considered, however many of the locations were not frequently used, and so are hidden in suppressed data. Those locations that were common enough to overcome this included bridges and transport infrastructure, as well as open spaces such as parks, woods, lakes, and canals. Looking at the narratives behind these (from across the whole combined-authority audit) bridges were used to aid in associated mechanisms of suicide, parks and woods mostly to avoid friends and family from discovering bodies at home, and other's homes (a common cause of "other non-public" location suicides) because of vulnerable housing conditions. This may emphasise the importance of homelessness and vulnerable housing as a risk factor for suicide.

Figure 29: Location of Suicide; Calderdale Suicides 2016-2018

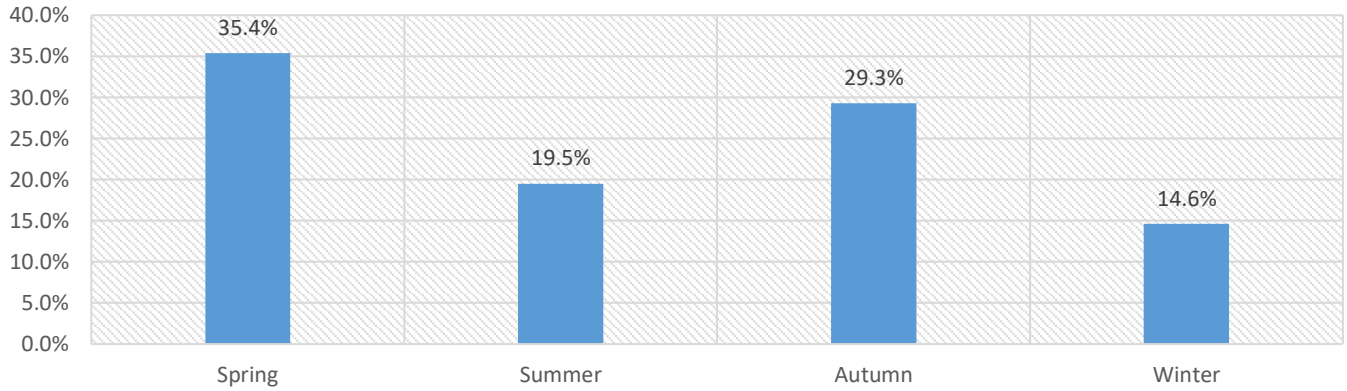


The audit also considered how people travelled to public locations of suicide; of those that did travel 28.0% used their own car, and 36.0% travelled on foot. It was not possible to identify how the remaining people reached the location of their suicide, however there is no evidence to suggest that taxis or public transport were being used by large numbers of people to travel to potentially high-risk destinations.

Timing

Seasonal distribution of suicides was not even, with more suicides in the Spring and Autumn, and fewer in Summer and Winter; this variation was statistically significant (ChiSq DoF=3, p=0.03). A peak in suicide rates around spring has been noted as one of the most consistent trends in suicide data[49]. Although the exact cause is not known[49], it has been a suggested that this trend may originate from a failure of situations to improve following lonely or difficult winters[50], that it may correlate to seasonal changes in biochemistry[51], or possibly directly to sunlight exposure[52], although this latter theory seems the least well supported by available evidence[53]. The Autumn peak is harder to explain from the literature, although similar patterns were seen across the joint audit.

Figure 30: Distribution throughout the seasons; Calderdale Suicides 2016-2018



Suicides were not evenly distributed throughout the week, however, this variation was not statistically significant (ChiSq DoF=6, p=0.14). More suicides occurred at the start of the week and at the weekend. Possibly the peak in Monday suicides is in part caused by delayed discovery, as often it was nonattendance at work that led to concerns about someone. The weekend peak may be explained by weekly engagement in drugs and alcohol, especially given their prevalence on post-mortem, such a pattern is not unique to Calderdale, and has been seen elsewhere[54]. Similar trends were seen in the previous audit, with a large Sunday peak, and smaller peak at the start of the work week[8].

Figure 31: Day of the week time of death recorded; Calderdale Suicides 2016-2018

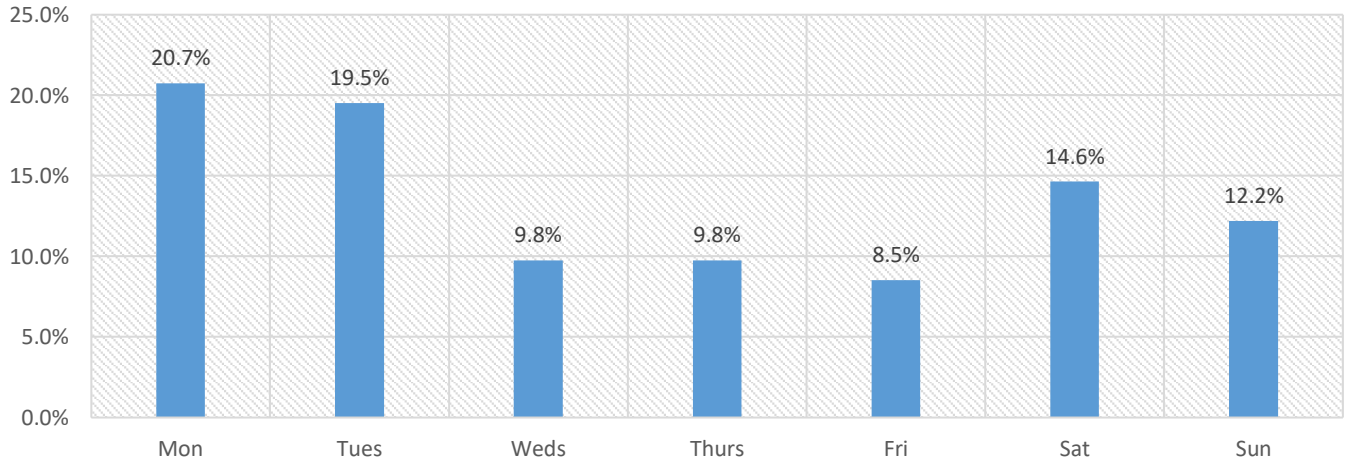
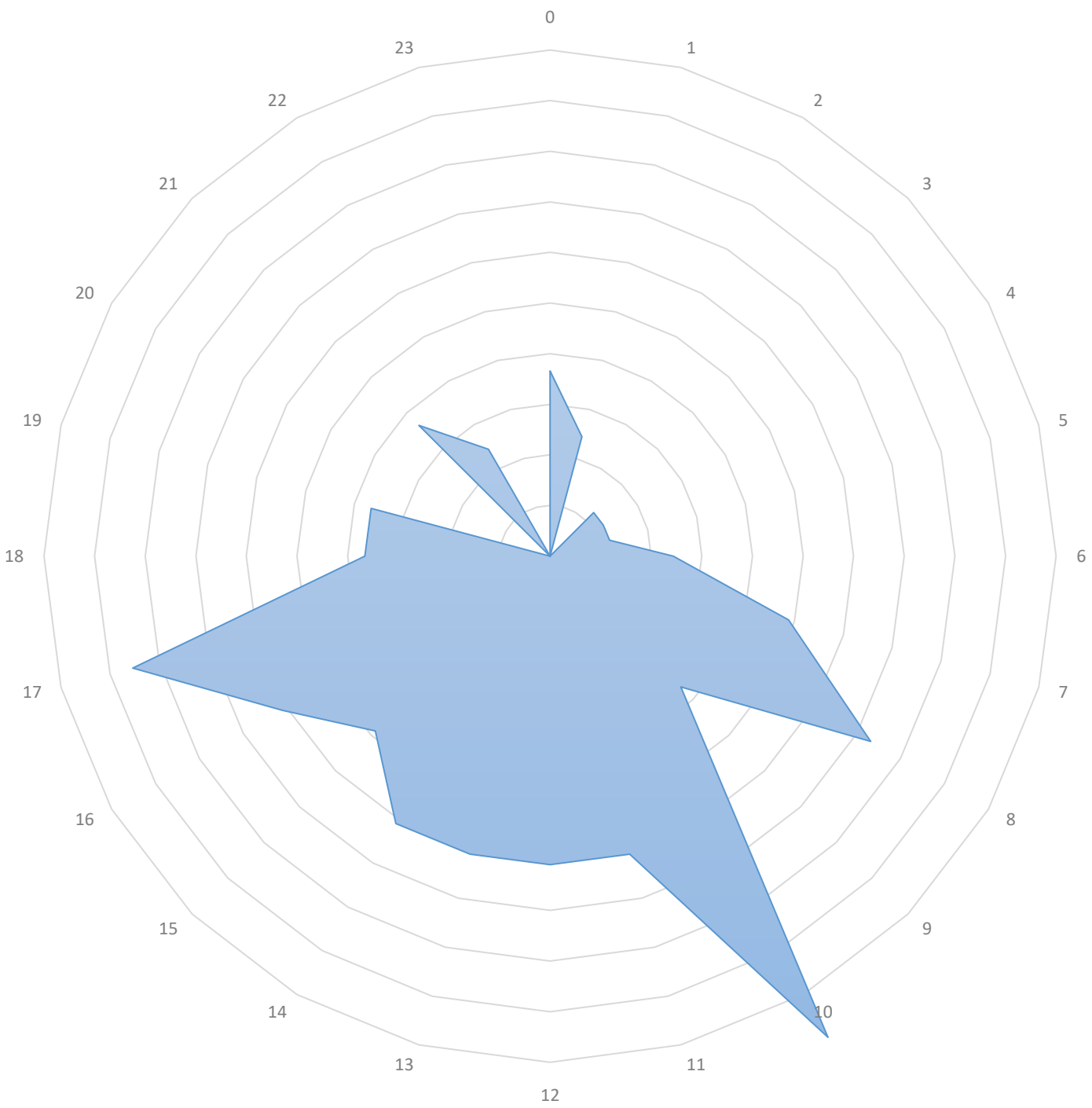


Figure 32: Time of recorded death; frequency of one-hour intervals in time of death. Calderdale Suicides 2016-2018



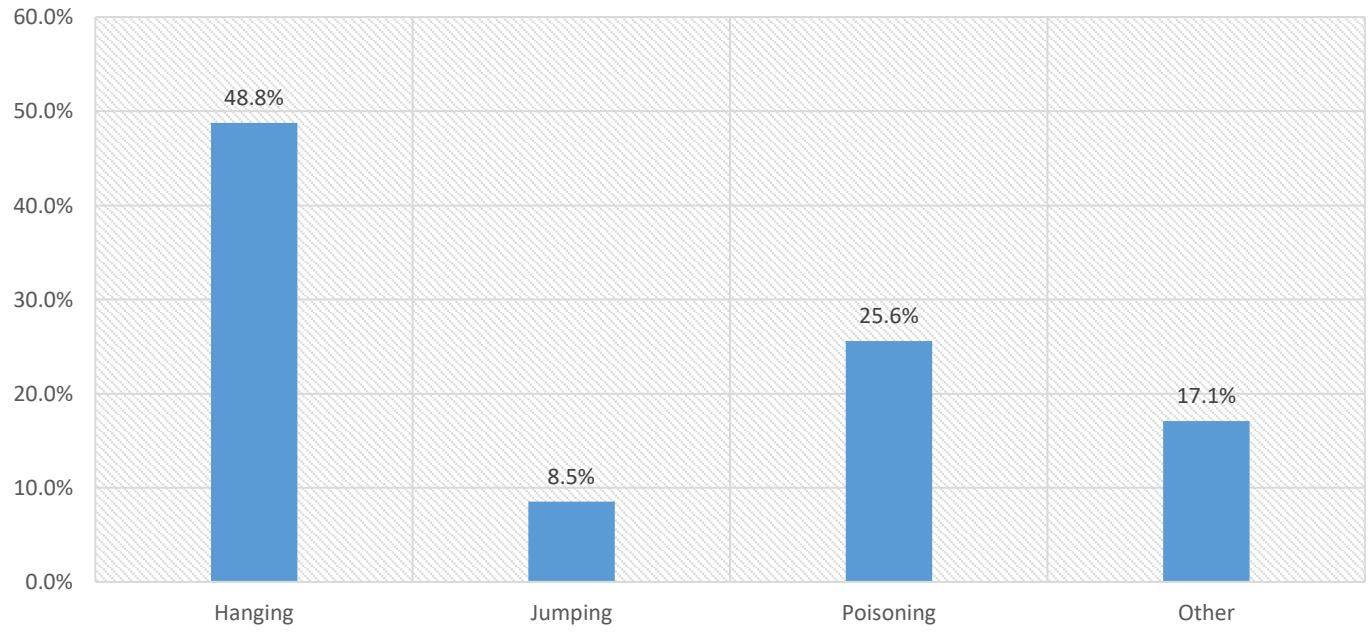
Time of death was most frequently during daylight hours, with peaks around the start, and end of the working day, a similar daylight predominance was seen in the 2012-2014 suicides in Calderdale, however the peaks here were at 14:00 and 19:00. It is possible, as previously discussed, that the 9 and 5 o'clock peaks are partly from delayed discovery of suicide, rather than from increased incidence at these times. However, the parallels to work can still be seen, highlighting its importance in people's mental health. Although recorded time of death may not always correlate to the time of the suicide, the predominance of cases to be between 8:00 and 18:00 further demonstrates the potential for crisis point intervention for the services working at this time.

Mechanism

As with the previous audit, handing was the preferred mechanism of suicide (48.9% 2012-2014, 48.8% 2016-2018), however, poisoning was the a lot more frequent in the contemporary audit (8.9% 2012-2014, 25.6% 2016-2018). Perhaps this transition can be explained by the altered population in the contemporary audit; the widened definition of suicide includes more suicides from overdose that might have been coded by the coroner as “accident” or “drugs and alcohol” deaths. Other methods were less common, although jumping from height was more common in Calderdale than in Bradford and Kirklees, and more common than in the previous audit (6.7% 2012-2014, 8.5% 2016-2018).

The most used implements for hanging were rope (40.0% of hangings), items of clothing such as belts and ties (30.0% of hangings), and electrical cables (20.0% of hangings). Poisonings were more varied in the substance of overdose, often involving combinations of agents, however the most common were prescription analgesics (23.8%), antipsychotics and antidepressants (42.9%), and beta-blockers (33.3%). Illicit drugs were found in far fewer cases, although it is possible that prescription medications, such as opioids, has been obtained through illicit means. Those that jumped from hight generally did so from a bridge, and although some locations were used multiple times, these cannot be discussed further given the need to suppress data related to numbers under five.

Figure 33: Mechanism of suicide; Calderdale Suicides 2016-2018; Calderdale Suicides 2016-2018



From inquest data alone, it was difficult to assess what impact media and social media had as a potential driver of mechanisms and locations for suicide. These risk factors did not appear in sufficient frequency to overcome suppression. Where online media and resources were mentioned in inquest files, most often this was to search for information on how to carry out suicide; it seemed individuals doing this found it easy to access resources that aided their attempt. Not every inquest had information about search history or social media use; it is possible that other trends exist and were not picked up on, and that the internet is playing a more important role in facilitating suicide.

Points of Access

The greatest frequency of interventions in the preceding week, month, three months, and year were in primary care, with very few individuals having no history of primary care contact (in some cases this could have been from a switch in surgeries, or lack of GP response to inquest). Around a third of visits to the GP were for mental health concerns (34.1%), this was a lower proportion than was seen in Bradford and Kirklees.

Half of people had had some engagement with mental health services, with nearly a quarter (23.2%) having had contact at some point in the last month. The distribution is bimodal, with those who have had contact most likely to have either had it in the week preceding death, or not had it for a year. This seem likely to correlate to people using mental health services intensely, and in those who no longer benefit from their regular support. It would appear that because of this mental health services may have the greatest potential to intervene at crisis point, with 13.4% of those audited having been seen in the week preceding their suicide.

Slightly fewer had contact with accident and emergency departments; 34.1%, with most of these visits being more than a month before their suicide. However, unlike mental health and primary care services, the inquests did not routinely ask for information from emergency/accident and emergency services, and so it was much harder to identify where contact had taken place; the true frequency of contact may be higher. Nearly two thirds of visits to A&E were related to mental health (73.0%).

"Other" services were less common, however where they were used, it seemed they had regular contact, with 11.5% having contact in the preceding month. The "other" services were recorded, and were predominantly related to addiction in Calderdale. Looking across the wider audit to overcome suppression, these included religeous institutions, homelessness hostels, private healthcare providers, hospital inpatient and outpatient services and safeguarding teams.

Figure 34: Reasons for using services (percentage of total population audited); Calderdale Suicides 2016-2018

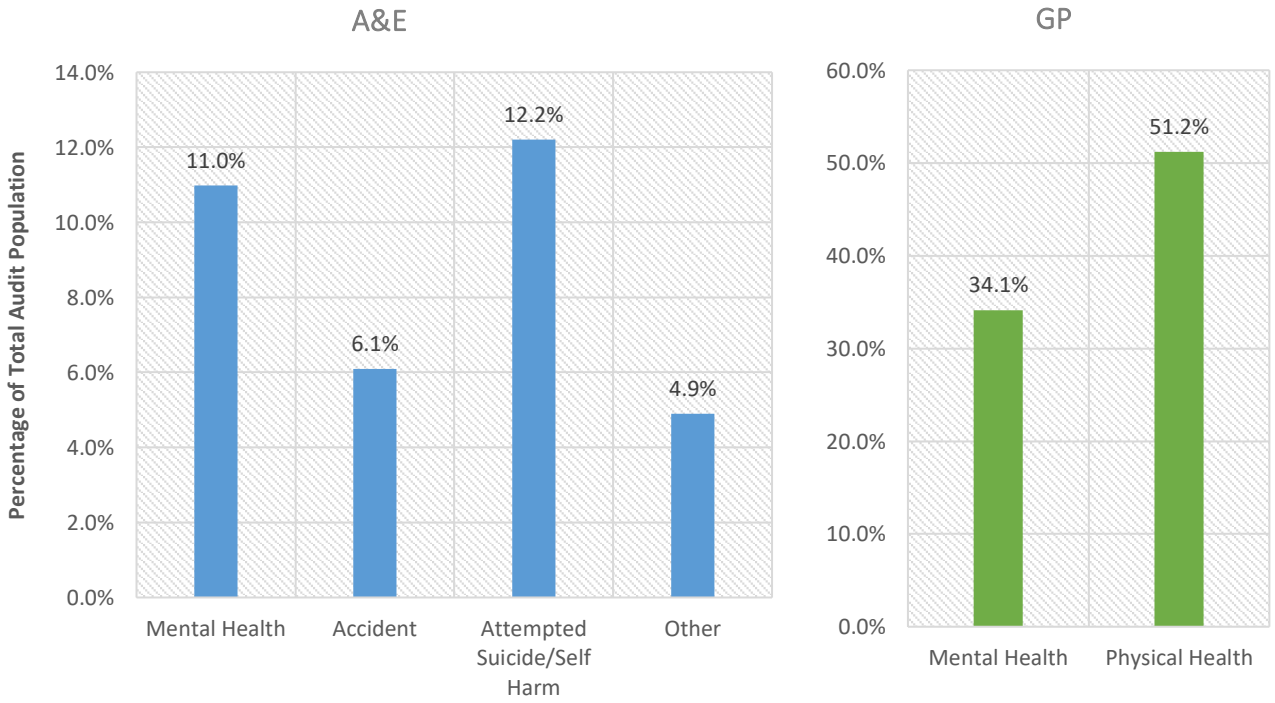
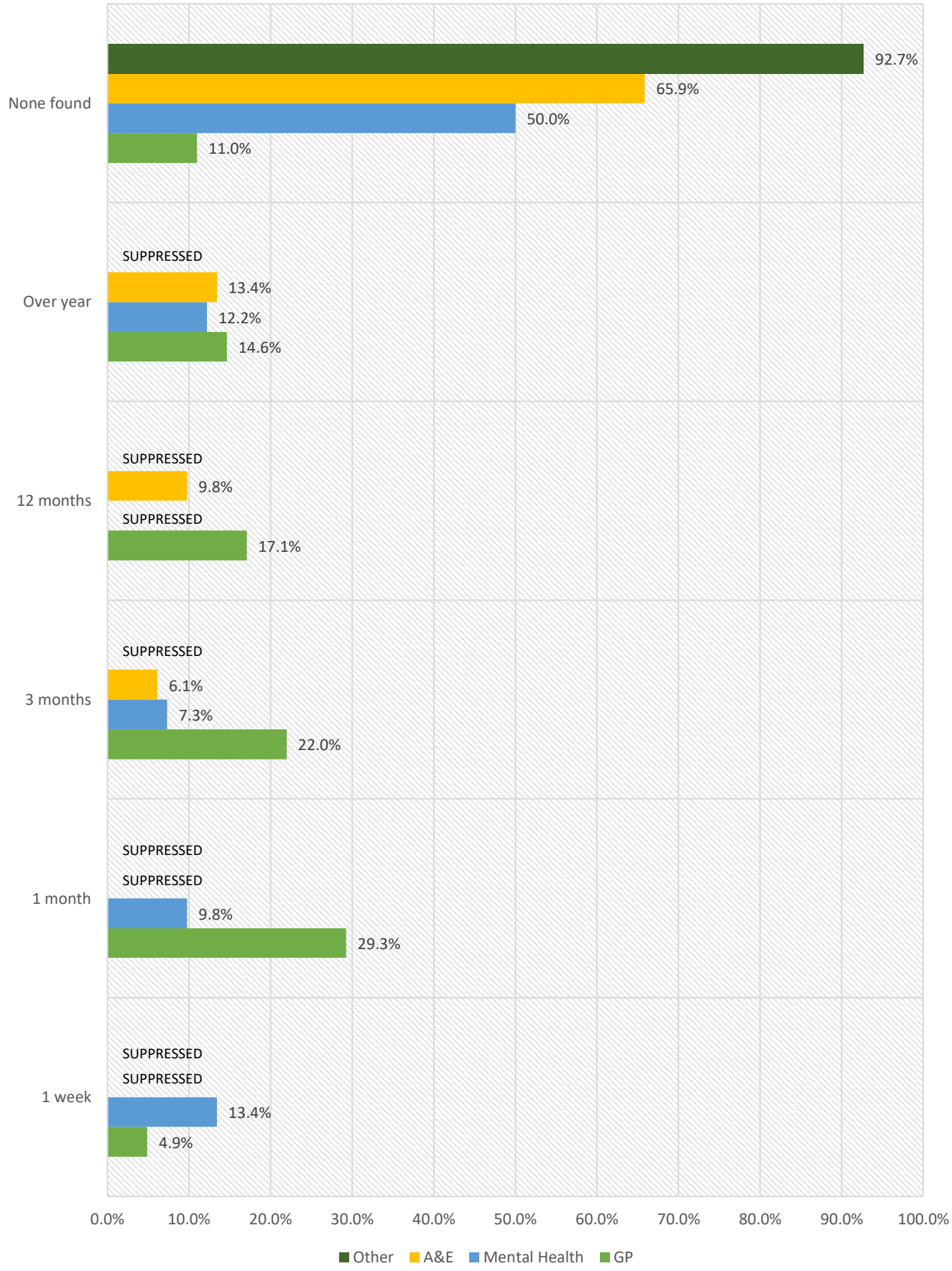


Figure 35: Points of access prior to suicide, non-cumulative independent categories; Calderdale Suicides 2016-2018

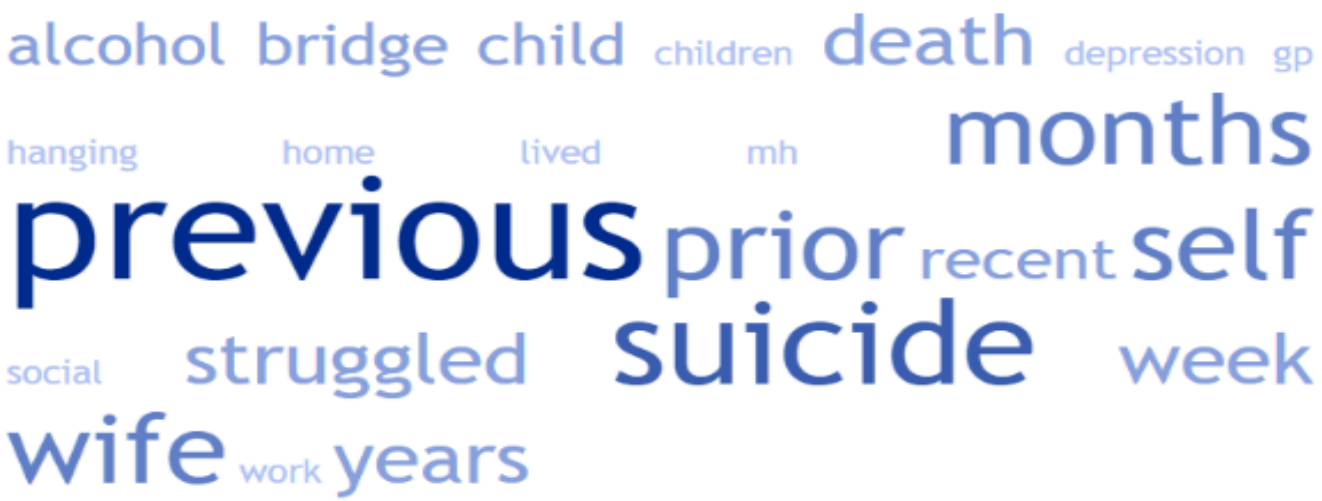


Narrative Details

Although findings are presented in graphs, tables, and statistics, this data has come from 139 different stories, each of which will now help prevent future suicides. Once data was coded, there was room for a "narratives" column in which details of the case could be recorded to include information that coding did not cover. In some cases, this was specific, such as in cases of childhood adverse events, in which the pro-forma asked for narrative comments to support the code. In other cases, something unique came up that had not been considered when developing the coding framework. Often the comments reflected the way demographics, risk factors, and access meshed to form that individual story. These comments have fed into the discussion throughout the audit.

The following figure is made up of the most common words used in the narrative column for Calderdale. Inclusion in the list is influenced by what was and what was not coded for elsewhere, however, it still provides a useful reflection of important themes that have been discussed throughout this report. This is not the only way in which narrative comments have been used, throughout the report they have been weaved into discussion to complement data, graphs, tables, and recommendations where confidentiality will not be compromised. A formal thematic analysis of qualitative information was not carried out, partly as the CGOS recommendations have been used for an informal framework analysis, and partly as the qualitative data collection required to support a robust thematic analysis of narrative comments was not possible given the capacity available.

Figure 36: Word Cloud made from the most used words in narrative comments



Many of the most common words, "previous", "prior", "week", "months" and "years", relate to durations of "struggles", emphasising the importance of risk factors and antecedents in suicides, as has been apparent throughout the audit. The importance of family and relationships are highlighted by the inclusion of words such as "wife", "social", "home", "child", and "children", the focus on children can be seen in the importance of both adverse childhood events, and of child custody in the quantitative audit results. The importance of mental health is highlighted by the use of terms such as "depression" and "mh" (used as an abbreviation for mental health), and "alcohol", commonly referring to issues with alcohol abuse. Other themes such as bereavement ("death") and "work", discussed as important adverse life events, also appear. Finally, there is reference to frequent methods of suicide, with the use of the terms "hanging", and "bridge", the latter

appearing more frequently in the Calderdale audit than in the populations of either the Bradford or Kirklees audit.

Recommendations

In line with previous audits[8,19,20], recommendations have been made from audit findings, and structured around the cross-governmental strategy around suicide prevention[3].

It should be noted that the audit has not calculated relative risk for specific groups, this is not possible given the cross-sectional nature of the data collection without comparison to other datasets. The caveats of carrying out risk calculation between the available mismatched datasets would limit the accuracy, robustness, and utility of estimates. Accordingly, recommendations are based solely on data gathered during the audit, as has been done in previous suicide audits. Despite these caveats, the available data is sufficient to support the following recommendations and has been gathered exactly for that purpose.

Many agencies, services, and people are involved in suicide prevention. These recommendations do not consider the full breadth of existing services and interventions, and as such some recommendations may point to actions already being undertaken. This is not an error or slight on such services. Instead, such recommendations offer support to existing services, as does the local data that underpins them.

Reduce the risk of suicide in key high-risk groups

1. **CGOS GROUPS:** The following are the key "high-risk" groups that have been identified nationally by CGOS[3]. The audit generally offers support for this strategy, and in some cases offers additional insight.
    a. **"YOUNG AND MIDDLE-AGED MALES":** This group continues to be well represented in the 2016-2018 audit, with over three quarters of suicides occurring in men, with a mean age of 42.8 years. The suicide prevention action group and multi-agency partners involved in suicide prevention should continue to target this high-risk group in accordance with national objectives[3]. Wider areas of relevance to this population include drug and alcohol addiction, relationship problems, mental and physical illness, difficulties at work, and social isolation.
    b. **"THOSE RECEIVING CARE FROM MENTAL HEALTH SERVICES":** This group continues to be well represented in the 2016-2018 audit, with around half of the people reviewed as a part of the audit having had previous contact with mental health services.
        i. **MENTAL HEALTH SERVICES AT CRISIS:** Mental health services, as would be expected, are the best situated to provide crisis point care, having contact with around one in seven of those audited in the week prior to their suicide. Although prevention is about much more than crisis, mental health services have an excellent opportunity to act at this point. Suicide and family written antecedent statements suggest stakeholders in the mental health services may be well placed to offer insight into how this can be done.
        ii. **MENTAL HEALTH AND SUBSTANCE MISUSE:** Those with the dual diagnosis of mental health conditions and addiction may struggle to access the full range of services required to meet their needs. A holistic and integrated approach is required to ensure needs-based care is provided.

iii. **CHILDHOOD EVENTS:** Those who have had contact with mental health services, social services, or the criminal justice system during childhood may require ongoing support with their mental health, rather than services re-discovering these traumas on latter presentation with mental health conditions, self-harm and attempted suicide. Given that over half of suicides occur in people born in Calderdale, there is a real opportunity for action like this over the whole life-course in this manner to make a local difference.

iv. **SERIOUS INCIDENT REVIEWS:** In line with guidance, many serious incident reviews have been undertaken to critically examine the care provided prior to death. Despite this, it was unusual to find a root cause or recommendations on how services could improve. This was sometimes in stark contrast with letters from family and friends about struggles to access care, feelings of illness not been taken seriously, or statement of suicidal intent to healthcare professionals. This audit does not intend to pass judgement on specific serious incident reviews, those undertaking the audit are not qualified to do so, however it is an opportunity for those who felt let down to have their voice heard. It is recommended that given the effort invested in serious incident reviews, their utility is maximised, and real effort is made to seek out opportunities to improve care.

v. **PRIMARY CARE:** Over three quarters of those audited have a current mental health condition, and some of these may have been managed exclusively in primary care. Mental health services need to work with these providers and ensure pathways into care are clear. Similarly, primary care services have a clear opportunity to intervene, both in the longer term, and at crisis point. Clear understanding of what resources are available for patients, signposting around crisis, and evidence-based risk management are essential.

vi. **EMERGENCY CARE:** Not all of those presenting to emergency care services with self-harm or attempted suicide prior to their death from suicide had contact with mental health services. Where mental health services are not making contact or where intervention has been declined, service-users should still be offered information or signposting to support and information. Agencies who provide this support and information should facilitate this by providing clear, simple, and pragmatic information for emergency departments to use.

vii. **ADDICTION SERVICES:** Around a quarter of suicides occurred with a background of recent alcohol addiction, and around a quarter occurred with other substance addictions. Gambling addiction was less common in Calderdale; however, it remains possible its significance is underreported. Addiction services provide a point of contact with these at-risk service-users and may be able to aid provision of both longer-term and crisis-point prevention. Staff supporting those with addiction need to be trained in signposting what support is available.

viii. **MULTI-AGENCY PARTNERSHIP WORKING:** Given the mosaic of prevention and contact opportunities, it is essential that partners work together through the suicide prevention action group to make sure the care provision is well mapped, well understood, and well-coordinated.

c. **"HISTORY OF SELF HARM":** This group continues to be well represented in the 2016-2018 audit, with over a quarter of suicides having been preceded by self-harm at some point.

Potentially included in the remit of "self-harm", around half of the cases audited were preceded by an attempted suicide at some point.

i. **RISK:** Given how many suicides are preceded by attempted suicide and self-harm, where appropriate, and in accordance with existing guidelines, this history should be elicited when discussing self-harm and suicide risk[55]. In line with similar historic data, the previous neighbouring Kirklees suicide audit advocated for "myth of the manipulative suicide attempt be put to rest"; support for this stance in Calderdale may come from the fact that nearly a third of people reached out before their suicide, and in cases were ignored because of the "manipulative attempt" belief.

ii. **TARGETTING SELF-HARM:** The SPAG should continue to prioritise self-harm as an integral part of the suicide prevention action plan, this is supported by this local data, and in line with national objectives [4].

d. **"THOSE IN CONTACT WITH THE CRIMINAL JUSTIC SYSTEM":** This group continues to be well represented in the 2016-2018 audit, nearly a quarter of suicides were preceded by forensic contact, with most contact involving the perpetrators of crime. Beyond this, criminal concerns were cited as antecedents in one in eight suicides.

i. **THOSE WITH CONCURRANT RISK FACTORS:** As a precursor to suicide, criminal activity was often linked with alcohol and substance misuse, debt, and adverse childhood events. Those involved in the criminal justice system may be able to signpost available help during points of contact, and potentially be trained to offer very brief advice.

ii. **THOSE ACCUSED OF HIGH-STIGMA CRIMES:** Although this insight comes from findings across Bradford, Calderdale, and Kirklees, this group appear to have potential for increased risk. This is especially true for those who have been accused of, are under investigation for, or have been arrested on child-sex and child-pornography charges. The criminal justice system needs to be aware of this risk, and efforts made to make sure sufficient support is both available and accessible.

iii. **CUSTODY:** Although not limited to the criminal justice system, those losing custody of children may be at increased risk of suicide; one in ten suicides were preceded by loss of child custody. Agencies involved in loss of custody cases should be able to signpost to appropriate services and support, and potentially be trained to offer very brief advice.

e. **"THOSE WORKING IN AGRICULTURE AND HEALTHCARE":** The audit did not produce data that could support or contradict this recommendation, this is due to the size of the population audited. Limited recommendations can be made at a local level beyond those made with national data.

2. **NON-CGOS GROUPS:** The local data has identified other key high-risk groups in Calderdale which need risk of suicide reduced.

a. **UNDER-REPRESENTATION:**

i. **FEMALES:** Female gender was found to be under-represented in suicide verdicts, intelligence based of this data needs to account for this fact.

ii. **MINORITY GROUPS:** Suicide audits are carried out across small populations with data suppression, meaning some minority groups may not be well represented. Their needs around mental health and suicide prevention should not be forgotten, and specifically

lack of data from the audit should not be used as evidence to neglect these group's needs.

b. RELATIONSHIP AND LIVING STATUS:

i. ISOLATION: Two fifths of suicides occurred in people who were single, and a similar proportion occurred in people living alone, and around one in seven suicides are suspected to have occurred at least in part because of recent struggles with social isolation. Efforts need to be made to target and support this population.

ii. RELATIONSHIPS: Relationship difficulties were the most cited antecedent to suicide. Efforts should be made to target those struggling with relationships for support. Those in primary care, social care, and mental health services who may work with service-users undergoing relationship difficulties should be aware of these risks, and of what help they can offer.

iii. HOMELESSNESS: Although the audit population was not large enough for in depth analysis of suicides amongst homeless populations, this group should not be neglected, especially given the potential for addiction, isolation, bereavement, financial difficulties, and physical illness within those who are homeless or vulnerably housed. It is recommended that future audits may better be able to address this group through improved data collection, and the possible use of the ETHOS light framework[48].

c. **OCCUPATION:**

i. **UNEMPLOYMENT:** Given that over a quarter of those audited were unemployed (excluding students and retirees), it seems very likely that this population may be at greater risk of suicide locally. Efforts should be made to target this population, and when the wider system contacts people who are unemployed, staff should be able to signpost to where help may be available to support people's mental health and potentially be trained to offer very brief advice.

ii. **SELF-EMPLOYMENT:** Self-employed people are well represented in the audit, and although relative risk cannot be commented on, it would seem appropriate that specifically tailored support is available for this group to address the impact being self-employed can have on mental health, as well as on an individual's relationships, finances, and ability to access other services.

iii. **INSECURE EMPLOYMENT:** Although limited data was gathered on the impact of zero-hours contacts and insecure employment, it may be that this is because such information was not recorded. Given trends from national data around the impact of insecure employment on mental health, more focussed local insight may be required to help form local recommendations around this group[56].

iv. **AT RISK WORK ENVIRONMENTS:** Most people audited worked in a skilled trade, with plants and machines, in sales and services, and in elementary occupations. Although this does not mean these groups are at increased risk (relative risk calculations have not been made) it does mean that targeted approaches to these groups could help nearly two thirds of people who may otherwise die from suicide. Many of these SOC codes are linked to things like self-employment, shift work, and zero-hours contracts. Services aiming to address suicide prevention should be aware of the challenges such employment environments make in accessing care and support. Further to this, it may

be that work environments in which suicide occurs most commonly are not the same as work environments traditionally associated with higher prevalence of common mental health conditions[56].

v. **CARERS:** Although the Calderdale data did not reveal many carers who had died from suicide, the joint audit findings did identify trends amongst carers. Those providing care, especially unpaid, faced challenges directly from the difficulties associated with care provision, as well as challenges associated with the indirect effect on other risk-factors discussed in the audit such as finances, employment, relationships, and physical health. Interactions with carers should be maximised to signpost support, and support should be considerate of carer's needs, and targeted to this specific group.

Tailor approaches to improve mental health in specific groups

The audit has identified many groups that face health inequalities with relation to suicide. The ideal solution for many of these groups is to solve the underpinning structural inequalities, as described by other key Calderdale strategies. However, given that these inequalities do exist, and given that other groups have increased risks for alternate reasons, more immediate approaches are needed to specifically improve mental health in these cases.

Many of the groups listed under "Reduce the risk of suicide in key high-risk groups" also require tailored approaches, however this has been dealt with in that section exclusively to avoid excessive duplication.

3. **CGOS CATEGORIES**
    a. **EX-SERVICE PERSONELL:** Although given the population size it was difficult to develop further narratives, the local data supports the recommendation for approaches to be tailored to address the mental health needs of this group. From the wider audit findings (including Bradford and Kirklees) it was apparent that not all ex-service personnel had necessarily been in the British Armed Forces, consideration may be needed to improve access to tailored care in these groups.
    b. **LONG TERM CONDITIONS:** Illness was the second most cited antecedent to suicide, physical co-morbidity was present in over half of those audited, and mental illness in around three quarters.
        i. **PAIN:** Commonly, when physical illness impacted on mental health, it was because of painful symptoms. Those struggling with chronic pain should be supported both with their physical and mental health, those professionals helping to manage their pain may should be able to sign post to relevant service.
        ii. **MENTAL HEALTH:** Although affective and addiction disorders were the most prevalent in the audited population, around one in twenty had a psychotic disorder, and one in seven had insomnia. From narrative details, it was apparent that people often viewed these conditions as a struggle and chose suicide when they felt they were either alone in their struggle or could no longer manage.
        iii. **CANCER INVESTIGATION:** Although hard to see in the quantitative data, across the combined audit (including Kirklees and Bradford) there was a narrative theme of individuals struggling with anxiety over investigations for possible cancer. Often these investigations were at early stages, however, the possibility of cancer seems to have

been sufficient to cause significant distress. Especially in primary care, and especially in those with underlying mental health conditions, it is recommended that those making referrals consider the disproportionate impact this may have on different individuals and act accordingly.

c. **UNTREATED DEPRESSION:** Given that treatment for depression is multifactorial, no attempt was made to define "untreated" depression for the information available. However, many people's depression was managed outside of mental health services, and recommendations around this practice are made in section 1.
d. **ECONOMIC VULNERABILITY:** Financial difficulties were a commonly cited antecedent to suicide. Efforts should be made to target those struggling with debt for support. Those in primary care, social care, mental health, and services who may work with service-users undergoing financial difficulties should be aware of these risks. Those working outside of core healthcare services should be able to signpost to mental health as well as financial support.
e. **THOSE MISUSING DRUGS AND ALCOHOL:**
    i. **DRUGS:** Over a quarter of those audited had a history of substance misuse. Commonly, this was with opiates, cocaine, and cannabis. Local findings would support national recommendations for approaches to be tailored to these groups.
    ii. **ALCOHOL:** Over a quarter of those audited had a history of alcohol misuse. Local findings would support national recommendations for approaches to be tailored to these groups.
f. **THOSE IN BAME COMMUNITIES:** Ethnicity was not always recorded; and was generally easier to back-fill in locally born White British people. Accordingly, BAME groups may be underrepresented in the audit. Based off this local data, there does not seem to be sufficient evidence to suggest any one ethnicity is targeted more than any other. However, given the known inequalities BAME ethnicities face, it is possible that other risk factors such as housing, employment, and financial situation affect BAME populations disproportionately.
    i. **MIGRANTS:** Around one in eight suicides occurred in people born outside of the UK. Although this is roughly proportional to the number of migrants living in the UK[57], most of the suicides occurred in recent migrants, a much smaller population. Those arriving in Calderdale from abroad may therefore benefit from targeted suicide prevention action.
    ii. **YOUNG MALE MIGRANTS FROM EASTERN AND CENTRAL EUROPE:** Across the joint findings, a common theme emerged around young males from Eastern and Central Europe. Many were involved in low paid, low skilled, and low security employment, living in house-shares with other migrants, and struggling with alcohol and/or substance misuse. It would seem appropriate to recommend that suicide prevention action is targeted to this group.
g. **ASYLUM SEEKERS:** Given the need for data suppression the audit has provided limited local insight into suicide prevention in asylum seekers specifically, although many other recommendations may be relevant to this group. Given the known high risk of suicide in this group, and the potential for limited data and intelligence to direct tailored suicide prevention strategy, dedicated local work may be required to formulate further recommendations[58].

4. **BROADER THEMES**

a. **LIFECOURSE OUTCOMES:** Most people who die from suicide in Calderdale are born in Calderdale. This suggests that local outcome measures may be appropriate for local interventions into suicide prevention across the life-course.
b. **THE MULTIFACTORIAL NATURE OF SUICIDE:** Rarely did suicides occur because of a single factor. Usually, multiple longer and shorter-term factors combined with means of access that led to suicide, and as highlighted in figure
c. **ZERO SUICIDE TARGET:** The potential benefits of a "zero suicide" target were mentioned in the previous suicide audit, and in national documentation[5,8,19]. This approach, advocated for by groups such as the Zero Suicide Alliance, sees suicide as preventable, and as the name suggests, aims for zero suicides[59]. The quantitative data has shown that in Calderdale there are many potential opportunities to improve suicide prevention through existing contact, engagement with services, and a better understanding of risk, however, qualitative data around aspects such as SIRs, suicide notes, and antecedent statements suggests suicide is not always seen as preventable, and existing assets are not always maximised.

Reduce access to the means of suicide

5. **PUBLIC PLACES:** Although most suicides occur in people's own homes, around a third occur in public places. Continued efforts are needed in combination with police data, insight, and PHE resources to reduce means of access to suicide at commonly used sites and to detect and control suicide "clusters".
    a. **TRAVEL:** People travelling to public places usually do so on foot or in their own car, accordingly efforts to reduce crisis-point access to common locations of suicide may want to consider relevant access routes.
6. **MECHANISM**
    a. **ROPE LIGATURES**: Although some people had rope available at home, others bought them specifically. It is possible that interventions could target easy access to rope, although given the potential practical difficulties of such a strategy, efforts may be better focussed in managing suicide risk elsewhere.
    b. **IMPROVISED LIGATURES:** Many suicides involve belts, cables, washing lines, and other items found around the home without the need for prior planning. Although little can be done to limit generally access to these items, access to them should be considered for those at especially high risk of suicide. Access to ligature points should be considered in a similar manner.
    c. **PHARMACEUTICALS:** The most used substances for overdose were prescribed and over the counter medications such as analgesics, antipsychotics, antidepressants, and beta-blockers. Although pharmacies and prescribers already take precaution to limit access to large quantities of some analgesics and anti-psychotics, there may be benefit in further procedures to limit the acquisition or stockpiling of large amounts of other medication (e.g. beta blockers) for people who may be at risk of suicide.
7. **CATALYSTS**
    a. **DRUGS AND ALCOHOL:** Post-mortems identified the presence of drugs (excluding drugs used for overdose) and alcohol in half of suicides. This is greater than the number of people who struggled with addiction to drugs and alcohol prior to their suicide. There is potential that

substances commonly consumed prior to suicide such as alcohol, cocaine, and cannabis may influence decision making at crisis point. This opinion was apparent in HM Coroner's inquests, in which some apparent suicides were not coded as suicides because of the role drugs or alcohol may have played in limiting capacious decisions. Although distributors of illicit drugs and alcohol are harder to target, in many cases primary care, mental health, or addiction services were aware of both suicide risk and coexisting substance misuse. The excess risk of consuming alcohol, and drugs such as cocaine at crisis point should be communicated to service users and considered in risk management.

Provide better information and support to those bereaved or affected by suicide

8. **BEREAVEMENT:** This broad recommendation is well supported by local evidence. Not only was bereavement from suicide a common theme, but across the joint audit findings, it was a common isolated cause of suicide in otherwise "low-risk" individuals.
    a. ACCESS: Around a quarter of those bereaved by suicide who went on to die from suicide had sought help, but around three quarters had not received support. Efforts are required to increase access to bereavement services. Available contact points should be maximised, to repeat the offer of available support and provide signposting. Especially given that bereavement creates a dynamic response, and people may feel ready to take up offers of help and support at different times. Given the nature of the inquest process, those involved, including HM Coroner's office, need to work with bereavement services to maximise expose to their offer.
    b. SERVICES: Even though some people bereaved by suicide received help and support, they went on to die from suicide. In most cases it seemed that the bereavement was an important antecedent, often this was a very recent bereavement, or a bereavement several years ago. This report makes not judgement or assessment of bereavement services; however, it appears there are opportunities for improved outcomes for those accessing help following bereavement from suicide.

Support the media in delivering sensitive approaches to suicide and suicidal behaviour

9. **MEDIA:**
    a. **TRADITIONAL MEDIA:** As discussed in the audit, and in CGOS and PHE documentation, media reporting can alter the risk of suicide[4]. The audit has not found many cases in which this seems to have happened in Calderdale, however media influence is hard to assess from inquest data. Accordingly, it is recommended that partners continue to work with the media to ensure reporting around suicide and mental health is carried out without inadvertently negative consequence.
    b. **SOCIAL MEDIA:** As updates to the CGOS strategy have discussed, social media is an increasing concern for those working around suicide prevention. As with written media, it was difficult to assess the impact social media may have had on people prior to their suicide. However, this does not contradict the need for suicide prevention strategies to consider how social media can be prevented from increasing suicide risk, and instead be used as an asset.

c. **ONLINE RESOURCES:** The internet provides easy access to understanding mechanisms around suicide. People in Bradford are using this as a resource to enable them to carry out suicide. Although this may be a difficult problem to overcome at a local authority level, a greater shift in "first page" search results may help reduce access to the means of suicide at crisis point.

Support research, data collection, and monitoring

These recommendations have been made to ensure that future audits are best placed to support suicide prevention in line with national policy[3]*.*

10. **INQUEST/AUDIT DATA:** The data recorded by multiple agencies, and assembled by HM Coroner's office, used to inform the audit is collected for several reasons as part of national routine data. It is not collected specifically to support suicide prevention strategies. However, to help aid suicide prevention several recommendations have been made around how suicide data is recorded and stored. Clearly HM Coroner's office have competing concerns and limited capacity, these recommendations are made outside of this context, with specific relevance to the audit, and should be interpreted accordingly.
    a. **ETHNICITY DATA:** Ethnicity data was not routinely recorded in inquests, where it was accessed it was often from GP or police records. Not only is this a protected characteristic, but it is one of potential consequence in understanding suicide risk. It is recommended this is recorded routinely on inquests and continued to be collected as part of audits.
    b. **DATA CONSISTENCY:** Occasionally data was missing in some areas, and although found through detailed review of the inquest, this made the auditing process more time consuming than necessary. For example, disability status was sometimes recorded under "employment status". Not only does this make it difficult to understand the individual in question's employment history, but the implied assumption that disability has prohibited employment is potentially unnecessary and unfounded. It is understood there are challenges with capacity and collating data, however for the purpose of future audit, consistently completed records would be of great utility.
    c. **ONLINE RISK FACTORS:** The report discusses concerns around social media and online suicide resources raised in national strategy and research literature. Although these were considered in the audit, data was sparse, with search and social media history only included in a few cases. Suicide prevention efforts into this area could be better targeted if more data and intelligence was available. It is recommended that where possible and ethnical information on recent search and social media activity is recorded, and similarly recommended that future audits continue to consider this data.
    d. **GAMBLING:** Information on gambling addiction was not routinely collected, it is recommended that in the future where possible information on gambling history is recorded, and similarly recommended that future audits continue to consider this data.
    e. **HOMELESSNESS:** It is recommended that future audits include homelessness and vulnerable housing using a framework such as "ETHOS light" in their data collection [48].
    f. **ELECTRONIC RECORDS:** The use of exclusively paper records adds difficulties to the data collection process. In other audits screening for the "phase 2" data collection has been streamlined through the use of electronic records [21]. The use of electronic records may aid ongoing efforts around suicide prevention in Bradford, Calderdale, and Kirklees.

g. **DATA INCLUSION:** Beyond consideration of specific factors that were not included, it would be useful for Public Health and SPAG consultation if there are changes to the manner of data collection that may affect its content.
h. **RELATIONSHIPS:** There have been previous difficulties in data sharing and communication between local authorities and HM Coroner. Given the shared motivations of both to reduce suicides efforts need to be made to maintain a close relationship, and work together, especially around support for those bereaved by suicide.

11. **SUPPLEMENTAL DATA:** The audit offers in depth information; however, this information is spread over large areas, large timescales, and large themes. It is more useful when complemented with contrasting sources of intelligence. This currently includes live data reporting from working with police, however there is potential to forge new dataflows with other stakeholders, including HM Coroner's office. National data can also be used to complement local policy, especially for groups who are not so well represented locally. However, the caveats of data generated solely from HM coroner's verdicts for suicide prevention highlighted in the report should be considered.
12. **FUTURE AUDITS:** It is essential that data and intelligence around suicide prevention remains up to date. Future audits will be required, and these can be carried out efficiently through joint local authority working. This audit has attempted to describe the underpinning necessity, methods, and justifications clearly. It is hoped that this will allow future audits in Bradford, Calderdale, and Kirklees to be conducted in a similar fashion, allowing better temporal comparisons.

References

1. ONS. Suicides in the UK - Office for National Statistics. https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/suicidesintheunitedkingdom/2017registrations (2019). *[Updated 15/9/2020 to 2020 figures]*
2. Samaritans. *Socioeconomic disadvantage and suicidal behaviour report*. (2017).
3. HM Government. *Preventing suicide in england a cross government strategy to save lives*. www.dh.gov.uk/ (2012).
4. HM Government. *Preventing suicide in England: Third progress report of the cross-government outcomes strategy to save lives*. *Public Health England* www.nationalarchives.gov.uk/doc/open-government-licence/ (2017) doi:10.1089/jcr.2015.0033.
5. HM Government. *Cross-Government Suicide Prevention Workplan*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/772210/national-suicide-prevention-strategy-workplan.pdf (2019).
6. Flynn, G. *et al. The All-Party Parliamentary Group (APPG) on Suicide and Self-Harm Prevention Inquiry into Local Suicide Prevention Plans in England*. (2015).
7. PHE. *Local suicide prevention planning: a practice resource*. (2016).
8. Lomas. *Audit of Suicides in Calderdale*. (2016).
9. Knapp, M., Mcdaid, D. & Parsonage, M. *Mental health promotion and mental illness prevention: The economic case*. (2011).
10. Hawton, K. & Lascelles, K. *Identifying and responding to suicide clusters*. (2019).
11. Owens, C., Hardwick, R., Charles, N. & Watkinson, G. *Preventing suicides in public places: A practice resource*. (2015).
12. PHE. Public Health Profiles. *Fingertips* https://fingertips.phe.org.uk/search/alcohol#page/0/gid/1/pat/6/par/E12000003/ati/102/are/E08000034/cid/4/page-options/ovw-tdo-0 (2020).
13. City of Bradford MDC. *Bradford District Suicide Prevention Plan 2017-2021*. (2017).
14. NHS. *The five year forward view for mental health*. *The Mental Health Taskforce* (2016).
15. Roderick, P. *Bradford Suicide Audit*. (2017).
16. Calderdale Council. *Preventing suicide in Calderdale Suicide Prevention Plan 2017-2020.* (2017).
17. Kirklees Suicide and Self-harm Prevention Group. *Kirklees Suicide and self-harm prevention acion plan 2017-2019.* (2017).
18. Chadwick, T., Owens, C. & Morrisey, J. *Local Suicide Prevention Planning in England.* (2019).
19. Fraise, J. *An analysis of suicides and other undetermined deaths in the Kirklees district.* (2015).
20. Lewis, J. *et al. Audit of Suicides in Leeds*. (2019).
21. Everitt, M., Eaton, V., Ward, C. & Sehmbi, V. *Audit of Suicides and Undetermined Deaths in Leeds 2011-2013*. http://observatory.leeds.gov.uk/resource/view?resourceId=4775 (2016).
22. Appleby, L., Turnbull, P., Kapur, N., Gunnell, D. & Hawton, K. New standard of proof for suicide at

inquests in England and Wales. *BMJ* **366**, (2019).

23. Owens, C., Lloyd-Tomlins, S., Emmens, T. & Aitken, P. Suicides in public places: Findings from one English county. *Eur. J. Public Health* **19**, 580–582 (2009).

24. King, E. & Frost, N. The New Forest Suicide Prevention Initiative (NFSPI). *Crisis* **26**, 25–33 (2005).

25. Pirkis, J. *et al.* The effectiveness of structural interventions at suicide hotspots: A meta-analysis. *Int. J. Epidemiol.* **42**, 541–548 (2013).

26. Bennewith, O., Nowers, M. & Gunnell, D. Suicidal behaviour and suicide from the Clifton Suspension Bridge, Bristol and surrounding area in the UK: 1994-2003. *Eur. J. Public Health* **21**, 204–208 (2011).

27. Shah, A. The Relationship between General Population Suicide Rates and the Internet: A Cross-National Study. *Suicide Life-Threatening Behav.* **40**, 146–150 (2010).

28. Luxton, D. D., June, J. D. & Fairall, J. M. Social media and suicide: A public health perspective. *Am. J. Public Health* **102**, S195 (2012).

29. Recupero, P. R., Harms, S. E. & Noble, J. M. Googling Suicide: Surfing for Suicide Information on the Internet. *J. Clin. Psychiatry* **69**, 878–888 (2008).

30. Biddle, L., Donovan, J., Hawton, K., Kapur, N. & Gunnell, D. Suicide and the internet. *Bmj* vol. 336 800–802 (2008).

31. Robinson, J. *et al.* Social media and suicide prevention: a systematic review. *Early Interv. Psychiatry* **10**, 103–121 (2016).

32. Stack, S. Media coverage as a risk factor in suicide. in *Injury Prevention* vol. 8 iv30–iv32 (BMJ Publishing Group Ltd, 2002).

33. Samaritans. Samaritans Media Guidelines | Samaritans. https://www.samaritans.org/about-samaritans/media-guidelines/ (2019).

34. Choi, N. G., DiNitto, D. M., Marti, C. N. & Segal, S. P. Adverse childhood experiences and suicide attempts among those with mental and substance use disorders. *Child Abus. Negl.* **69**, 252–262 (2017).

35. Cowlishaw, S. & Kessler, D. Problem gambling in the UK: Implications for health, psychosocial adjustment and health care utilization. *Eur. Addict. Res.* **22**, 90–98 (2016).

36. Karlsson, A. & Håkansson, A. Gambling disorder, increased mortality, suicidality, and associated comorbidity: A longitudinal nationwide register study. *J. Behav. Addict.* **7**, 1091–1099 (2018).

37. Meltzer, H. *et al.* Personal debt and suicidal ideation. *Psychol. Med.* **41**, 771–778 (2011).

38. Richardson, T., Elliott, P. & Roberts, R. The relationship between personal unsecured debt and mental and physical health: A systematic review and meta-analysis. *Clin. Psychol. Rev.* **33**, 1148–1162 (2013).

39. Galvão, P. V. M., Silva, H. R. S. e. & Silva, C. M. F. P. da. Temporal distribution of suicide mortality: A systematic review. *J. Affect. Disord.* **228**, 132–142 (2018).

40. Mental Health Network NHS Confederation. *Preventing suicide A toolkit for community mental health*. (2011).

41. Hogan, W. R. & Wagner, M. M. Free-text fields change the meaning of coded data. *Proc. AMIA Annu. Fall Symp.* 517–521 (1996).

42. Camidge, D. R., Wood, R. J. & Bateman, D. N. The epidemiology of self-poisoning in the UK. *British Journal of Clinical Pharmacology* vol. 56 613–619 (2003).

43. Rockett, I. R. H. *et al.* Race/ethnicity and potential suicide misclassification: Window on a minority suicide paradox? *BMC Psychiatry* **10**, 35 (2010).

44. Garlow, S. J. Age, Gender, and Ethnicity Differences in Patterns of Cocaine and Ethanol Use Preceding Suicide. *Am. J. Psychiatry* **159**, 615–619 (2002).

45. Kirklees Council. *Current Living in Kirklees*. (2016).

46. ONS. Labour market in the regions of the UK: February 2020 - Office for National Statistics. https://www.ons.gov.uk/releases/regionallabourmarketstatisticsintheukfebruary2020 (2020).

47. Min, J., Kim, H., Park, S., Hwang, S. H. & Min, K. Differences in suicidal behaviors between self-employed and standardly employed workers. *Am. J. Ind. Med.* **62**, 1144–1151 (2019).

48. ETHOS. *ETHOS light*. (2007).

49. Woo, J. M., Okusaga, O. & Postolache, T. T. Seasonality of suicidal behavior. *International Journal of Environmental Research and Public Health* vol. 9 531–547 (2012).

50. Lester, D. & Frank, M. L. Sex differences in the seasonal distribution of suicides. *Br. J. Psychiatry* **153**, 115–117 (1988).

51. De Vriese, S. R., Christophe, A. B. & Maes, M. In humans, the seasonal variation in poly-unsaturated fatty acids is related to the seasonal variation in violent suicide and serotonergic markers of violent suicide. *Prostaglandins Leukot. Essent. Fat. Acids* **71**, 13–18 (2004).

52. Lambert, G., Reid, C., Kaye, D., Jennings, G. & Esler, M. Increased Suicide Rate in the Middle-Aged and Its Association With Hours of Sunlight. *Am. J. Psychiatry* **160**, 793–795 (2003).

53. White, R. A., Azrael, D., Papadopoulos, F. C., Lambert, G. W. & Miller, M. Does suicide have a stronger association with seasonality than sunlight? *BMJ Open* **5**, e007403 (2015).

54. Pirkola, S., Isometsa, E., Heikkinen, M. & Lonnqvist, J. Employment Status Influences the Weekly Patterns of Suicide among Alcohol Misusers. *Alcohol. Clin. Exp. Res.* **21**, 1704–1706 (1997).

55. NICE. Self-harm overview - NICE Pathways. https://pathways.nice.org.uk/pathways/self-harm (2020).

56. Stansfeld, S. A., Rasul, F. R., Head, J. & Singleton, N. Occupation and mental health in a national UK survey. *Soc. Psychiatry Psychiatr. Epidemiol.* **46**, 101–110 (2011).

57. Vargras-Silva, C. & Rienzo, C. Migrants in the UK: An Overview - Migration Observatory - The Migration Observatory. *The Migration Observatory* https://migrationobservatory.ox.ac.uk/resources/briefings/migrants-in-the-uk-an-overview/ (2019).

58. Cohen, J. Safe in our hands?: A study of suicide and self-harm in asylum seekers. *J. Forensic Leg. Med.* **15**, 235–244 (2008).

59. ZSA. Learn more about the Zero Suicide Alliance (ZSA). https://www.zerosuicidealliance.com/about/about-us (2020).

60. ICS West Yorkshire and Harrogate. *West Yorkshire and Harrogate Health and Care Partnership ICS Suicide Prevention Programme.* (2020).