# Audit of Suicides in Leeds
## 2014 – 2016


September 2019

# Acknowledgements


**Lead Authors**

| | |
|---|---|
| Jack Lewis | Registrar in Public Health, Leeds City Council |
| Victoria Eaton | Deputy Director of Public Health, Leeds City Council |
| Catherine Ward | Health Improvement Principal, Leeds City Council |
| Vineeta Sehmbi | Health Improvement Specialist, Leeds City Council |
| Myrte Elbers | Advanced Health Improvement Specialist, Leeds City Council |
| Richard Dixon | Senior Information Analyst, Leeds City Council |

**Other Contributors**

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| | |
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| Adam Taylor | Senior Information Analyst, Leeds City council/ NHS Clinical Commissioning Group |
| Will Ridge | Integrated Business Intelligence Manager, Leeds City Council/ NHS Clinical Commissioning Group |
| Paul Stockwell | Principal Adult Psychotherapist |

The Leeds Strategic Suicide Prevention Group


***This report is dedicated to the individuals in this audit and all those affected by their deaths.***

# Contents

# List of Key Terms

| Key term | Definition |
|---|---|
| **Balance of probabilities** | When an event is proved on a 'balance of probabilities', it is more likely than not to have occurred. It means that the event having occurred is probable, i.e. the probability of the event occurring is over 50%. |
| **Beyond reasonable doubt** | A legal term whereby if something is proved 'beyond reasonable doubt', it is shown to be almost certainly true. |
| **Burden of proof** | A legal standard that requires parties to demonstrate that a claim is valid or invalid based on facts and evidence. |
| **Core Cities** | A collaborative advocacy network of ten city councils representing ten large regional cities outside of Greater London (Birmingham, Bristol, Cardiff, Glasgow, Leeds, Liverpool, Manchester, Newcastle, Nottingham and Sheffield). The Core Cities group serves as a delivery partner for Government and its agencies. |
| **Decile** | A quantitative method of splitting up a set of ranked data into 10 equally sized subsections. A decile therefore represents 1 out of 10 (10%) of the sample or population. |
| **Postvention** | Timely and appropriate interventions that are conducted after a suicide, largely taking the form of support for those who are bereaved (including family, friends, colleagues, neighbours and peers). Those who are bereaved by suicide are more likely to be at increased risk of suicide themselves. |
| **Quintile** | A quantitative method of splitting up a set of ranked data into five equally sized subsections. A quintile therefore represents 1 out of 5 (20%) of the sample or population. |
| **Rate** | A measure of the frequency with which an event occurs in a defined population over a specified period of time. |

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# Foreword

Our vision for Leeds is to be the best city in the UK: one that is compassionate and caring with a strong economy, which tackles poverty and reduces inequalities. In Leeds, around one person dies every five days as a result of suicide. Every single death in this audit for the years 2014-16 has left behind family, friends and communities shattered by the loss. Many others in providing support and care will also feel the impact suicide leaves. Sadly it is unthinkable that people feel so desperate and feel they have no other choice but to take their own life in our city.

The factors leading to someone taking their own life are complex. This is why no one organisation is able to directly influence them all. We have a real commitment to suicide prevention work across Leeds which includes healthcare, third sector, education, media, police, fire service, transport and rail sector, and the local authority to name a few. Our suicide prevention activity is overseen by the Leeds Health and Wellbeing Board and contributes towards delivering outcomes set out in the Leeds Health and Wellbeing Strategy 2016-2020. Above all, we continue to involve communities and individuals whose lives have been affected by the suicide of family, friends, neighbours and colleagues. This way of working reflects our Leeds Approach to reducing suicides.

In 2018 as a result of previous audit findings, the Leeds Suicide Prevention Grants were launched with up to £70,000 awarded to third sector partners. This is an excellent example of local action delivered by local people that demonstrates a deep rooted commitment in reducing suicides in the city.

Whilst there is a national focus on preventing suicides, we know that local action led by local partnerships is key in saving lives. This requires a strong evidence base and an effective suicide prevention plan that is owned and supported by local partners. To do this well we undertake an audit of suicides every three years. The audit process itself is very time consuming, however we know that undertaking one is worth the effort. We continue to see the benefits this process gives us and value the in-depth findings it uncovers for our population. No other information on suicide gives us such detailed understanding of the factors relating to these deaths, and those who are most at risk in communities across our city. These headlines help us as a partnership to understand our specific roles and responsibilities whilst challenging myths and assumptions often made in good faith. The audit findings also shape our Leeds Suicide Prevention Action Plan.

This year we were pleased to receive feedback from the national Samaritans and Public Health England, which confirmed that Leeds has an outstanding action plan. As city we are committed to further building on this good work.

We must not be complacent – Leeds has further work to do on the challenges of this important agenda and we will continue to work hard together, using our shared understanding and collective resources to reduce suicide in our city.

This audit process has been led and undertaken by Public Health colleagues in Leeds. I would like to thank all members of the Leeds Strategic Suicide Prevention Group for their knowledge and commitment. Their continued support and leadership is crucial to our efforts to prevent further suicides in Leeds.

**Councillor Rebecca Charlwood**
Executive Member for Health,
Wellbeing and Adults
Leeds City Council

**Victoria Eaton**
Deputy Director of Public Health
Leeds City Council

September 2019

# Executive Summary

## Overview

Suicide is a high priority public health issue for Leeds. Alongside this audit looking back at deaths over a three year period, we use information from the Office of National Statistics (ONS) to give us a broad picture of suicide deaths in Leeds, comparisons to other areas and trends over time. The numbers are not exactly identical to our audit data, due to slightly different methodologies, but together this gives us a detailed picture for suicide deaths across the city. The most recent Office for National Statistics data was received at the time of writing this report (3rd September 2019) and covers the period 2016-18.

This most recent information shows that Leeds has a similar suicide rate to England as a whole, although male deaths from suicide are relatively higher. The overall suicide rate in Leeds has remained relatively level over the last 5 years, with a slight fall in the rate from 11.8 to 10.9 per 100,000 people in the last 3 year period (2016 – 18). In 2018, there were 74 deaths attributed to suicide in Leeds. We know that the gap between deprived Leeds and the city as a whole remains a challenge.

Leeds' rates remain slightly higher than those for the English Core Cities, in particular when compared to Birmingham and Sheffield (both 8.1). However, it should be noted than most Core Cities have lower suicide rates than the England average, with the highest rates being outside the major cities. Leeds has a rate similar to the average in Yorkshire and Humber (10.9 compared to 10.7 per 100,000 people).

The audits in Leeds are a public health approach to suicide prevention, and enable us to understand patterns, trends and risk factors for suicide within our population. The audit is a key tool in engaging the wider public health workforce and provides a focus for delivering effective suicide prevention interventions. This then shapes our priorities in the form of the Leeds Suicide Prevention Action Plan. Disseminating findings from the audit is an important element of this work and enables key messages to be shared across the city. Partners own the audit findings and understand their role in preventing suicide in local communities.

The suicide audit process would not be possible without a close and collaborative working relationship with the West Yorkshire Eastern Coroner's Service, who allow us full access to every sudden death inquest in the interest of preventing future deaths. The inquests are formal proceedings that determine a cause of death, using evidence gathered from witnesses, family and friends, healthcare and other service providers and usually a post-mortem report. Combined, the information from these sources creates a rich source of intelligence we can extract and present to the public in this audit report.

# Key Findings

## Trends

The 2014-16 audit revealed 205 suicides by Leeds residents and 11 suicides occurring in Leeds by non-Leeds residents. By comparison, the 2011-13 audit showed 213 deaths from suicide by Leeds residents and 179 in the 2007-10 audit.

The rate of deaths from this suicide audit was 8.8 per 100,000 residents, a small decrease from the rate of 9.5 per 100,000 residents in the previous audit (2011-13). This rate is lower than the official ONS rate which includes undetermined intent.

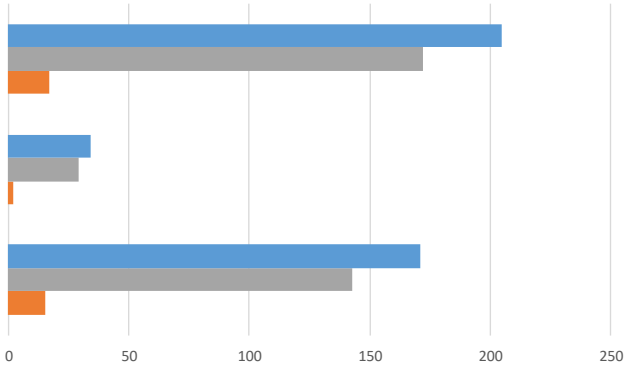
The most common age group was those aged 40-49 for males and 30-39 for females, similar to previous audits.

83% of cases were male and there continues to be a 5:1 ratio of males to females dying from suicide in Leeds, in stark contrast to the national ratio of 3:1.

**Deaths from Suicide 2014-16**

Leeds City residents by gender and ethnicty, count

| | 2011-13 Audit Count | 2014-16 Count |
|---|---|---|
| **Male** | | |
| Overall | 176 | 171 |
| White British/Other | 145 | 143 |
| BAME | 25 | 15 |
| **Female** | | |
| Overall | 37 | 34 |
| White British/Other | 28 | 29 |
| BAME | 6 | 2 |
| **Persons** | | |
| Overall | 213 | 205 |
| White British/Other | 173 | 172 |
| BAME | 31 | 17 |




* 'overall' includes suicides where ethnicity was unknown

**Figure 1: Suicide counts by gender and ethnicity**

78% of the cases were White British (Figure 10 on page 38). This is a figure that is consistent for males and females, but more pronounced in older people: 69% of those aged 40 and under were White British versus 84% of those aged 41 and older. Given that the minority ethnic background population in Leeds is 12.7% of the total population (PHE, 2016), the suicide rate amongst those with non-White ethnicities was 5.8 per 100,000.

The breakdown in Table 1 shows that White males are at the highest risk of suicide followed by Black, Asian and Minority Ethnic (BAME) males.

| | Overall (including unknown ethnicity) | BAME | White British and White Other |
|---|---|---|---|
| Persons | 8.8 | 5.8 | 8.5 |
| Female | 2.8 | 1.3 | 2.8 |
| Male | 15.0 | 10.4 | 14.4 |

**Table 1: Suicide rate per 100,000 population by gender and ethnicity**

## Deprivation and Geography

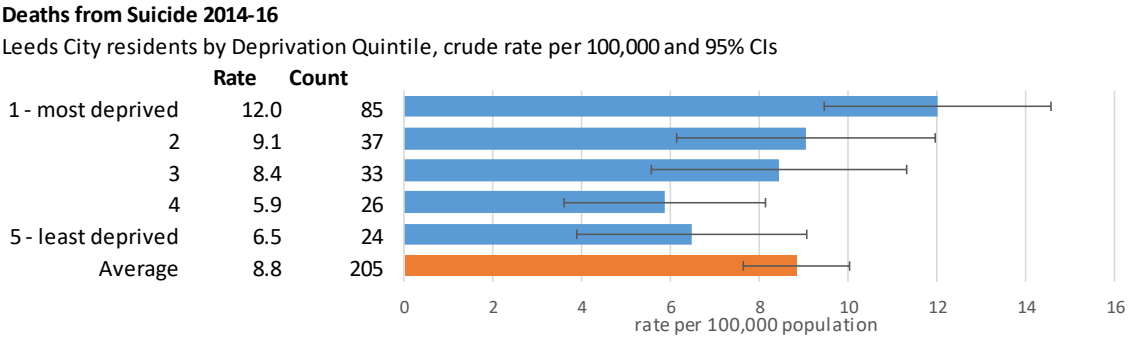



**Figure 2: Suicide rate by deprivation quintile**

30% of all suicides in Leeds occurred amongst residents in the most deprived 20% of the city. Two out of three suicides were in the most deprived half of the city. This is consistent with previous audits and national trends in suicides.

Of the 31 postcode areas where suicides were recorded in Leeds, half of all individuals lived in just seven: LS6, LS8, LS9, LS11 LS12, LS15, and LS28. An additional seven postcode areas capture 80% of all suicides: LS13, LS14, LS16, LS17, LS19, LS25, and LS27.

## Social Isolation

75% of the audit population were either single, divorced, separated or widowed and 41% lived alone. This reflects the previous audit's findings, although there has been a slight increase in the percentage of those experiencing problems with a personal relationship (53% in the 2011-13 audit compared to 60% in the current audit).

## Employment and Finances

38% of the individuals in the audit aged 16-64 were employed compared to 71% in the Leeds population over the same time period. 7.3% of the audit population were on long term sick and 5% were students.

From the limited information available in the Coroner's records, it was apparent that approximately one third (35%) were experiencing a level of financial difficulty, with 6%

recently being made redundant. Overall, half (47%) of those that died from suicide had some level of worklessness. This pattern is consistent across gender, though as expected financial difficulty was concentrated amongst the most deprived areas.

## Contact with Primary Care and other Services

15% of those in the audit (31 individuals) had contact with their GP within one week of their death and 43% within one month prior to death. Half of those presenting within a month prior to death presented with a mental health issue.

Consistent with previous audits, 24% of people had current contact with a specialist mental health service (defined as contact within the previous three months). 42% of the audit population had never been in contact with a specialist mental health service, although 78% had a documented history of a mental health diagnosis (up from 70% in the 2011-13 audit). The prevalence of self-reported long-term mental health problems in the general Leeds population is 18.2% and the GP recorded prevalence of those with severe mental illness is 1% (PHE, Mental Health and Wellbeing JSNA, 2017/18).

## Risk Factors

Individuals in the audit had an average of six observed risk factors. This finding was consistent across geography, deprivation, gender and ethnicity. The audit highlights what we already know from practice: those that die from suicide often have chaotic lives and experience compounding risks. No single risk factor stands out as causal in isolation, though some are more observed than others.

In general, the audit revealed that recent changes in individuals' lives were potential triggers for suicide. We particularly noted redundancy, relationship breakdown, a recent health diagnosis, bereavement and the accusation of a sexual offence.

Conversely, the audit also identified risk factors that are potentially present for a long time before a suicide death: adverse childhood experiences, mounting financial difficulty, substance misuse and a history of mental illness were all noted.

An analysis of these risks is given in Section 3.3.

# Recommendations

The following recommendations are based on the findings of this audit, national policy, and a review of current evidence. They are structured according to the six areas for action suggested in the 2012 National Suicide Prevention Strategy (HM Government) and its refresh in 2017 (HM Government).

**Area for action 1**

Reduce the risk of suicide in key high-risk groups:

This audit has identified that those at the highest risk of suicide within Leeds are:

- Aged 40 to 65
- Male
- Born locally and predominantly living in deprived areas of Leeds
- Living alone
- Single/ separated/ divorced
- Experiencing worklessness
- Experiencing relationship problems
- Have a history of self-harm or previous suicide attempt(s)
- History of a mental health diagnosis
- Have a history of drug/ alcohol misuse

*Recommendation 1*
Engage partners from a wide range of organisations, ensuring key suicide prevention work is undertaken by skilled people who have access to the groups identified as most at risk. Support partners to embed effective actions within their own action plans across the city that link to the Leeds Strategic Suicide Prevention Plan.

*Recommendation 2*
Target interventions towards those identified as most at risk. Every agency working to prevent suicide should consider how their work promotes resilience and good mental health, whilst reflecting the needs of the local population.

*Recommendation 3*
Actions to reduce risk for people in contact with the criminal justice system to include points of transition, first contact, early days of custody and the pre- and post-release period. Link the suicide prevention agenda to other plans in the city where criminal justice work is being prioritised.

**Area for action 2**

Tailor approaches to improve mental health in specific groups.

Specific groups which the audit shows to be at a high risk of suicide are:

- Those who have a history of drug or alcohol abuse
- Adverse childhood experiences
- Domestic violence (both victims and perpetrators)
- Contact with the criminal justice system
- Accused of an offense, especially those with stigma attached (i.e. sexual offenses)
- Those in ill physical health, particularly those experiencing chronic pain
- Those who have poor mental health

*Recommendation 4*

Work with primary care to increase the recognition of those at risk of suicide. This audit shows that half of the people had contact with primary care within three months of their death. Clinical Commissioning Group partners to work collaboratively with Leeds City Council, frontline services and the voluntary sector, ensuring acute and community services are better joined up, avoiding gaps in support during transitions and improving access for those that need it most.

*Recommendation 5*

Appropriate management of poor mental health at an early stage, including swift access to care, with family and friends involved in care planning where appropriate. Research shows that those with depression and other mental illnesses can benefit from a range of interventions both pharmacological (Zalsman, et al., 2016; Reinstatler & Nagy, 2015; Cipriani, Hawton, Stockton, & Geddes, 2013) and psychosocial (Zalsman, et al., 2016; Donker, et al., 2013) and these can reduce the risk of suicide. Ensure healthcare strategies are aligned and embed relevant recommendations from the latest Leeds Suicide Prevention Action Plan.

**Area for action 3**

Reduce access to the means of suicide.

The audit shows that Leeds does not have a defined geographical area at which multiple suicides take place. The majority of deaths occur within the home. The evidence on suicide prevention interventions however is particularly strong around reducing access to the means of suicide (Zalsman, et al., 2016; Pirkis, et al., 2015).

*Recommendation 6*
Continue to develop real time surveillance including data from partners to tailor specific activity around reducing the means of suicide. Partners should include West Yorkshire Police along with the transport and rail sector to inform future local action.

*Recommendation 7*
Continue to work with the local media to dispel myths around any high-frequency locations (should they arise) as an effective means of suicide prevention.

**Area for action 4**

Provide interventions and support to those bereaved or affected by suicide.

The audit shows that 10% of those included in the audit had been bereaved by suicide. Leeds City Council has commissioned the Leeds Suicide Bereavement Service, an innovative peer-led postvention service that offers support to those bereaved by suicide.

*Recommendation 8*
Continue to prioritise postvention interventions that are aimed towards those who are bereaved by suicide, and ensure that the Leeds Suicide Bereavement Service receives timely referrals from local organisations.

*Recommendation 9*
Engage with partners who are most likely to be in early contact with those who are bereaved by suicide (e.g. Accident and Emergency departments, West Yorkshire Police, Coroner's office) to ensure early access to appropriate services.

**Area for action 5**

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

There is evidence suggesting that adverse media coverage can be a risk factor for suicide (Pirkis, et al., 2015) and there are concerns that some media coverage can contribute to the 'contagion' effect of suicide (PHE, 2015).

In partnership with the National Union of Journalists, Leeds City Council have developed guidelines for the media to aid journalists when reporting on a death by suicide (Stack, 2003). These guidelines have been well received nationally.

*Recommendation 10*
Continue to work with colleagues in the media and promote the use of the national guidelines developed in Leeds in partnership with the National Union of Journalists.

**Area for action 6**

Support research, data collection and monitoring.

The Leeds Suicide Audit continues to be cited as an example of good practice. As discussed in the Introduction, the audit process is part of a comprehensive approach to intelligence on suicide in Leeds.

*Recommendation 11*
Continue to undertake a suicide audit at regular intervals to gather detailed knowledge about the epidemiology and risk factors of those taking their own life in the city.

*Recommendation 12*
Continue to inform partners on suicide intelligence using the audit, real time surveillance and Office for National Statistics mortality statistics, so that relevant organisations can develop coordinated responses to both emerging risks and clusters should they arise.

# 1 Introduction

A death from suicide has a heart-breaking impact on the people and community who are connected to that individual in some way. With around 4,500 lives lost to suicide every year in England (ONS, 2018), suicide prevention remains a key public health issue which continues to be a priority both nationally and locally. Death from suicide is preventable and with the right interventions and support the number of suicides can be greatly reduced (Conway, 2012).

## 1.1 Why is suicide prevention important?

Preventing deaths from suicide continues to be of paramount importance for several reasons; firstly, the avoidance of death for the individual themselves. In Leeds those who end their life by suicide tend to be middle aged: 40 to 49 is the age bracket with the highest number of suicides. As well as intangible social and emotional costs, the economic costs of suicide are significant: each death costs the wider economy on average £1.67 million (Knapp, McDaid, & Parsonage, 2011). With the right support people who have attempted to end their life can lead fulfilling and healthy lives.

The negative impact of suicide is felt way beyond the individual. Death by suicide is devastating for those who surrounded that person. This is not exclusive to close family but also extends to friends, neighbours and co-workers. The negative impact can also affect people who come into contact with suicide in a professional capacity (for example healthcare services, police, transport and rail sector, or those working in the fire service). The grieving process is often complicated. Bereavement by suicide has been described as ‘like other bereavements, but more so’ (Wertheimer, 2002). Survivors have more frequent compounded feelings of rejection, abandonment, shame, stigma, embarrassment and feelings of responsibility for the death than those bereaved through other circumstances (World Health Organisation, 2008). There are often long-lasting impacts and those who have been bereaved by suicide are at a much higher risk of dying from suicide themselves (Pitman, 2014).

Suicide is also harmful for the wider community and causes shock and emotional distress. A death by suicide is often described as ‘coming out of the blue’, for those close to the individual and for the community, which can further compound the sense of shock and loss. Evidence shows that suicide can have a contagious effect, with the occurrence of one suicide within a community making others more likely to occur (PHE, 2015). This is not restricted to geographical areas, and people who share certain characteristics or experiences can be at increased risk, even if they do not live in close proximity to the individual who ended their life. The way in which the media covers suicide sensitively and responsibly is therefore of paramount importance, so as to not exacerbate this contagion effect.

There are many factors that make it more likely for someone to intentionally kill themselves, likewise there are known factors which are proven to be protective and make it less likely. Some of these risk factors are shown in Figure 3.

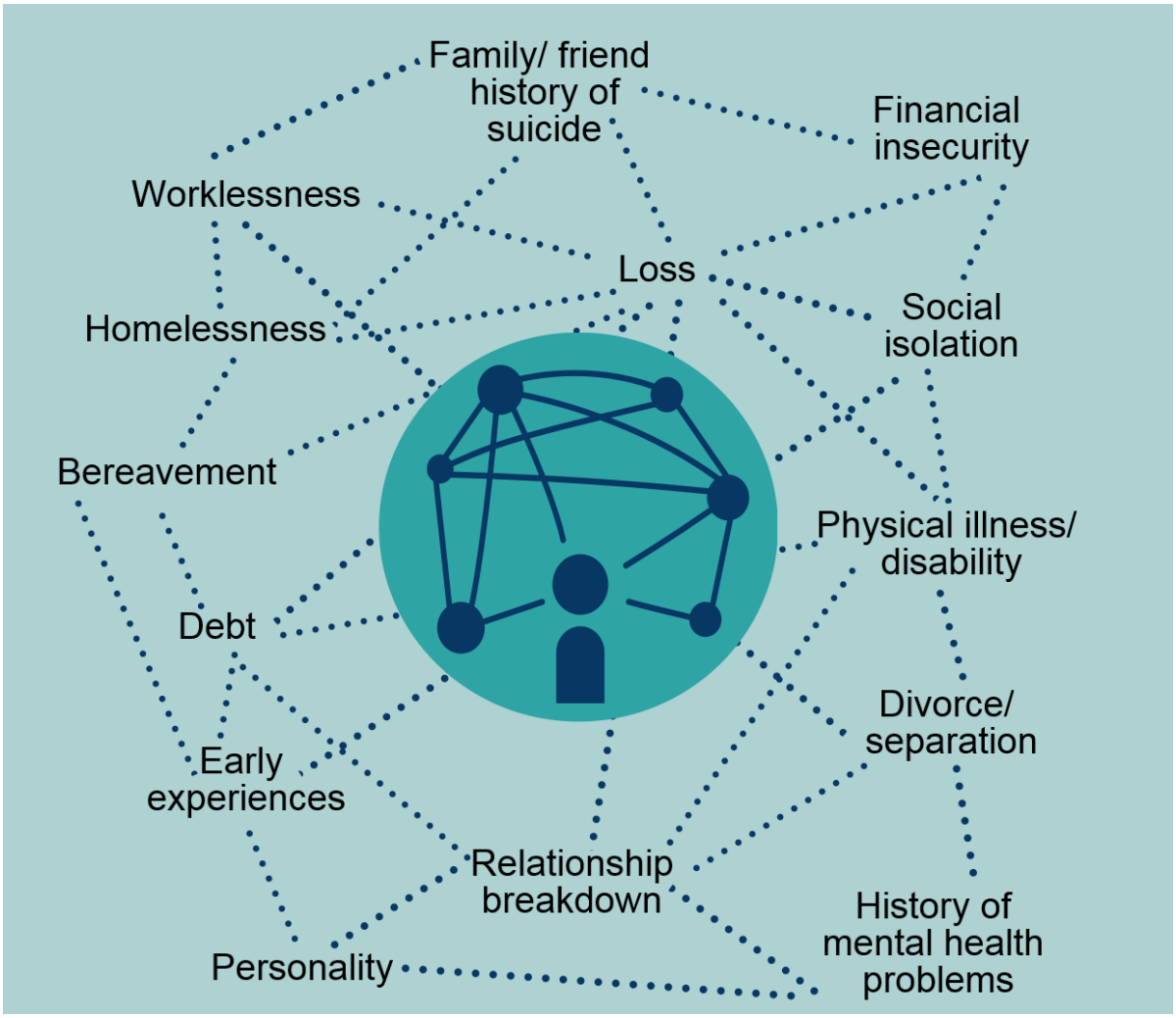



**Figure 3: Diagram depicting the potential interaction between risk factors for suicide**

Interventions that are effective in reducing suicide are aimed at improving or removing risk factors or triggers for suicide, which are often negative and harmful for good mental health. Interventions aimed at reducing the number of suicides have wider beneficial effects, such as improving mental wellbeing and resilience in the wider population. Suicide prevention interventions therefore have a positive impact on those who would not have considered taking their own life in addition to those who would have intended to do so.

The Leeds Suicide Audit enables us to examine details of events leading up to the deaths of individuals during the three-year period 2014 to 2016. It means we can look closely at who they were, where they lived, what they did for a living and what risk factors or triggers were present in their life that may have contributed to their death.

This insight helps us to ensure that suicide prevention interventions in Leeds are targeted towards those who are at risk of taking their own life.

## 1.2 National Policy

The National Suicide Prevention Strategy was published in 2012: Preventing Suicide in England: A cross-government outcomes strategy to save lives. This highlighted six key areas for action*:

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 areas for action, where relevant, formed the basis of the previous Leeds Suicide Prevention Action Plan alongside the findings from the Leeds Suicide Audit (2011-13) published in 2016. The plan has been refreshed annually where appropriate.

A refresh of the National Suicide Prevention Strategy was published in January 2017: Preventing suicide in England: Third progress report of the cross-government outcomes strategy to save lives.

This refresh focused on the following five main areas:

1. Better and more consistent local planning and action by ensuring that every local area has a multi-agency suicide prevention plan in 2017, with agreed priorities and actions
2. Better targeting of suicide prevention and help seeking in high risk groups such as middle-aged men, those in places of custody/detention or in contact with the criminal justice system and with mental health services
3. Improving data at national and local level and how this data is used to help take action and target efforts more accurately
4. Improving responses to bereavement by suicide and support services
5. Expanding the scope of the national strategy to include self-harm prevention in its own right

Public Health England (PHE) and the National Suicide Prevention Alliance (NSPA) also published a range of resources to support local areas to commission, provide and evaluate support after a suicide.

## 1.3 Suicide Prevention in Leeds

### Background

In April 2013, local authorities were given the responsibility to lead local suicide prevention action in collaboration with key partners. This followed the transfer of public health programming from the NHS into local government.

Suicide prevention is consistent with Leeds City Council's values and priorities. This work contributes towards Leeds City Council's ambition of tackling poverty and reducing inequalities as outlined in the Health and Wellbeing Strategy, Inclusive Growth Strategy, and Best Council Plan.

### Leeds Suicide Audit

The Office for National Statistics (ONS) collects, analyses and presents statistics relating to suicide, which are updated annually. This data provides an overview of suicide trends across the country but is limited in its detail for local data in which only a citywide overview can be observed. The national suicide prevention strategy therefore recommends councils undertake a local suicide audit at regular intervals to supplement the data provided by ONS. This enables a more detailed understanding of suicides within a local area.

The Leeds Suicide Audit is part of a comprehensive three-tiered approach to intelligence on suicides in Leeds:

- The Leeds Suicide Audit provides themes and risk factors that can only be robustly identified over longer time periods where there is sufficient data
- Ongoing monitoring of ONS mortality figures, updated yearly, enables national and regional comparisons over 10+ years
- Real time surveillance (RTS) using partners' most up-to-date information helps to capture sudden anomalies, particularly clusters of suicides that require rapid intervention. RTS is a recent development in Leeds and features close working with partners including education, West Yorkshire Police, British Transport Police, Northern Rail and the Leeds Suicide Bereavement Service

The findings from this audit will be used alongside ONS and RTS data to provide a clear overview of suicide in the city and enable local partnership working to reduce the risk of suicide within local communities. The audit is a key tool in engaging the wider public health workforce and provides a focus for delivering effective suicide prevention interventions. This then shapes our priorities in the form of the Leeds Suicide Prevention Action Plan. Disseminating findings from the audit is an important element of this work and enables key messages to be shared across the city. Partners own the audit findings and understand their role in preventing suicide in local communities.

## Leeds Suicide Prevention Action Plan

The three main drivers of the Leeds Suicide Prevention Action Plan are the national strategy, the findings from the Leeds Suicide Audits, and local real time surveillance (RTS) intelligence. An infographic was developed to demonstrate the Leeds Approach to suicide prevention (Appendix 2 – The Leeds Approach to Suicide Prevention).

## Good Practice in Leeds

Leeds remains at the forefront of the national suicide prevention agenda, and there is strong leadership in the city. The Local Government Association (LGA), Association of Directors of Public Health (ADPH), Public Health England (PHE) and the Department for Health and Social Care signed up to a sector-led improvement collaboration for suicide prevention that encouraged local authorities to submit local self-assessment surveys about their action plans. Leeds was given positive feedback including being invited to a case study interview. Excerpts from the Leeds Suicide Prevention Action Plan are also included in the main report as an example of good practice. This year the Samaritans reviewed all national plans, and the Leeds Suicide Prevention Action Plan was cited as 'outstanding' and a national example of best practice.

The Public Mental Health Team (Leeds City Council) has produced audits of suicides occurring within Leeds for nine years in order to learn about local risk factors, trends, and characteristics of suicide. The previous Leeds Suicide Audit, which looked at deaths between 2008 and 2010, was recommended nationally as best practice within guidance published by Public Health England (2014). A Real Time Surveillance Group has recently been established in Leeds to monitor real time information about local deaths with local partners.

The Leeds Suicide Bereavement Service (LSBS) is commissioned by Leeds City Council and is a fully-funded postvention service that includes support for bereaved families. This service is delivered by Leeds Mind and Leeds Survivor-Led Crisis Service. LSBS was a finalist in the 'Best Service Model Delivery' category for the 2019 Local Government Chronicle Awards. This peer-led service is also being rolled out across the region.

In 2018, Councillor Judith Blake, Leader of Leeds City Council and Executive Member for Economy and Culture, announced funding for targeted social activities and outreach support for men to reduce social isolation. Working closely with Leeds Community Foundation, Leeds City Council allocates funds to areas of need where activities for socially isolated men are lacking for communities with the highest suicide rates. The programme is initially in place for three years with small and large grants distributed annually. Funding has been awarded to nine third sector organisations to deliver targeted approaches to support men in specific communities.

Leeds City Council commissioned Mentally Healthy Leeds, an upstream public mental health service that aims to reduce social isolation, improve positive mental health, and reduce stigma and discrimination through community development and co-production approaches. The service is delivered by Touchstone, Community Links, Oblong, and The Conservation Volunteers (TCV). Mentally Healthy Leeds work closely with Leeds Suicide Bereavement Service in communities where there is a need for suicide prevention awareness. Your Space is another recently launched service with a public mental health focus that delivers and promotes a range of activities, awareness campaigns, and signposting for people who live in the inner south of Leeds.

## 1.4 Aims of the Leeds Suicide Audit (2014-16)

- To contribute robust, local and meaningful data which can be utilised in the development of a suicide prevention plan to ensure that resources are being appropriately targeted to the populations most at risk of and affected by suicide

- To compare the data to the previous audit and determine if there are any changes in the demographics of people ending their life by suicide

It is worth noting that the aim of the current audit is *not* to assess the effectiveness of suicide prevention interventions developed following the publication of the previous suicide audit (2011-13).

# 2 Methodology

## 2.1 The Data Source

Coroner's records of inquests were used as the primary data source for this audit. All unexpected deaths are reported to the Coroner and an inquest is held for those where suicide is suspected. Using Coroner's records therefore provided us access to information about all the suicides that occurred during the time period of interest in Leeds.

In order to complete this work an information sharing agreement was signed between Leeds City Council and the West Yorkshire Eastern Coroner's Service, giving us full access to the Coroner's records. The agreement acknowledged the public value of understanding local needs related to suicide.

## 2.2 Process Overview

Data was collected and identified in three stages. The first two stages involved identifying the records that met criteria for further examination; the third stage confirmed each case was a suicide beyond a reasonable doubt before the file was examined in full and relevant data extracted. A process chart showing inclusion and exclusion criteria is shown in Figure 4

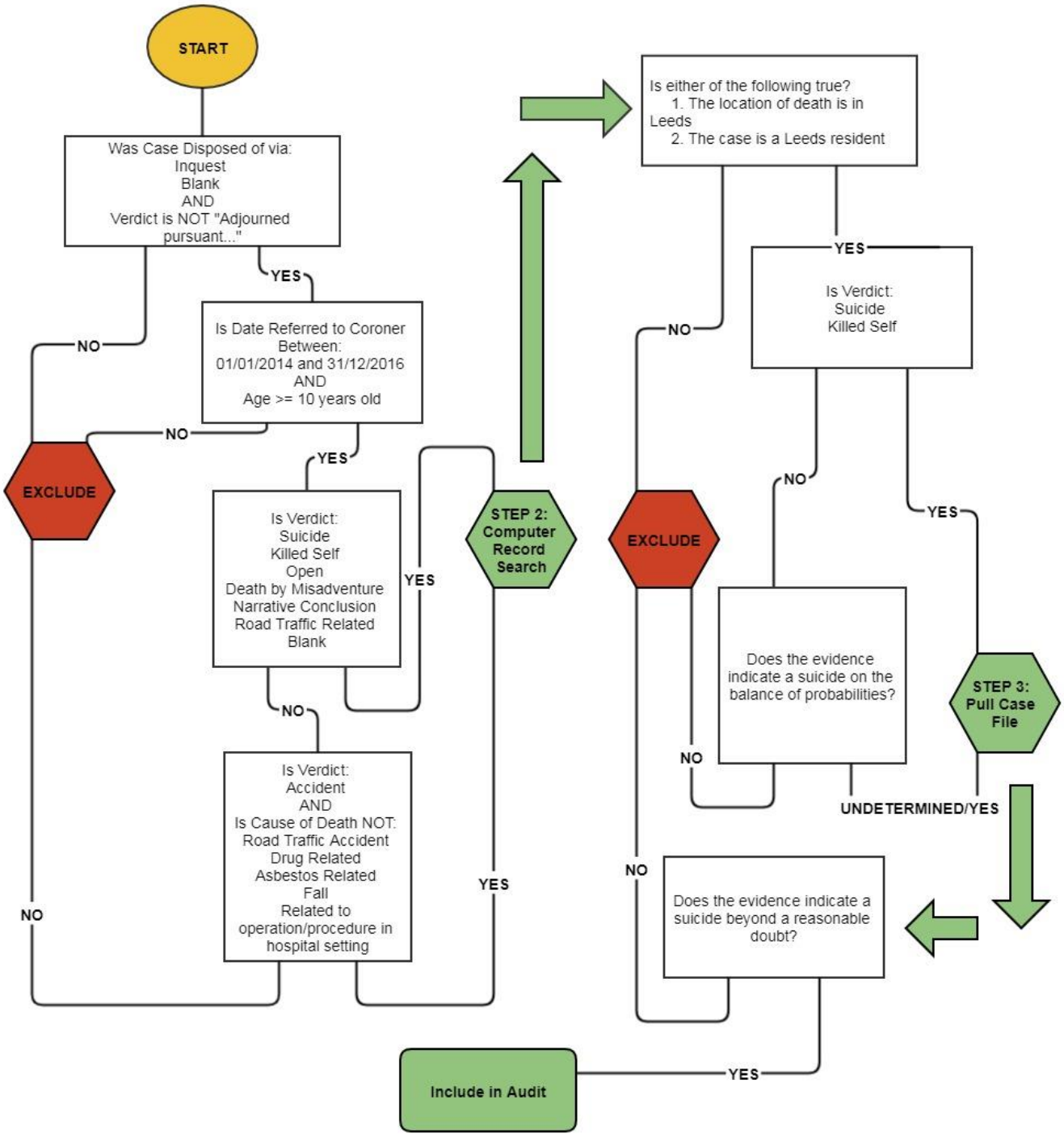



**Figure 4: Audit process chart**

## 2.3 Stage One

The Coroner's records of any deaths reported in the three year period from 2014 to 2016 were examined to identify those records we wished to take forward to the second stage. These were paper records and showed the individual's name, address, age,

date of death, details from the death certificate, how the Coroner's office handled the death (i.e. if an inquest was required or not) and the verdict of any inquest held.

These paper records were manually examined by two members of the audit team separately and any records meeting at least one of the criteria below were included. If there was a difference of opinion regarding a case, it was resolved by discussion and consensus between the team.

### 2.3.1 Criteria for Stage One

*Records should be included if the individual's death was reported to the Coroner between 1/1/2014 and 31/12/2016, is 10 years old or older at the time of their death and:*

- Referral to the Coroner's Service was disposed of via inquest and was not criminal in nature AND
- The individual had a verdict of 'Killed self' or 'Suicide' OR
- The individual had a verdict that could potentially be self-inflicted; including 'Open', 'Death by Misadventure', 'Narrative Conclusion', and 'Blank' OR
- The individual had a verdict of 'accident' whereby the cause of death was not a road traffic accident, drug related, asbestos related, fall related, or related to an operation or procedure occurring in a hospital setting OR
- The individual had insufficient information to exclude at this stage

## 2.4 Stage Two

In stage two the records identified in stage one were examined more closely on the Coroner's electronic database. Those that did not meet the criteria below were excluded. The computer records filled in gaps left by the stage one paper records, often providing the full narrative surrounding the death. This narrative allowed us to make a judgement on inclusion based on the balance of probabilities, or a greater than 50% likelihood basis of a death being a suspected suicide. This is a lower threshold than used later in the audit process, but allowed us to exclude files where it was obvious there was no intent of suicide.

### 2.4.1 Criteria for Stage Two

*Records from stage one were included in stage two if:*

- The location of the death was in Leeds or the individual was a Leeds resident.
- The verdict was 'Suicide' or 'Killed Self' OR
- On the balance of probabilities, the death might be intentional OR
- Insufficient information was available to exclude at this stage

## 2.5 Stage Three

The records included at the end of stage two were requested in full from the Coroner's Service and examined in detail. For those without 'Suicide' as the verdict, a judgement was made on whether the death was intentionally self-inflicted 'beyond a reasonable doubt.' Each file was assigned to one member of the audit team, who would present the case for inclusion or exclusion to the rest of the team present (a minimum of three members of the team were present during this stage of inclusion). Where cases were included, the data from each record were extracted onto a pre-prepared Excel template that was stored on a secure electronic file system.

| Stage of Process | Number of Cases |
|---|---|
| **End of Stage One** | 763 |
| **End of Stage Two** | 275 |
| **End of Stage Three** | 216 |
| **Suicide Deaths in Leeds Amongst Non-Residents** | 11 |
| **Suicide Deaths Amongst Leeds Residents** | 205 |

**Table 2: The number of cases included at each stage of the audit process**

All files identified at the end of stage two were made available by the Coroner's office. 59 cases were excluded after the audit team determined that there was insufficient evidence of suicidal intent. Cases at the end of stage three were further subdivided into Leeds residents (regardless of where the suicide occurred) and non-Leeds residents who died in Leeds and therefore had an inquest performed by the West Yorkshire Eastern Coroner's Service.

## 2.6 Data Collection Template

Each suicide audit conducted in Leeds uses a data collection template that defines the demographic, service use, and risk factor information to be collected from Coroner's records. The template is key to ensuring consistency between audits and allows us to systematically capture pertinent information. The template is updated every audit based on learning from previous audits and the most recent evidence base on risk factors for suicide.

We conducted a literature search covering the last three years (January 2016 to August 2018) for any new or emerging evidence on risk factors for suicide. The search

included databases such as the Cochrane Library, NHS Evidence, Medline, Cinahl and Embase. It generated over 450 results, which we found to be well summarised by two literature reviews (Schreiber, Culpepper, Roy-Byrne, & Solomon, 2018; Masango, Rataemane, & Motojesi, 2016).

The search primarily confirmed the appropriateness of the current template, although we also included adverse childhood experiences and religion as additional risk factors to the collection template based on the evidence found.

| **Risk Factor** | **Evidence** (Schreiber, Culpepper, Roy-Byrne, & Solomon, 2018) | **Comment** |
|---|---|---|
| History of previous suicide attempts | 10-40 nonfatal attempts for every completed suicide | Already in template |
| Psychiatric disorders | Present in 95% of successful suicides | Already in template |
| Hopelessness | 2.0 times the odds of suicide | Not in template, assessed as difficult to capture consistently from coroners records |
| Marital status | 1.9 times the odds in non-married | Already in template |
| Sexual minority | Lifetime risk 4 times greater in sexual minorities compared to heterosexuals | Already in template |
| Occupation | 1.8 times the risk amongst those in unskilled occupations compared to skilled ones | Already in template |
| Military service | Rate is higher in those with military service (risk not quantified) | Already in template |
| Medical illness | Risk is higher in those with a medical illness (not quantified) | Already in template |
| Chronic pain | 2.0 times the risk in those with chronic pain | Already in template (captured within medical illness) |

| | | |
|---|---|---|
| Traumatic brain injury | 2.0 times greater incidence in those with traumatic brain injury | Already in template (captured within medical illness) |
| Childhood adversity | 2-4 times greater risk in adults who suffered adverse childhood experiences | Added to template |
| Family history | 2-3 times the odds of suicide where there is a family history | Already in template |

**Table 3: Risk factors from literature search part 1**

| **Risk Factor** | **Evidence** (Masango, Rataemane, & Motojesi, 2016) | **Comment** |
|---|---|---|
| Religion | Roman Catholics have fewer attempts than Protestants and Jews | Added to template |

**Table 4: Risk factors form literature search part 2**

## 2.7 Discussion and Limitations

The methodology followed here is based on multiple iterations of the Leeds Suicide Audit. Minor changes were made to the previous audit process, including a step to capture the deaths that occurred in Leeds, but by non-residents. Based on the learning from the last audit, the deaths where the verdict was drug related (rather than suicide) were automatically excluded from the audit in stage one as it was unlikely sufficient information would exist to deem the act as intentional beyond a reasonable doubt.

The audit team was aware that the burden of proof for Coroners' to reach a Suicide verdict was under judicial review and may soon be lowered from "beyond a reasonable doubt" to "on the balance of probabilities". This change has now taken place (Morris, 2019). To maintain consistency with previous audits and to reflect the benchmark applied at the time of the inquests, we continued to apply the "beyond a reasonable doubt" standard. Future audit teams will need to make a judgement as to whether to employ the same standards.

The data search included all cases referred to the West Yorkshire Eastern Coroner's Service. This captured non-Leeds residents who may have died in Leeds and in several cases Leeds residents who died outside of Leeds where the inquest was still managed locally. Though a rare occurrence, the data search will miss Leeds residents who die outside of Leeds and whose inquest is held elsewhere. University students are an example of non-residents who might die in Leeds and are therefore captured

in the audit, whilst Leeds residents away at university may be missed as their inquests are likely to be held elsewhere. It is difficult to quantify the impact this has on audit figures, although due to the low number of non-Leeds residents dying in Leeds, it is thought to be small.

With more resources, each of the cases in the third stage of the audit would be reviewed independently by two members of the team to reconcile any discrepancies. This would have added considerable pressure to an already time-intensive process and was felt to provide limited value.

We are also aware that the Leeds Suicide Audit is not a true 'audit' in the traditional sense of the word: we are not comparing the actions taken by services in each suicide against a standard of care to make a judgement on changes that might be required. This work might be more accurately defined as a cross-sectional mixed methods study (cross sectional because we are studying a slice of time and mixed methods as we use both qualitative and quantitative approaches to data gathering and analysis). We use the word 'audit' here in the vernacular sense to mean 'an inspection.' We are inspecting inquest files with the hope of learning something about suicides in Leeds that may help us and others in understanding and preventing local deaths.

A discussion on the limitations of the findings of this audit can be found in Section 5.

# 3 Findings

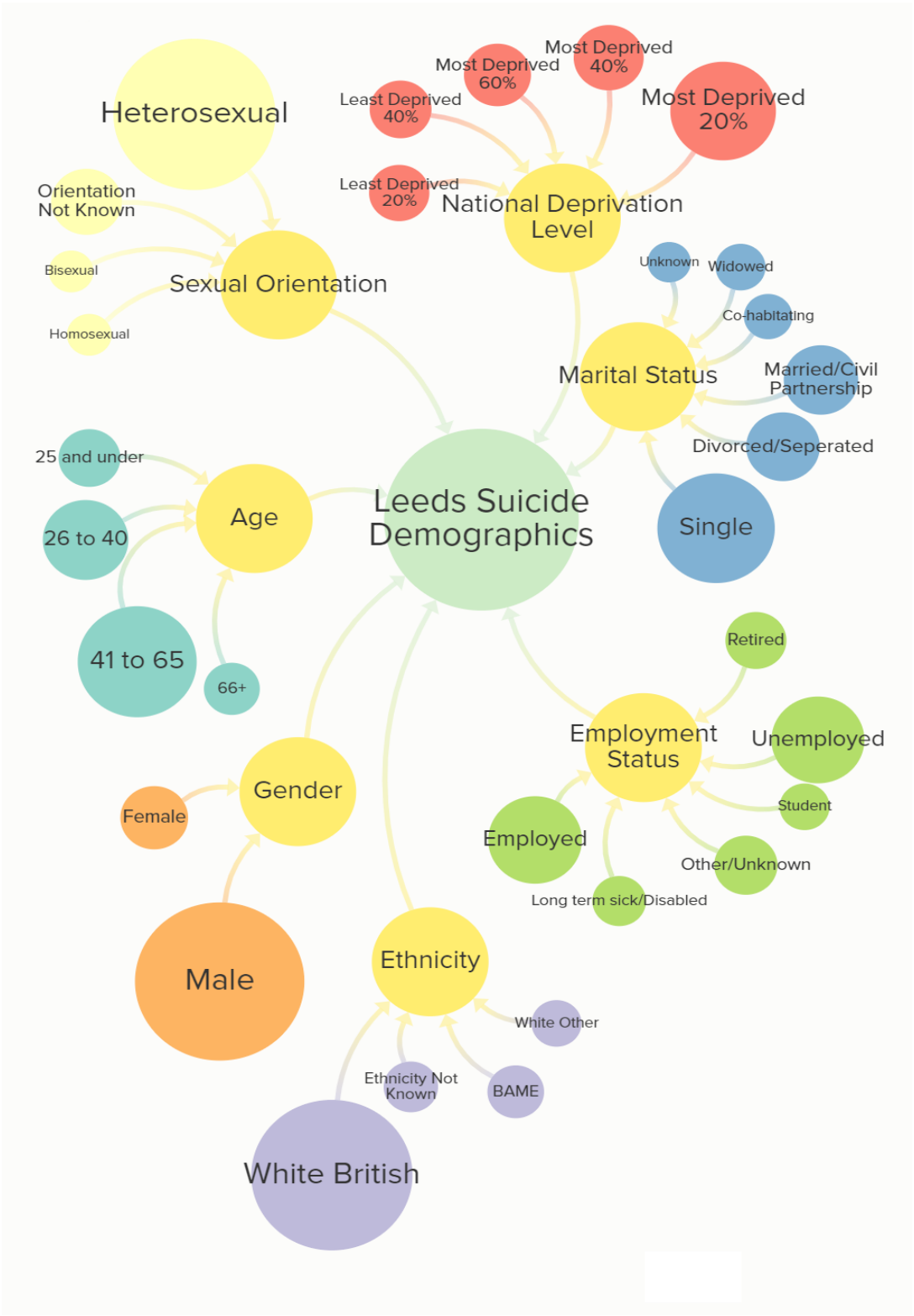



**Figure 5: Demographics of suicides in Leeds (circle size proportionate to number in cohort)**

Throughout this report we use a combination of text, tables, bar charts and bubble charts (Figure 5) to present information. The bubble charts are drawn in proportion to the number of individuals that make up the category being described. From Figure 5 above, we can see that the largest cohorts in the audit are single, male, White British, and 41-65 years old. The following findings provide far more nuance than this though, and are divided into three sections: Demographics, Healthcare Service Use and Risk Factors. All analysis is of Leeds residents unless otherwise stated. See Section 3.4 for an analysis of non-Leeds residents' deaths that occurred in Leeds.

## 3.1 Demographics

### 3.1.1 Trends

| | 2011 | 2012 | 2013 | 2011 to 2013 |
|---|---|---|---|---|
| **Number of Cases** | 70 | 75 | 68 | 213 |

**Table 5: Number of cases by year and in total for 2011-13 audit**

| | 2014 | 2015 | 2016 | 2014 to 2016 |
|---|---|---|---|---|
| **Number of Cases** | 65 | 65 | 75 | 205 |

**Table 6: Number of cases by year and in total for 2014-16 audit**

Table 5 and Table 6 show a largely consistent number of deaths per year from suicide across the current and previous audit. The crude rate of suicide over the time period 2014-16 was 8.8 per 100,000. The rate for the 2011-13 was found to be 9.5 per 100,000. This represents a minor fall in suicides, but not a statistically significant one, meaning that the difference may be caused by chance.

| Time Period | Rate per 100,000 population | 95% Confidence Interval |
|---|---|---|
| **2008-2010** | 8.1 | 6.9-9.4 |
| **2011-2013** | 9.5 | 8.2-10.8 |
| **2014-2016** | 8.8 | 7.6-10.0 |

**Table 7: Suicide rates covering last three audit time periods**

Table 7 shows the average suicide rate per audit for the last three audits. Although the rate per 100,000 has fluctuated up and down, the differences are not statistically

significant. We are not reliably able to prescribe these rate changes to any single cause. It may be a combination of factors that push the rate higher or lower, including:

- Change in underlying risk factors and the number of people in Leeds exposed to these risks
- Local and national work acting to prevent suicides
- The random fluctuation of events like suicide when viewed on a population level

We can mathematically account for the random fluctuations by providing a range or "confidence interval" that describes possible outcomes. This is useful when comparing two time periods and answering the question: "is the change we are seeing possibly explained by randomness?" When confidence intervals overlap, the answer is yes.

### 3.1.2 Comparison with ONS Rates

The Office for National Statistics (ONS) provides national and local suicide rates using death registration data. These are shown below in Table 8 for the years covering the last three audits. The overlapping confidence intervals between time periods and local/national rates show that Leeds has not had any significant changes in its overall suicide rate between these time periods and does not differ from the national average.

| Time Period | ONS Age-standardised Suicide Rate for Leeds per 100,000 population (95% confidence interval) | ONS Age-standardised Suicide Rate for England per 100,000 population (95% confidence interval) |
|---|---|---|
| **2008-2010** | 8.9 (7.6-10.3) | 9.4 (9.2-9.5) |
| **2011-2013** | 10.9 (9.5-12.5) | 9.8 (9.6-10.0) |
| **2014-2016** | 10.9 (9.5-12.5) | 9.9 (9.8-10.1) |

**Table 8: Age-standardised suicide rates for England and for Leeds taken from ONS data**

Whilst the audit-derived rates are similar to those produced by the ONS there are some important methodological differences in both the way suicide is classified and how the rate is calculated. The audit uses a crude rate that only applies to the Leeds population whereas the ONS use an age-standardised rate that facilitates comparison between different areas, accounting for variations in age and sex. The ONS also includes 'death of undetermined intent' which is a broader definition of suicide than used in the audit, which explains why ONS rates are higher than audit rates. These differences mean that the audit rates and ONS rates should not be compared.

### 3.1.3 Age Distribution

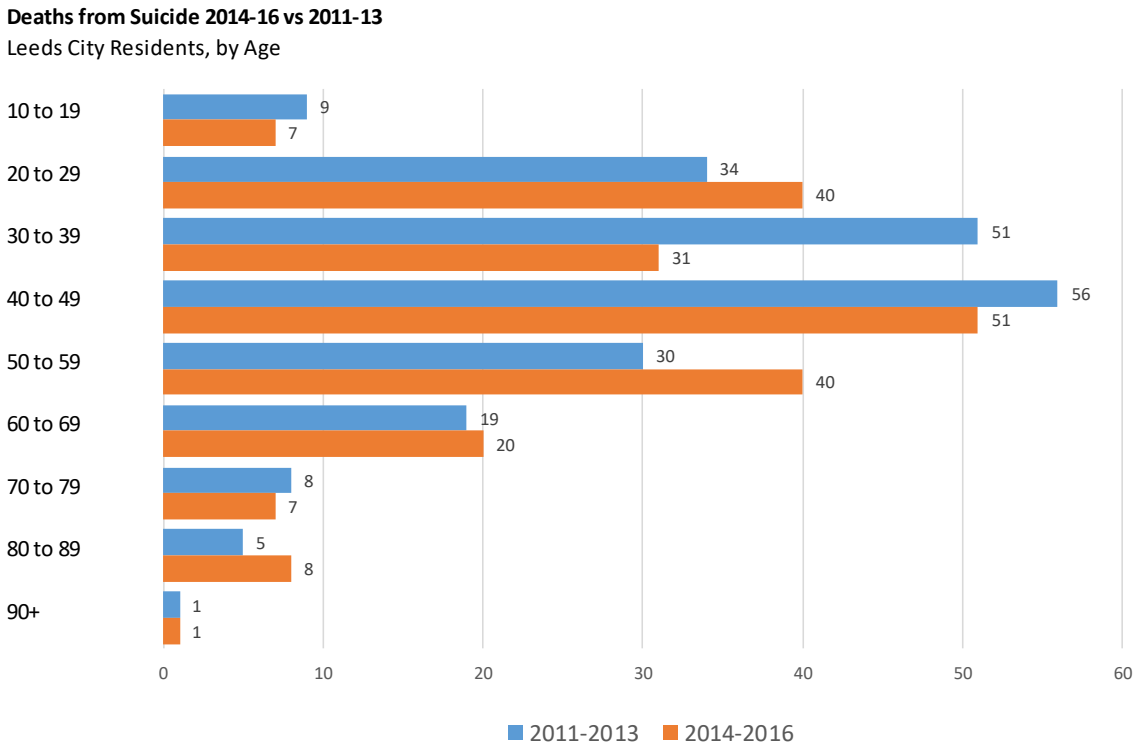



**Figure 6: Age distribution-number of deaths by age**

The age distribution of the audit population is shown in Figure 6along with a comparison to the last audit (2011-13). This shows that those who die from suicide in Leeds are most likely to be aged 40-49; 25% of the cases included in the audit were within this age bracket.

Rates account for difference in population size and allow for a more accurate comparison between periods. Though in absolute terms there have been several shifts amongst age groups in the numbers of suicides, the rates of suicides have remained consistent compared to the previous audit. This is best illustrated in Figure 6 which shows overlapping confidence intervals for all age groups. Leeds has a similar age distribution of suicides to what is observed nationally (ONS, 2018).

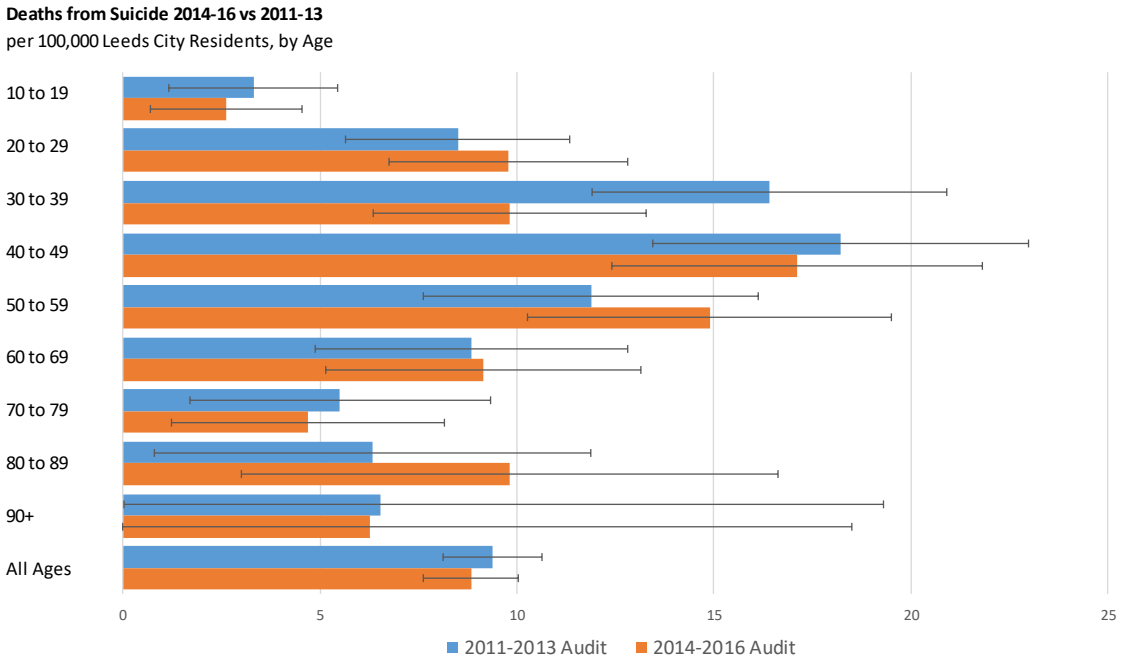



**Figure 7: Age distribution-number of deaths by age per 100,000**

### 3.1.4 Gender Identity

Table 9 shows the gender breakdown of the current audit compared to the two previous audits. There are more males then females as was the case in the previous audit.

Gender was recorded as the gender the individual identified with, as opposed to the one assigned at birth or expressed at the time of death. Transgender identity did not emerge from the audit as a population-level risk factor for suicide in Leeds (although on an individual level this may not be the case).

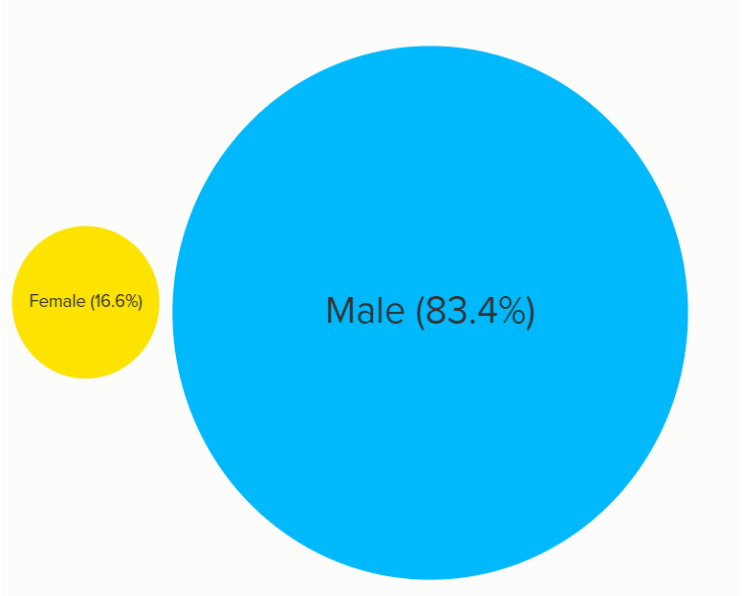



**Figure 8: Gender identity**

| Audit | Female: Number | Female: Rate per 100,000 (95% Confidence Interval) | Male: Number | Male: Rate per 100,000 (95% Confidence Interval) |
|---|---|---|---|---|
| **2008-10** | 38 | 3.3 (2.3 – 4.3) | 141 | 12.9 (10.8 – 15.0) |
| **2011-13** | 37 | 3.2 (2.2 – 4.2) | 176 | 15.8 (13.5 – 18.1) |
| **2013-16** | 34 | 2.9 (1.9 – 3.8) | 171 | 15.0 (12.8 – 17.3) |

**Table 9: Number and crude rate of suicides by gender**

There were five male suicides in Leeds for every one female suicide. This differs considerably from the national ratio of 3:1, but is consistent with the previous audit which had a ratio of 4.9 to 1. Looking at this ratio for those under 26 years old, those in the top 40% most deprived areas and those with BAME backgrounds reveals similar ratios of male to female deaths (Table 10), though with an even more pronounced difference among those under 26 years old (7.7 to 1) and BAME backgrounds (7.5 to 1).

| Audit | Ratio Male to Female |
|---|---|
| **All individuals** | 5.0 to 1 |
| **Under 26 years old** | 7.7 to 1 |
| **Top 40% most deprived** | 5.4 to1 |
| **BAME background** | 7.5 to1 |

**Table 10: Ratio of male to female suicides**

### 3.1.5 Sexual Orientation

Sexual orientation is rarely explicitly recorded in the case notes, but was assessed pragmatically. The relationship history of the individual was examined in conjunction with witness statements from those who knew the deceased. If, for example, they were married to a member of the opposite gender and there was no evidence to suggest any other sexual orientation, the individual would be recorded as heterosexual. This method of data collection is limited and may be inaccurate; it should be used with caution. The data indicates that the majority of individuals are heterosexual (78.5%). However, a significant proportion of the audit population had no indication of their sexual orientation within the Coroners' record and were recorded as "not known".

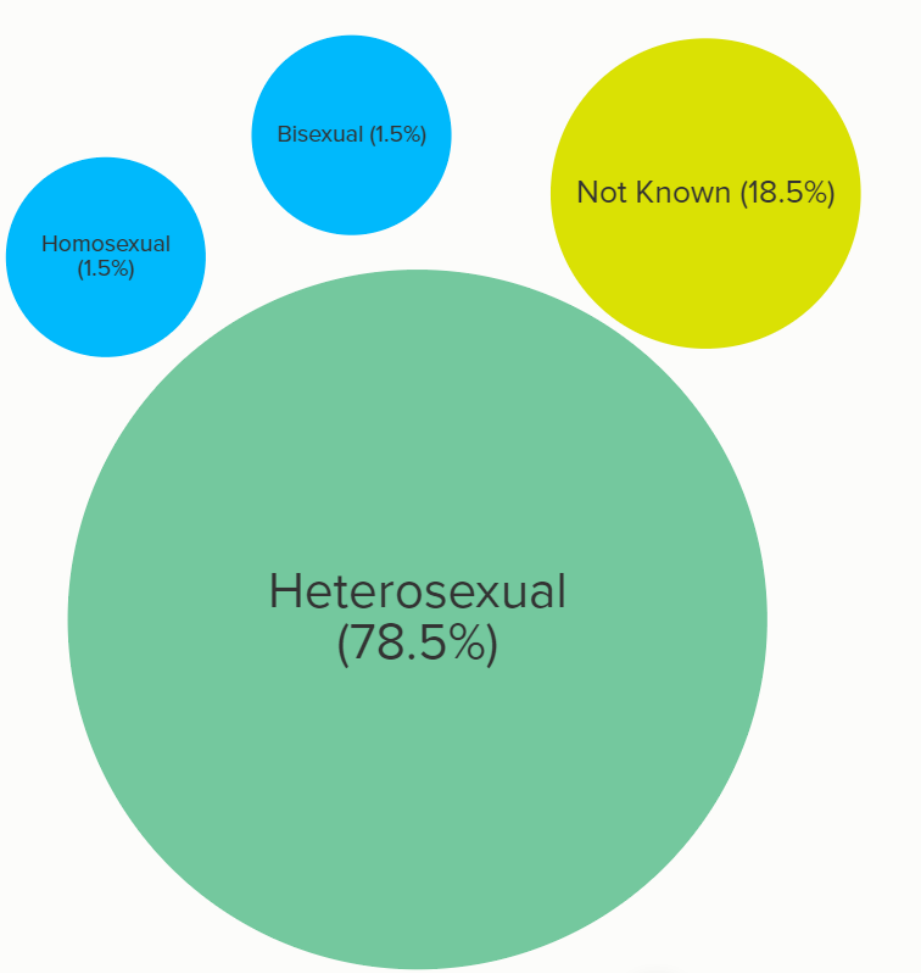



**Figure 9: Sexual orientation**

### 3.1.6 Ethnicity and Place of Birth

The reporting of ethnicity in Coroner's records is often limited due to inconsistencies with how it is recorded by numerous sources, such as within police and medical records. This is an ongoing national issue which can impact the quality and interpretation of suicide data.

Ethnicity was not specifically recorded in a standardised format in the vast majority of the Coroner's case notes (84%), and this is consistent with previous audit findings. However, we have proactively continued to strengthen our process of evidencing ethnicity from the case notes within records collated by the Coroner. This process involved triangulating information gleaned from post-mortem reports, additional narrative in witness statements, and information that was specifically requested from the Coroner. This enables us to be more confident in our findings on the ethnicity of the audit population; Appendix 3 – Ethnicity findings provides a further summary of this.

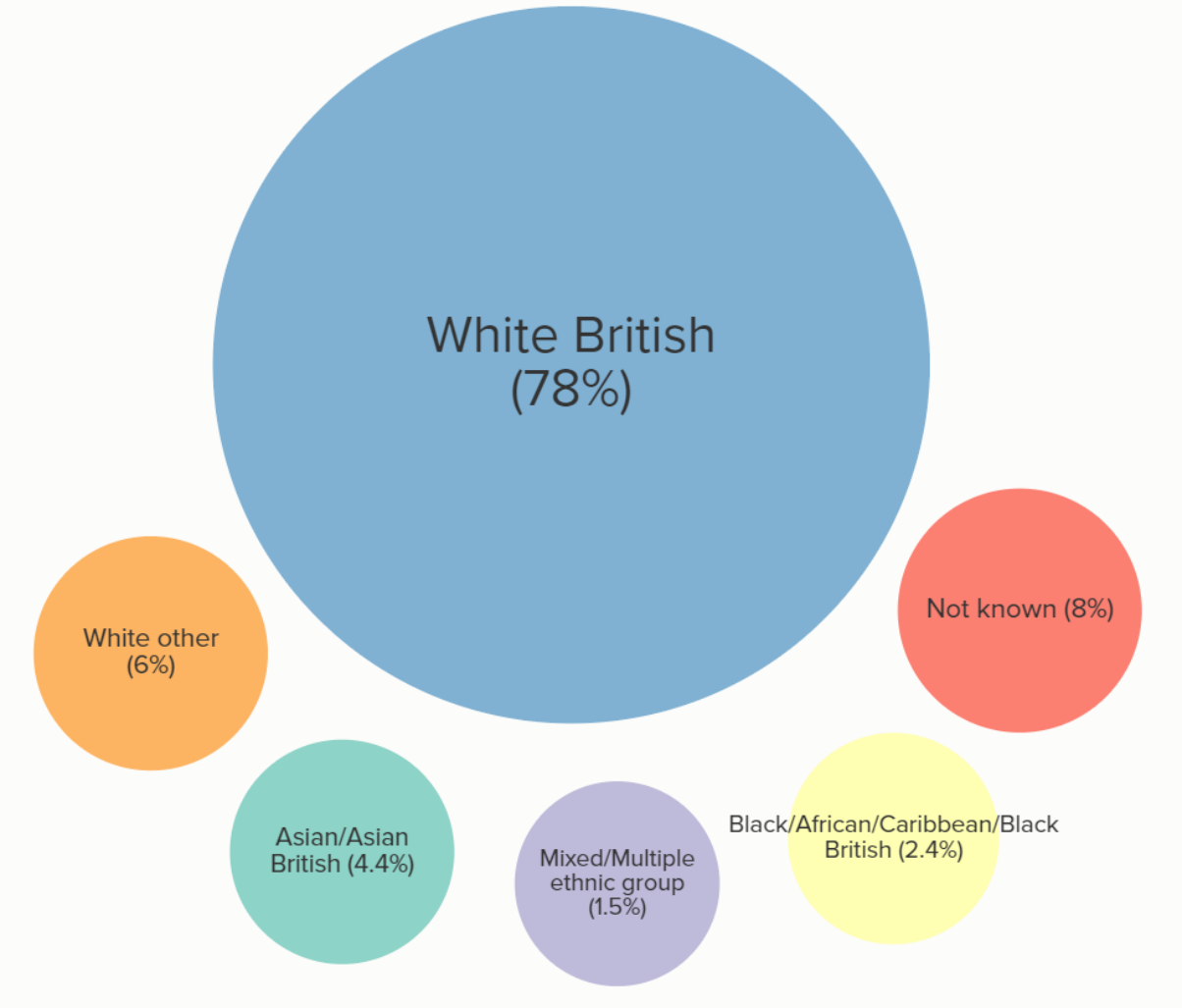
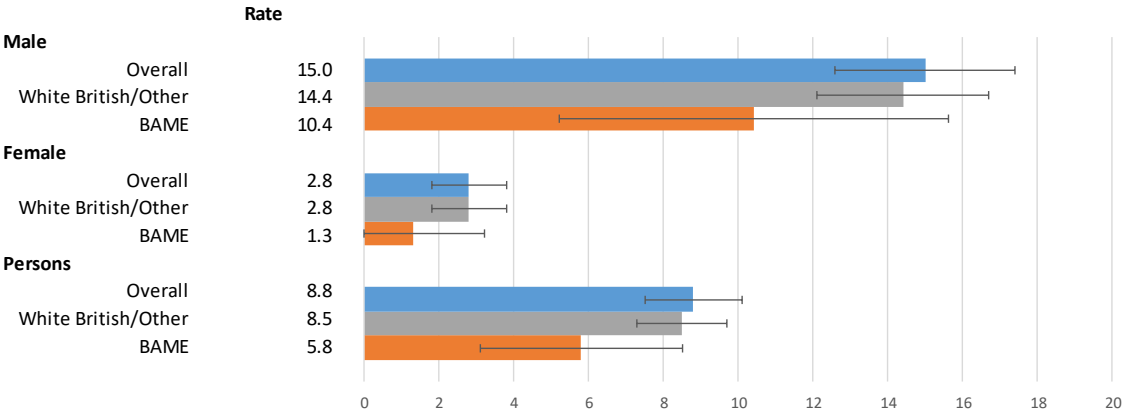



**Figure 10: Ethnicity**

The ethnic breakdown of the audit population can be seen in Figure 10. It is largely consistent with previous audits and suggests four out of five suicide deaths are White British. 10% of deaths were migrants with 90% of individuals born in the UK. 58% of the audit population were born in Leeds.

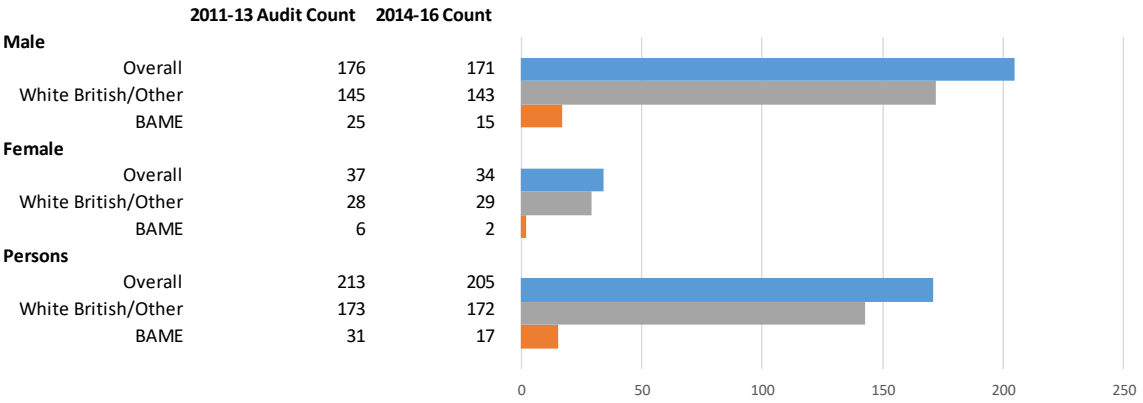
**Deaths from Suicide 2014-16**
Leeds City residents by gender and ethnicity, crude rate per 100,000




* 'overall' includes suicides where ethnicity was unknown

**Figure 11: Suicide rates per 100,000 population by gender and ethnicity with 95% confidence intervals**

**Deaths from Suicide 2014-16**
Leeds City residents by gender and ethnicity, count




* 'overall' includes suicides where ethnicity was unknown

**Figure 12: Suicide counts by gender and ethnicity**

For further analysis, a combined Black Asian and Minority Ethnic (BAME) group was created by excluding those with unknown ethnicity and those identified as White British or White Other. Suicide rates were calculated using an estimate of the minority ethnic population in Leeds (12.7% or about 98,000 people), derived from the 2016 Annual Population Survey (PHE, 2016). This shows that the suicide rate for White British males is significantly higher than the general population. The suicide rate for BAME males (10.4 per 100,000) is higher than the overall suicide rate (8.8 per 100,000) and accounts for 7% of the total number of suicides.

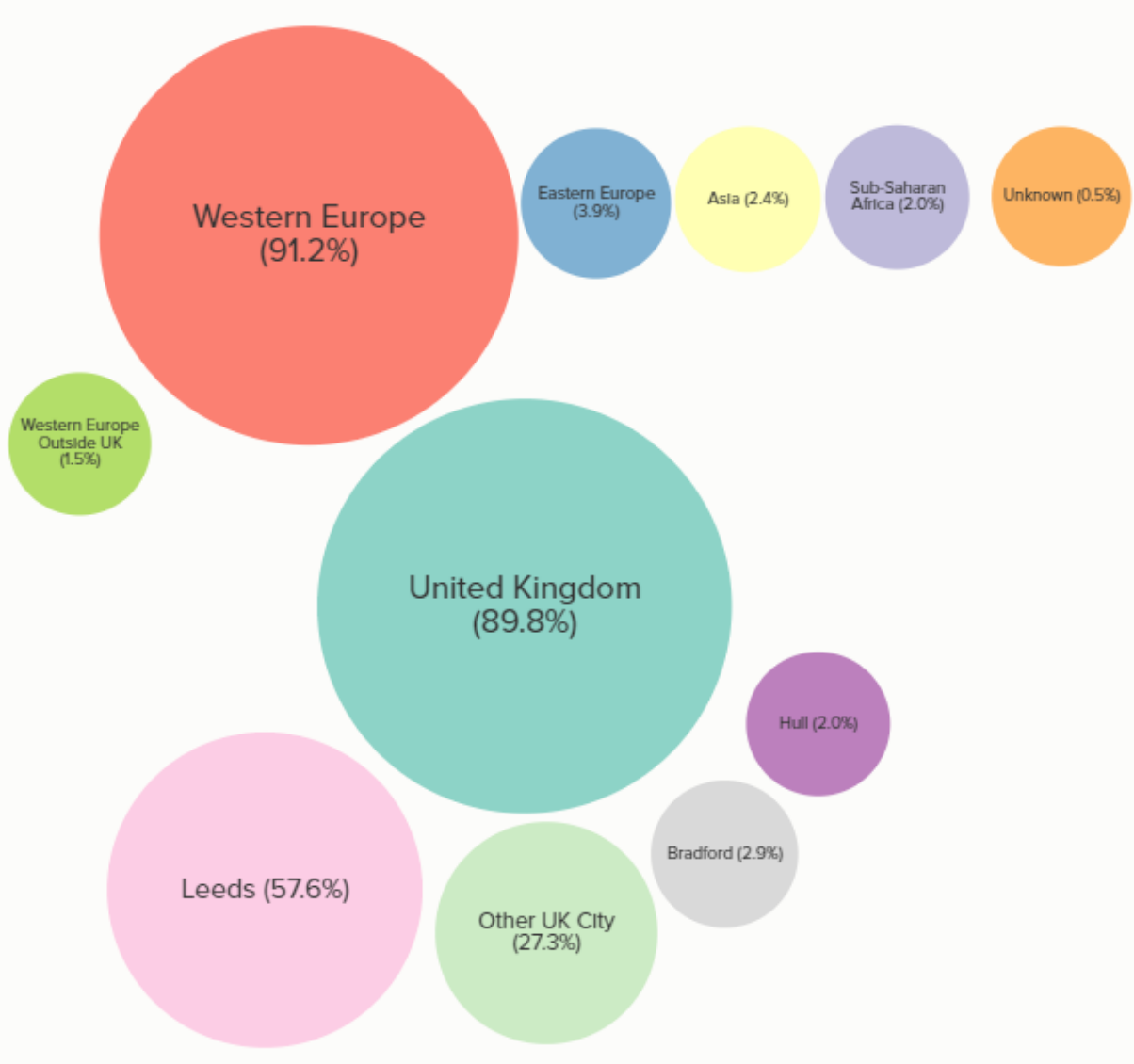



**Figure 13: Suicide by place of birth as a % of total audit population (categories are not mutually exclusive and will not add to 100%)**

A look at place of birth shows that the majority (90%) are born in the United Kingdom with more than half born in Leeds. The percentage born in Leeds almost exactly matches the 2011-13 audit and suggests a continued opportunity for Leeds to target prevention efforts at the local population.

### 3.1.7 Geography and Deprivation

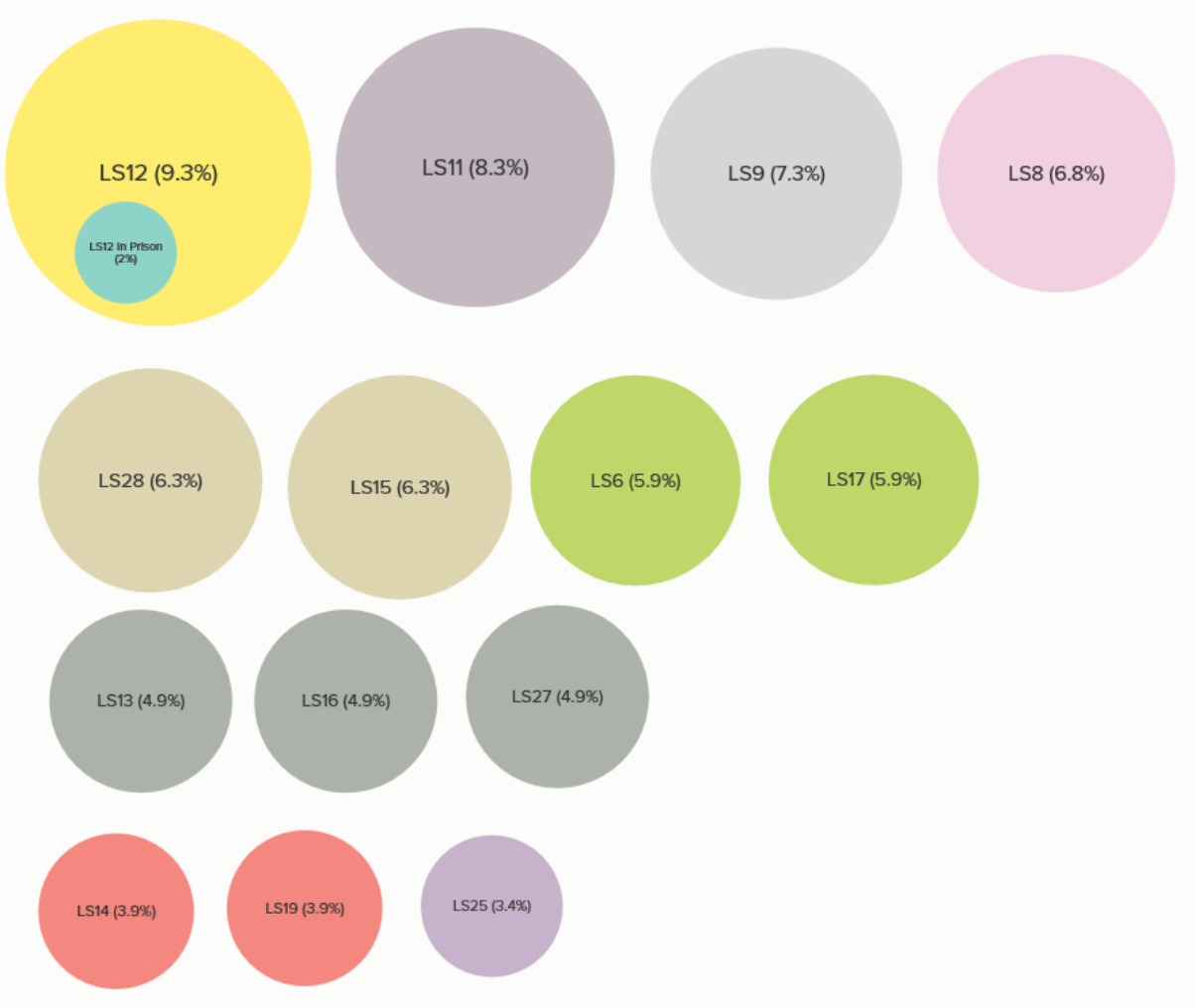
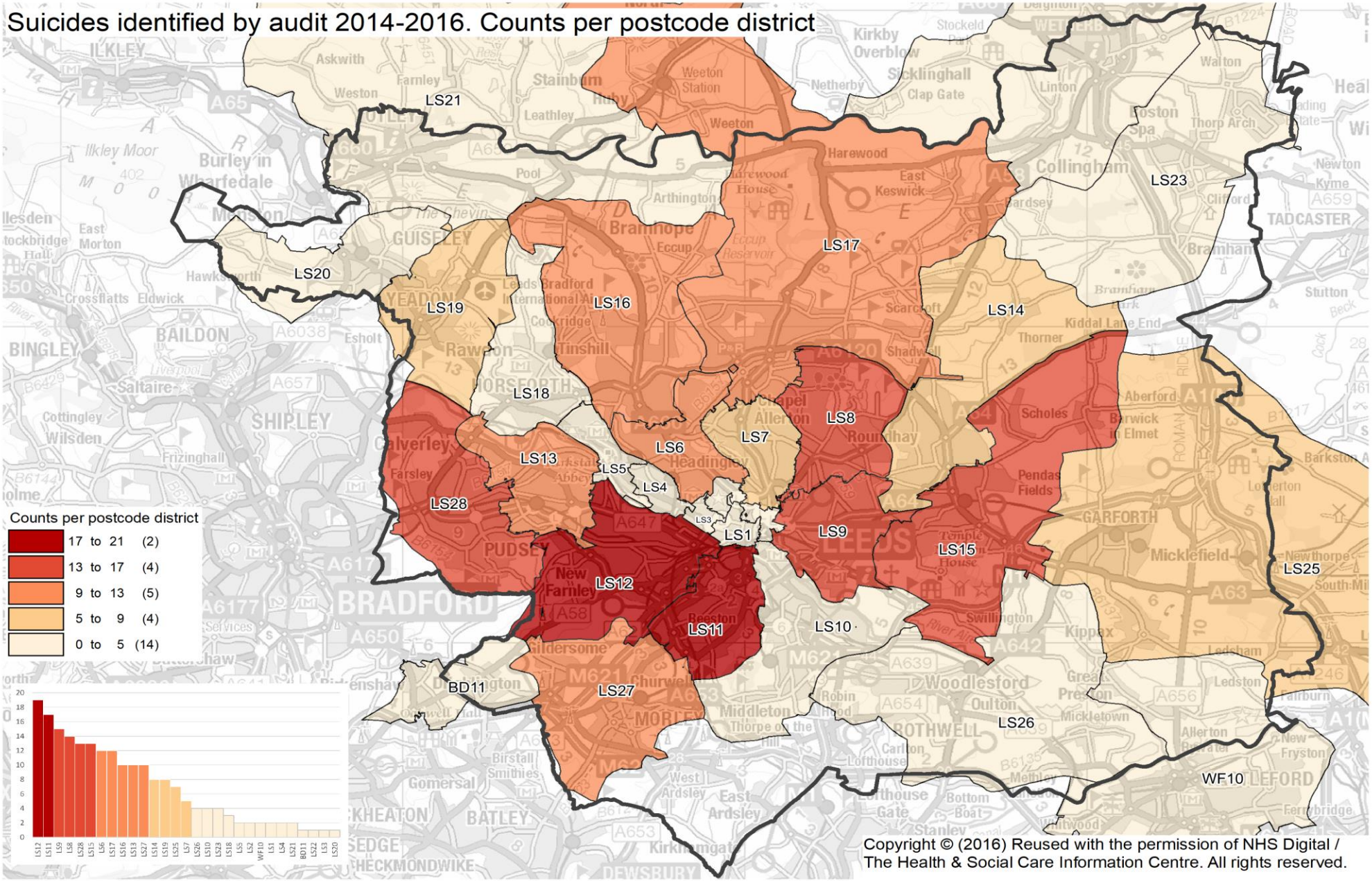



**Figure 14: Percentage of deaths per postcode district with >1% of suicides**

The percentage of deaths occurring in the top 15 postcodes is shown in Figure 14, representing all postcodes where there were greater than 1% of total deaths. Half of all suicides in Leeds occurred amongst residents in the top seven of these postcode districts, suggesting a continued opportunity to focus population-level interventions. The postcode of the home address was used regardless of whether the death took place at home.

There were five deaths in prisons over the audit period with four occurring in LS12.

The following three pages contain maps of suicides in Leeds over the last three audit periods. The highest concentration of suicides has remained in the inner south west part of the city (LS11 and LS12), consistent with the previous audits. The next highest concentration is found in the inner east (LS8, LS9 and LS15). There have been several changes of note between the two audits: the count of suicides in LS11 increased from 11 to 17, suicides in LS6 increased from 5 to 12, and suicides in LS10 decreased from 18 to 4.


Suicides identified by audit 2014-2016. Counts per postcode district
Counts per postcode district
17 to 21 (2)
13 to 17 (4)
9 to 13 (5)
5 to 9 (4)
0 to 5 (14)
LS21
LS20
LS19
LS16
LS17
LS14
LS23
LS18
LS8
LS7
LS6
LS13
LS5
LS4
LS3
LS1
LS9
LS15
LS28
LS12
LS11
LS10
LS25
LS27
LS26
BD11
WF10
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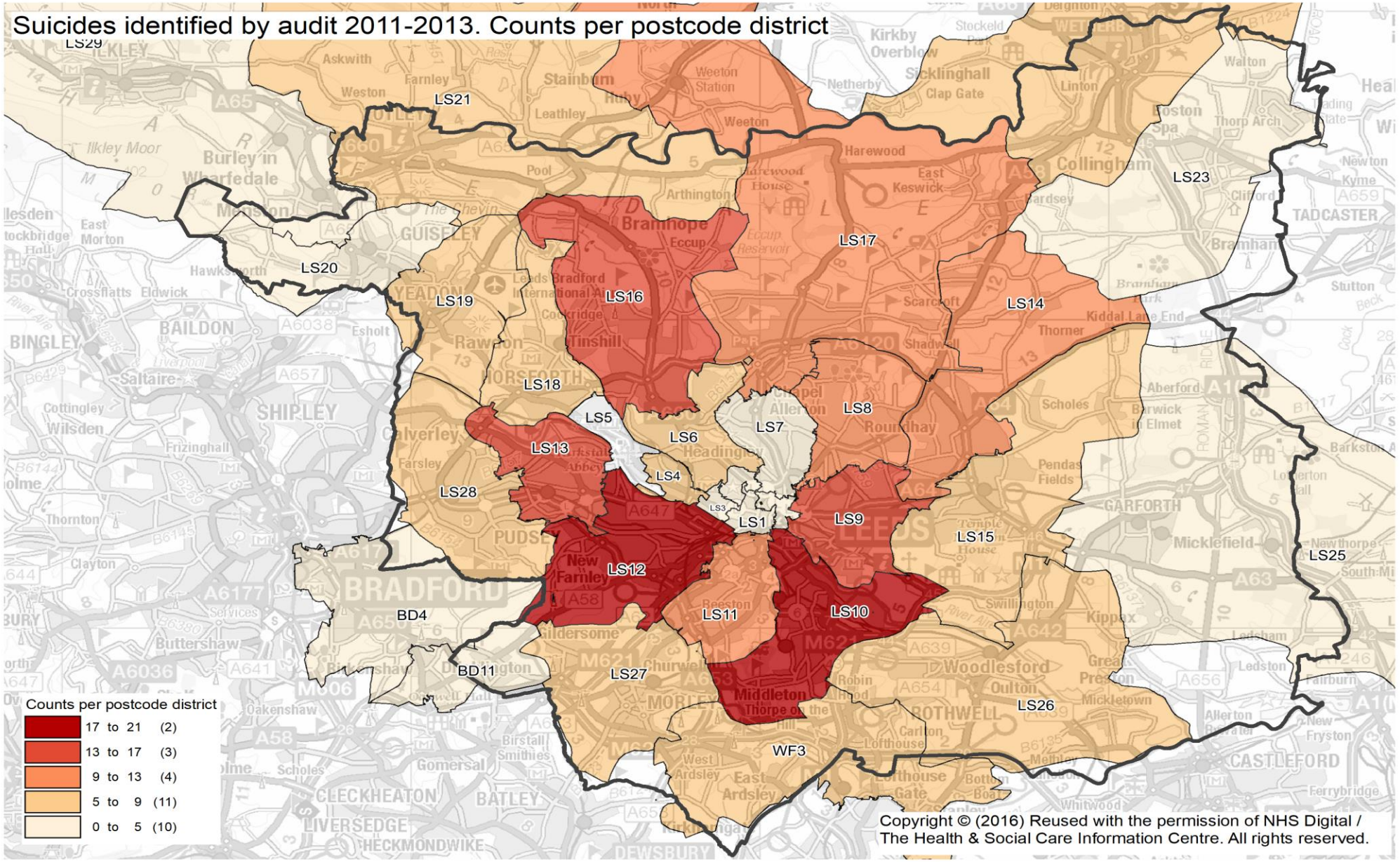
Suicides identified by audit 2011-2013. Counts per postcode district
LS29
LS21
LS20
LS19
LS16
LS17
LS23
LS14
LS18
LS5
LS6
LS7
LS8
LS13
LS4
LS28
LS3
LS1
LS9
LS15
LS25
LS12
LS11
LS10
BD4
BD11
LS27
LS26
WF3
Counts per postcode district
17 to 21 (2)
13 to 17 (3)
9 to 13 (4)
5 to 9 (11)
0 to 5 (10)
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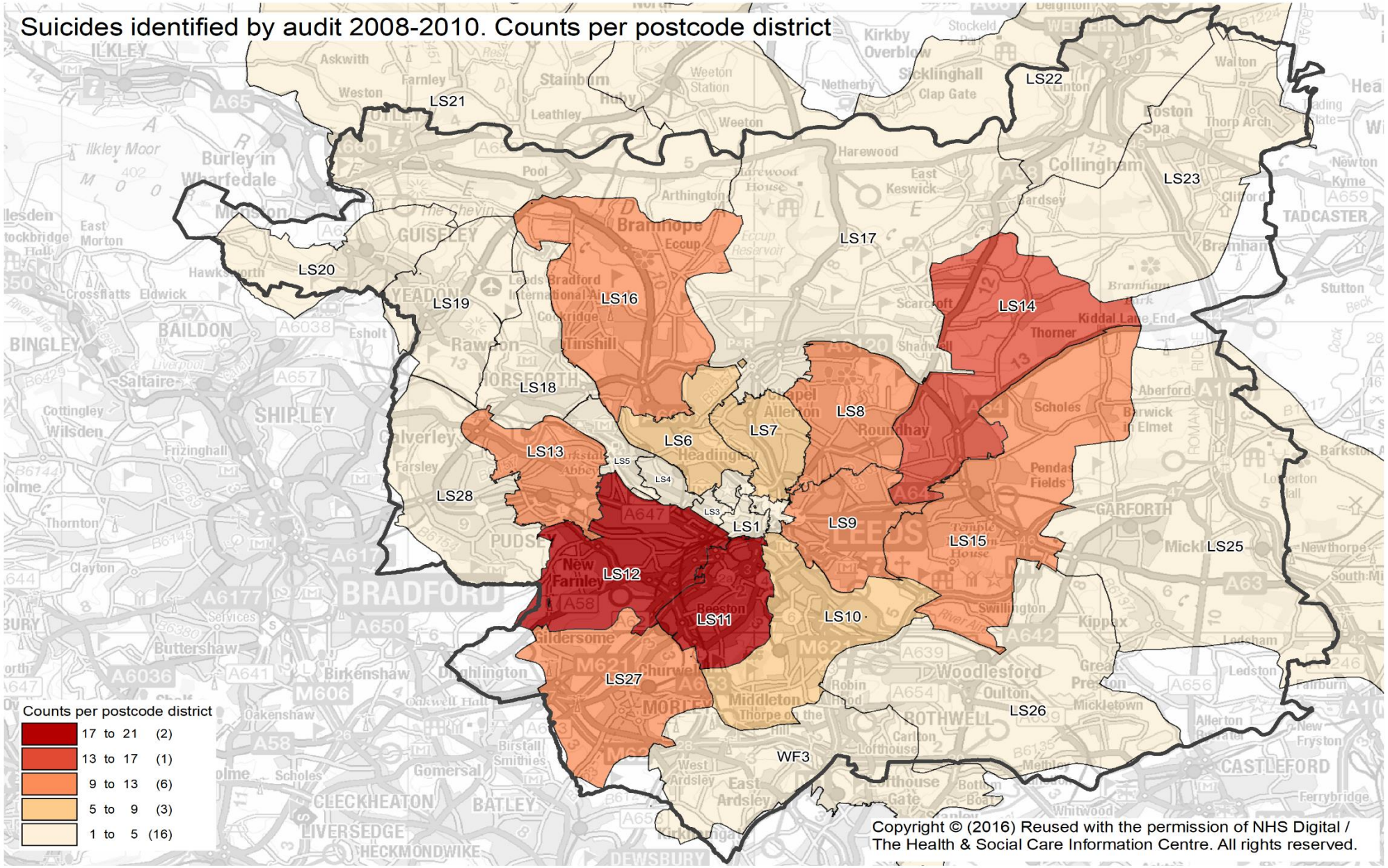
Suicides identified by audit 2008-2010. Counts per postcode district
LS21
LS22
LS23
LS17
LS20
LS19
LS16
LS14
LS18
LS8
LS7
LS6
LS13
LS5
LS4
LS28
LS3
LS1
LS9
LS15
LS25
LS12
LS11
LS10
LS27
LS26
WF3
Counts per postcode district
17 to 21 (2)
13 to 17 (1)
9 to 13 (6)
5 to 9 (3)
1 to 5 (16)
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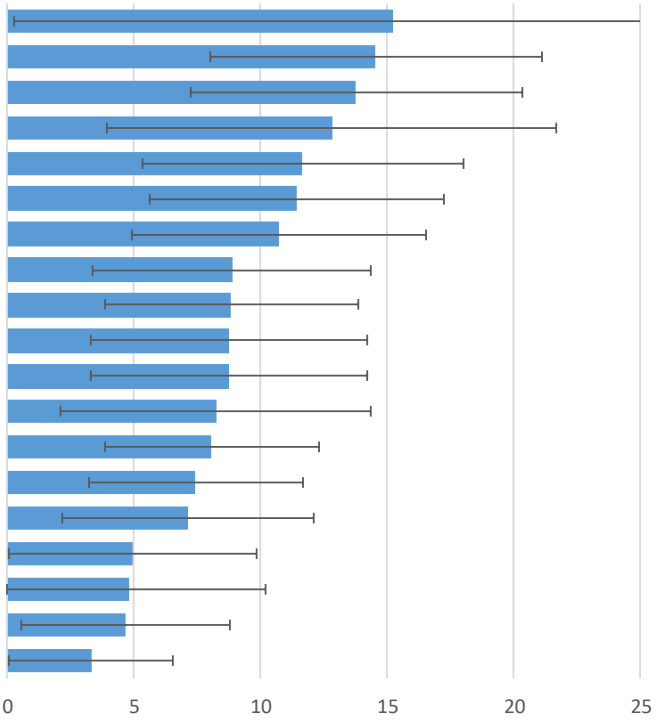
**Deaths from Suicide Over the Past Three Audits**

Leeds City residents by postcode district, crude rate per 100,000

| | Rate 2014/16 | Count 2014/16 | Count 2011/13 | Count 2008/10 |
|---|---|---|---|---|
| LS23 | 15.3 | 4 | 2 | 2 |
| LS12 | 14.6 | 19 | 18 | 21 |
| LS11 | 13.8 | 17 | 11 | 17 |
| LS19 | 12.8 | 8 | 7 | 3 |
| LS15 | 11.7 | 13 | 8 | 12 |
| LS9 | 11.5 | 15 | 13 | 12 |
| LS28 | 10.7 | 13 | 8 | 2 |
| LS27 | 8.9 | 10 | 8 | 11 |
| LS17 | 8.9 | 12 | 9 | 3 |
| LS13 | 8.8 | 10 | 13 | 10 |
| LS16 | 8.8 | 10 | 13 | 11 |
| LS25 | 8.3 | 7 | 3 | 3 |
| LS8 | 8.1 | 14 | 12 | 12 |
| LS6 | 7.5 | 12 | 5 | 7 |
| LS14 | 7.1 | 8 | 10 | 14 |
| LS26 | 5.0 | 4 | 6 | 4 |
| LS18 | 4.8 | 3 | 6 | 3 |
| LS7 | 4.7 | 5 | 4 | 8 |
| LS10 | 3.3 | 4 | 18 | 8 |




*only districts with >1% of suicides are shown

**Figure 15: Suicide rates and counts by postcode district**

Observing absolute counts of suicides by geographies is useful when determining where the majority of cases are and how they are distributed, but it does not tell us about population-level risks or allow accurate comparisons between areas. Figure 15 gives the suicide rate across postcode districts where there were more than five suicides. The 95% confidence intervals are all overlapping, indicating that it is not possible to infer that any one geographical population has a higher or lower risk of suicide. This suggests that the higher counts of suicides observed in some areas are partially a feature of increased population size. In general, the number of suicides in Leeds is too low to draw conclusions on risk with certainty at the postcode district level.

### 3.1.8 Deprivation

Deprivation was measured by matching the residential address of those that died from suicide with the national indices of multiple deprivation decile for their area, measured from 1 (most deprived) to 10 (least deprived). Deprivation is also grouped into quintiles ranging from 1 (most deprived) to 5 (least deprived). Figure 16 shows a general trend towards more suicides in more deprived populations, which is consistent with previous audits and known evidence on suicide risks. This finding also reflects the larger deprived population size in Leeds.

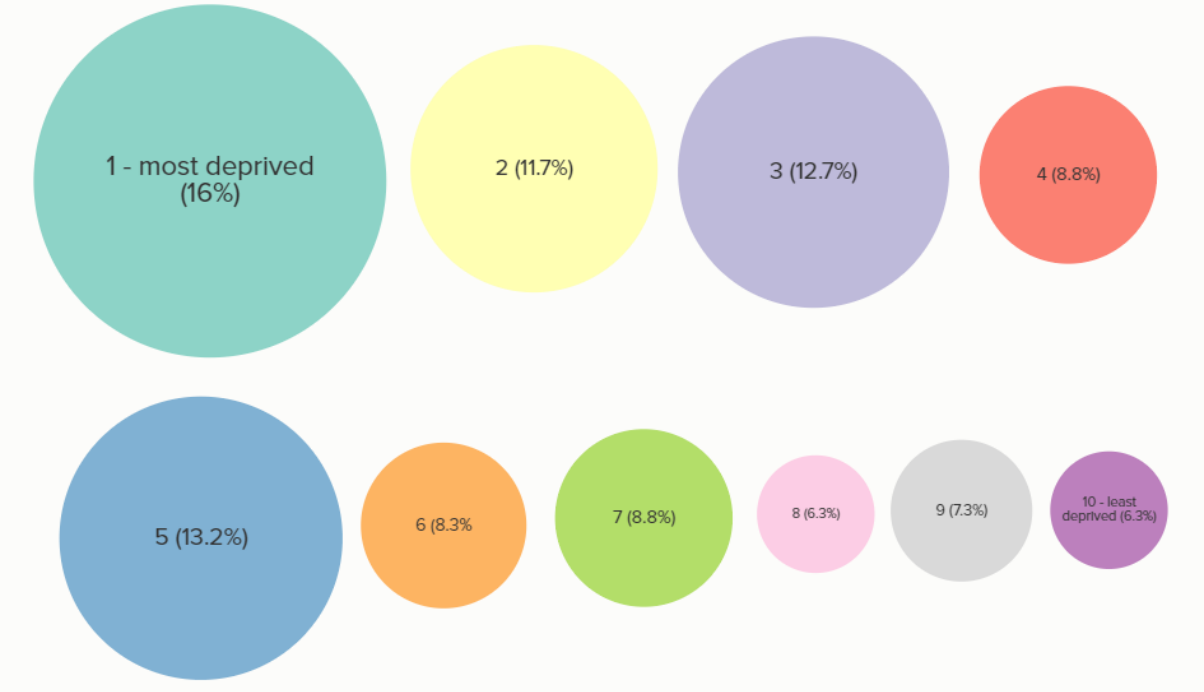



**Figure 16: Suicides by deprivation decile in Leeds**

As with suicides by postcode district, the populations in deprivation deciles are not all equal and thus counts of suicides are not accurate reflections of risk. Figure 17 and Figure 18 below provide suicide rates in Leeds by deprivation decile and quintile. They support the general trend that population with higher levels of deprivation are more at risk of suicide, although not to a statistically significant degree as confidence intervals all overlap (except when comparing the most deprived quintile with the fourth and least deprived quintiles).

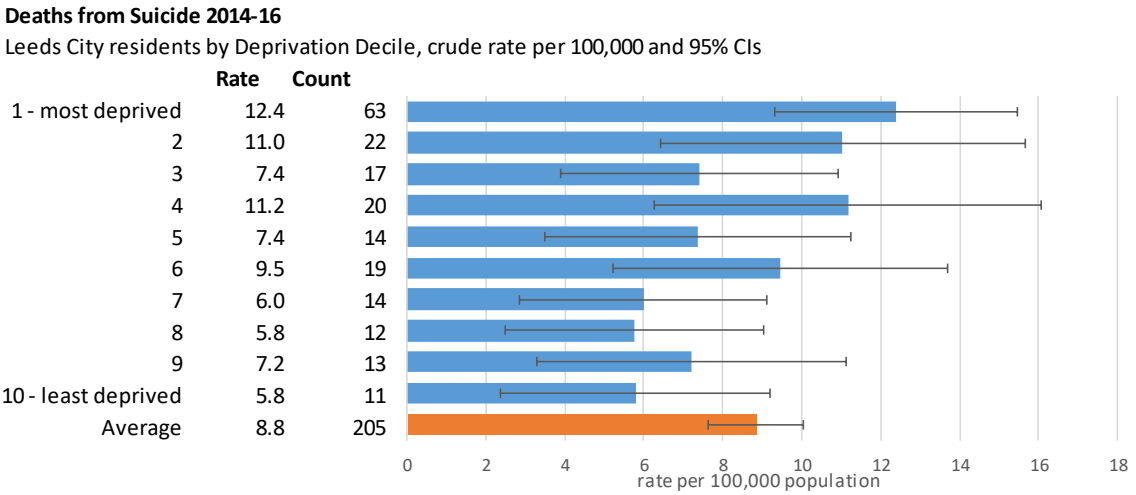



**Figure 17: Suicide rate by deprivation decile**

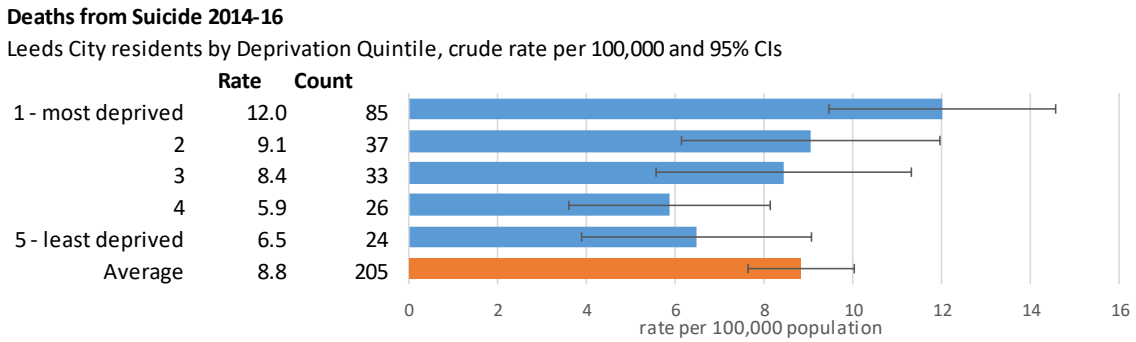



**Figure 18: Suicide rate by deprivation quintile**

### 3.1.9 Marital and Living Status

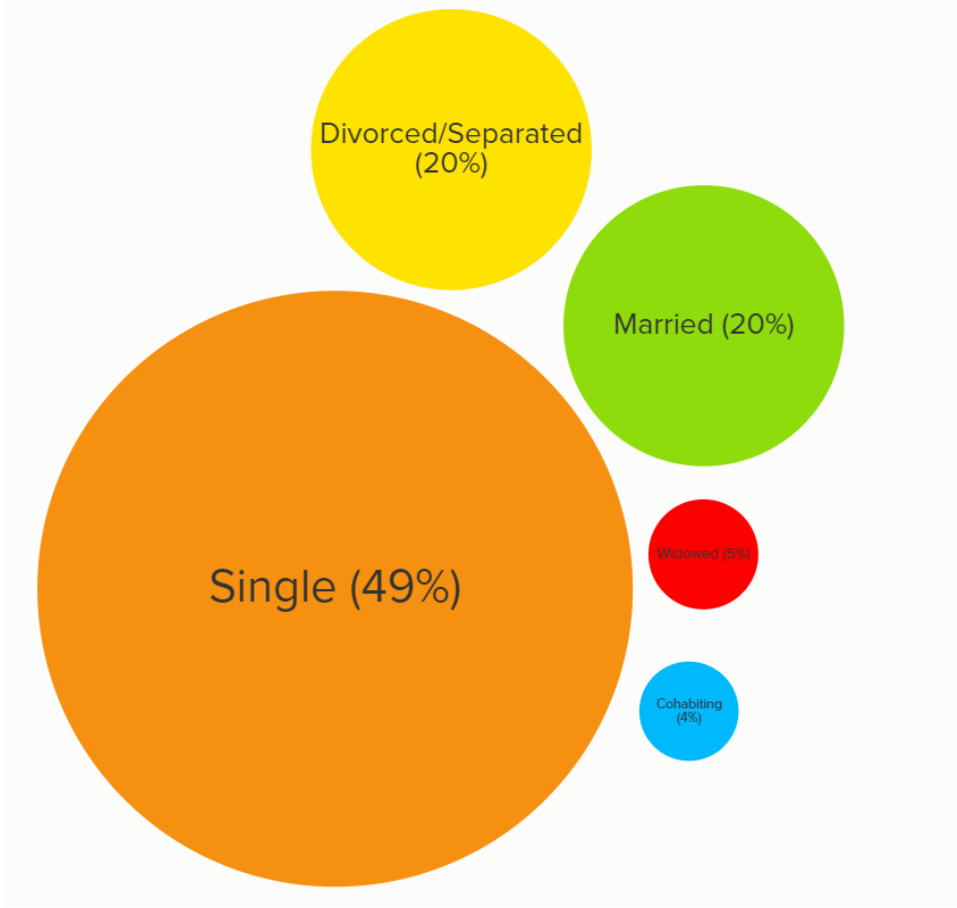



**Figure 19: Marital status**

The most common marital status amongst the audit population was ‘single’. This replicates the finding from the previous two audits and exactly matches the percentage of cases who were either single, separated or divorced in the last audit (69%). This audit revealed that 41% of deaths occurred amongst people that were living alone.

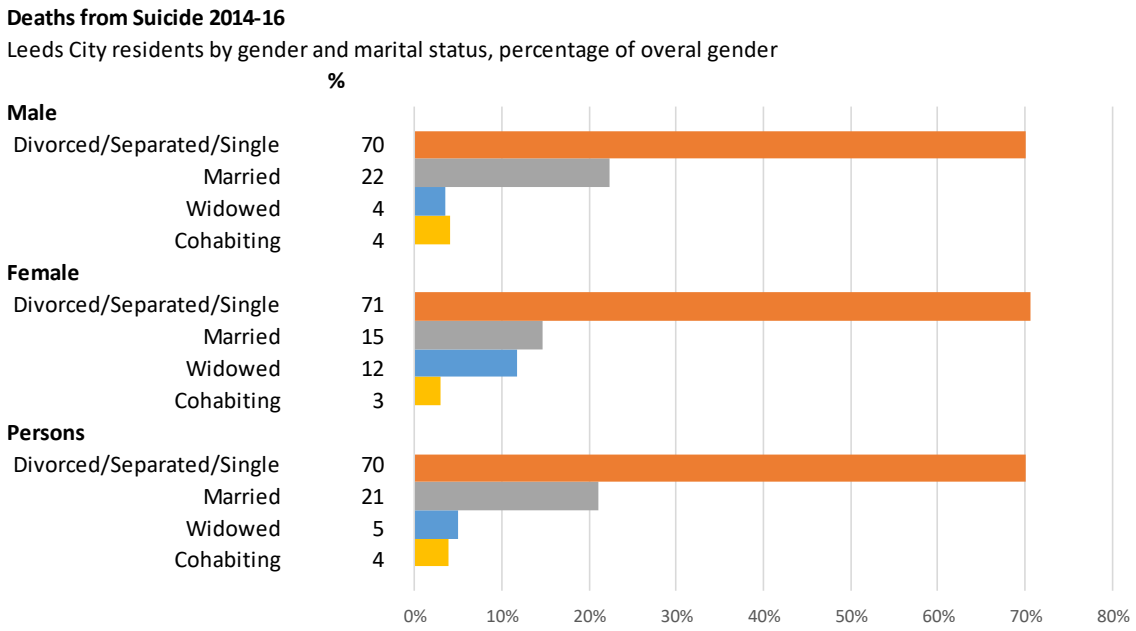



**Figure 20: Marital status percentages by gender**

Figure 20 shows there is little distinction between deaths among males and females when viewed by marital status. Widowed women do account for a higher percentage (12%) of overall female deaths than widowed men (4%) and married men are a higher percentage (22%) of overall male deaths than married women (15%). This possibly reflects the longer life expectancy of women and the resulting higher proportion of widowed women.

An analysis of housing status shows that 42% of those that died from suicide were living alone, 25% were living with a partner, and 9% had some other shared living arrangement. The remaining audit population were either sofa surfing, living with parents, homeless or in prison.

**Evidence Review:**

*Social Isolation and Loneliness*

Social isolation is more commonly considered in the context of later life than it is at earlier stages of the life course; however, people can be affected by social isolation at any stage in their lives. Social isolation and loneliness may affect anyone, but some groups are more at risk (What Works Wellbeing, 2019). Factors such as socioeconomic status, age, gender, ethnicity, mental health and long-term health conditions may create conditions that reduce an individual's ability to develop and maintain supportive social networks and connections (PHE, 2015).

The quality and quantity of social relationships affect physical and mental health, as well as the risk of mortality (Mental Health Foundation, 2017). Research shows that loneliness is associated with a greater risk of inactivity, smoking and risk-taking behaviour; increased risk of coronary heart disease and stroke; an increased risk of depression, low self-esteem, reported sleep problems and increased stress response; and with cognitive decline and an increased risk of Alzheimer's (HM Government, 2018).

Poor social and personal relationships have long been identified as a risk factor for poor mental health (Mental Health Foundation, 2017). Experiencing loneliness is found to be associated with suicidal behaviour in the adult population (Stickley et al., 2016). The significance of a relationship or marriage breakdown is reported to be a risk factor for suicide, particularly in men, who often rely more on their partners for emotional support and suffer this loss more acutely (Samaritans, 2018). The separation from children can also play a role in suicides.

The government's Loneliness Strategy for England involves three overarching goals (HM Government, 2018):

- Building the evidence-base on loneliness
- Driving a lasting shift in the way government operates so that relationships and loneliness are considered as a matter of course in policy-making
- Catalysing the national conversation on loneliness (building on the work of the Jo Cox Commission and others)

Public Health England recommends that maintaining good quality social relationships and integrating people into enabling and supportive social networks are central actions to preventing social isolation.

### 3.1.10 Nature and location of death

National guidance on the prevention of suicides suggest that reducing access to the means of suicide is important. We looked at each case and collected data on both the location of death and how the death occurred.

The majority of suicides (62%) occurred by hanging or strangulation. This continues to be the most common method of death in Leeds and in the UK. 69% of cases in the previous audit (2011-13) were deaths by hanging or strangulation. The second most common cause of death was by poisoning (17%), with no single substance standing out in the audit. Two thirds of the substances used were prescribed or legally purchased, with the remaining either illicitly purchased or taken from a family member.

For the top three causes of death (hanging/ strangulation, poisoning, and jumping), there is very little difference between genders. Analysis shows however that asphyxiation represented a larger proportion of female deaths (11.7%) than it did of male deaths (2%). Males appeared to die from suicide using more violent means including firearms, vehicles, burning and cutting.

These findings are generally consistent across both age groups and deprivation deciles. Those aged over 65 are more likely to die of poisoning and asphyxiation than those under 65, although hanging/ strangulation still accounts for 50% of deaths in this age group.

Consistent with the previous audit (2011-13) and national evidence, the majority of the deaths occurred at home (70%), followed by woodlands (9%) and railway lines (3%). There were no apparent clusters of woodland or railway deaths within the audit period.

Suicides over the audit period were equally likely to occur on a Monday through Saturday and about half as likely to occur on a Sunday. There are no clear patterns across months of the year.

51% of those that died from suicide had either drugs or alcohol in their system at the time of death.

## 3.2 Healthcare Service Use

We examined Coroner's records for a history of contact with services of any kind, paying particular attention to the most recent contacts before death. Suicide inquests almost always seek information from the deceased's GP, though are rarely able to collect information from outside of healthcare services. We know, however, that those who die from suicide come into contact with many community and third sector services that are not captured in this audit.

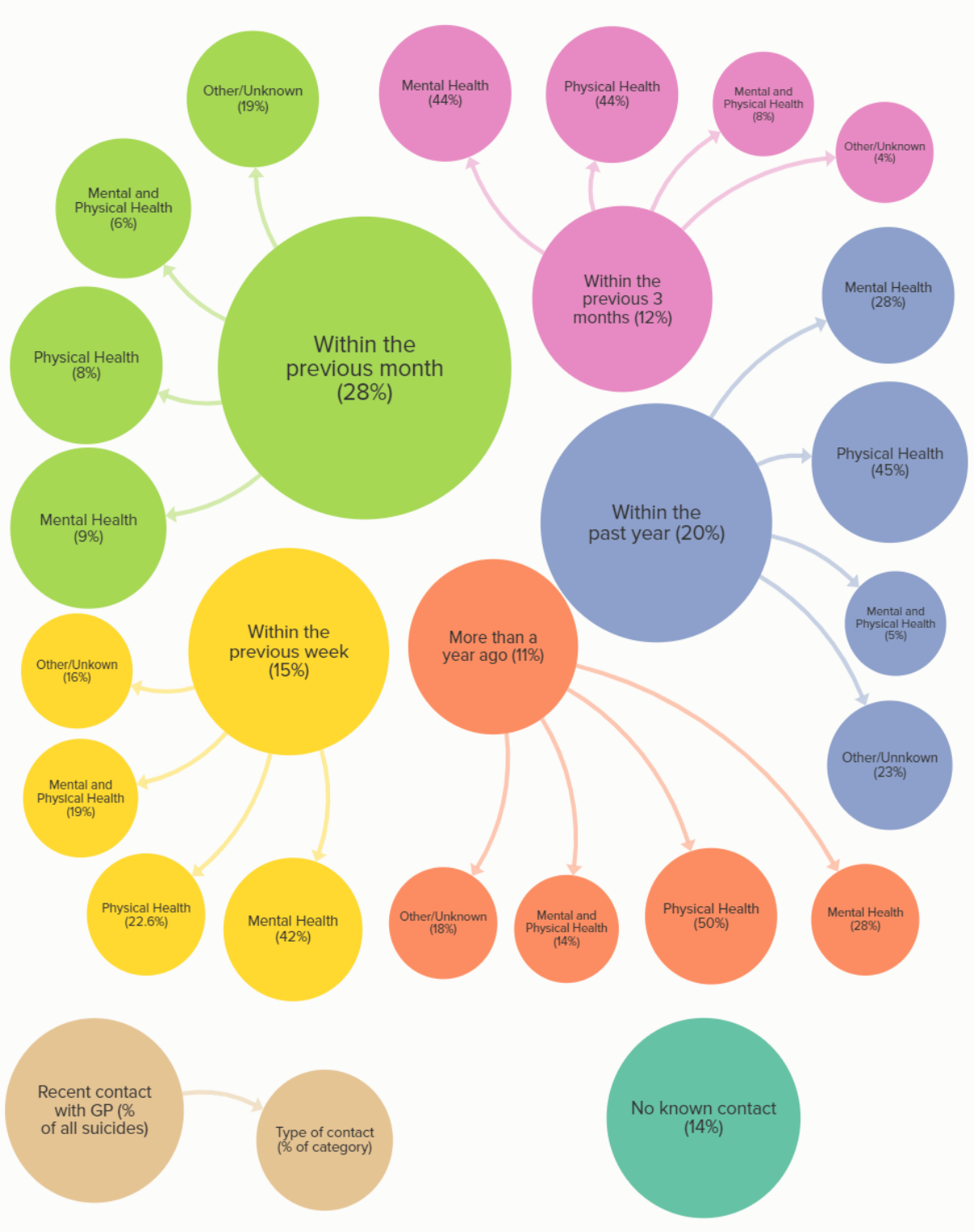



**Figure 21: Recent contact with General Practice prior to suicide**

Figure 21 shows the percentage of those in the audit who had recent contact with their GP. It tells us that 55% of people were seen in primary care within the previous three months before their death (calculated by combining “within the previous week”, “within the previous month” and “within the previous three months”). 15% of people were seen in the week prior, with nearly a quarter of those being seen for a physical health issue.

Overall, a third of the most recent contact that individuals had with their GP was solely for a physical health problem. These figures reflect those in the previous audit (2011-13).

Figure 22 below shows a breakdown of all service contacts, giving the percentage and count of people that had contact in each category within a given time period. Just over 40% of the audit population had been seen in a specialist mental health service at some point in their lives ('specialist' was defined as a secondary care service in the audit). 23% of people had seen a specialist mental health service within the previous three months leading up to their death.

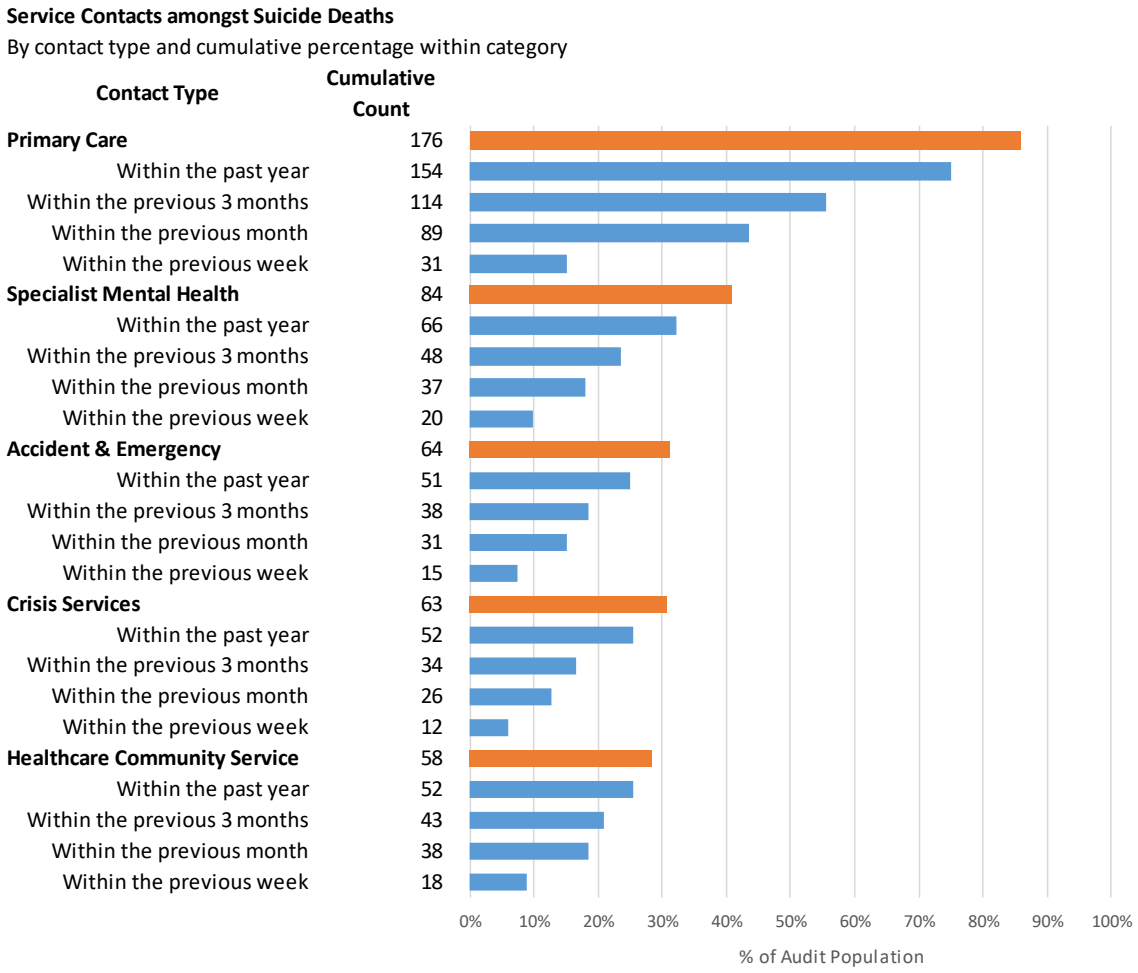



**Figure 22: Suicide service contacts**

Whilst this shows that those who die from suicide do have contact with a service, a significant number of those that died had very limited contact with any service in their lifetime. 36% of the audit population's only contact with formal services was with their GP. 20% of the audit, or one in five, had no contact with services other than their GP and last saw their GP more than three months prior to their death.

We found evidence that 8% of the audit population had received support from a substance misuse service, 4% had been supported by voluntary sector services, and 3% had contact with social services. These figures should be treated with caution as contact with these services are likely to be underreported in Coroner's records.

## 3.3 Observed Risk Factors

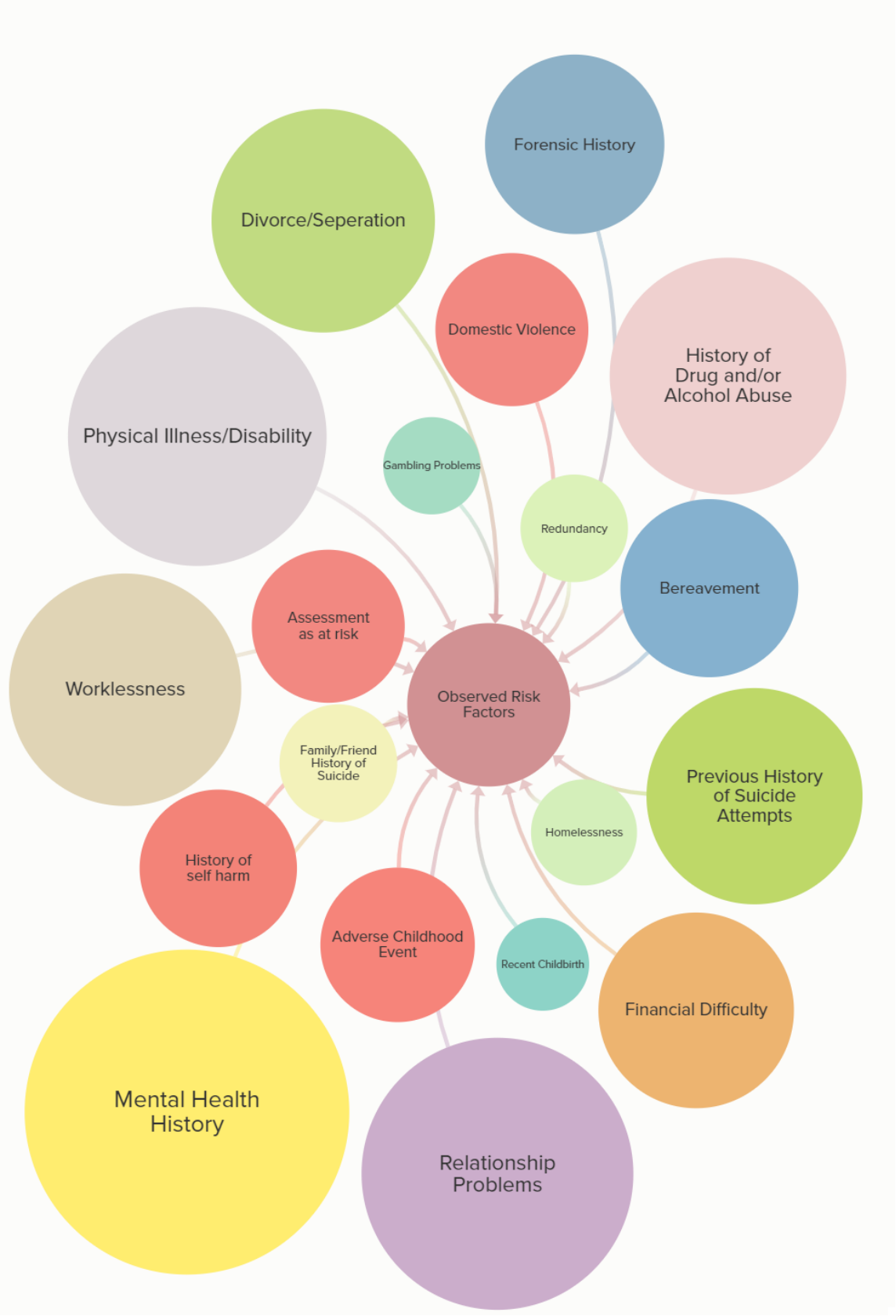



**Figure 23: Observed risk factors**

The audit data collection searched for evidence of 19 risk factors known to be associated with suicide. An inherent bias to this methodology is that we were only able to identify those risk factors which had already been observed and recorded in the Coroner's inquest. Capturing this information in the first instance required a family member, witness, police investigation, healthcare worker or possibly post-mortem examination to mention factors we were looking for. As expected, we had greater success in identifying those risk factors which were more recent or more likely to be recorded (for example, an individual's forensic history). Conversely, we know from the evidence that the proportion of people who died by suicide and experienced adverse childhood events is far higher than what we observed.

These findings are specifically labelled 'Observed Risk Factors' as they only reflect factors we could identify with the information in front of us. The findings will miss factors which are less likely to have been recorded, as well as suicide risks we were unaware of that weren't specifically searched for within the data collection exercise.

### 3.3.1 Summary

Individuals that died from suicide in Leeds were found in this audit to have an average of six risk factors each, a number that is consistent across geography, deprivation, gender and ethnicity. The audit highlights what we already know from practice: those that die from suicide often live complex, chaotic lives and experience compounding risks. No single risk factor stands out as causal in isolation, although in the audit some are more observed than others.

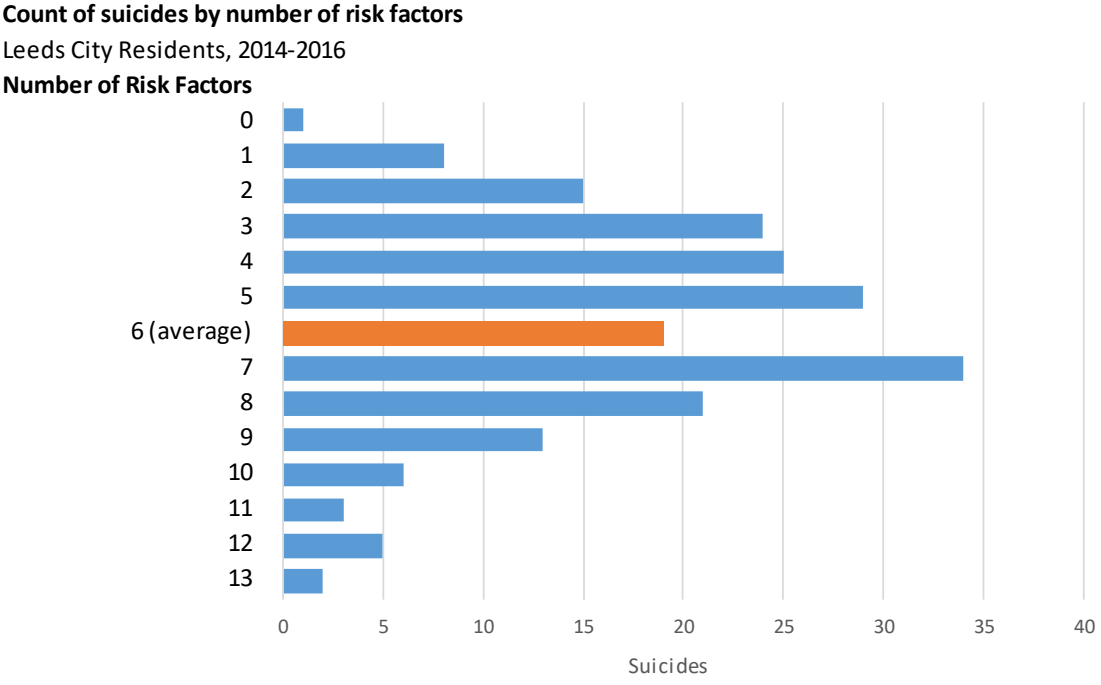



**Figure 24: Multiple risk factors**

### 3.3.2 Documented Mental Health History

78% of those in the audit had a confirmed history of a mental health diagnosis. However, this does not tell us about current diagnoses, nor does it tell us about current contact with mental health services. The percentage in this audit is slightly higher than the previous audit where 70% had a mental health history and is far higher than the 18.2% of the Leeds population who are estimated to have a common mental health disorder. We identified a history of depression in 56% of suicide deaths and anxiety in 24% of the deaths.

### 3.3.3 Relationship Problems

The second most prevalent risk factor we identified was relationship problems, with 60% of those in the audit showing clear evidence of a relationship issue. Figure 25 shows the themes that emerged from the audit, suggesting a majority of cases had a history of problems with a partner (51%) or ex-partner (19%). 21% of the time the relationship problem was recent to the death and 19% of the time it was related to children.

This is a significant finding of the audit, despite perhaps also being an obvious one. Whilst we know many of those that die from suicide are isolated and suffer from loneliness, witness statements often revealed that this experience of isolation was a result of relationship breakdown.

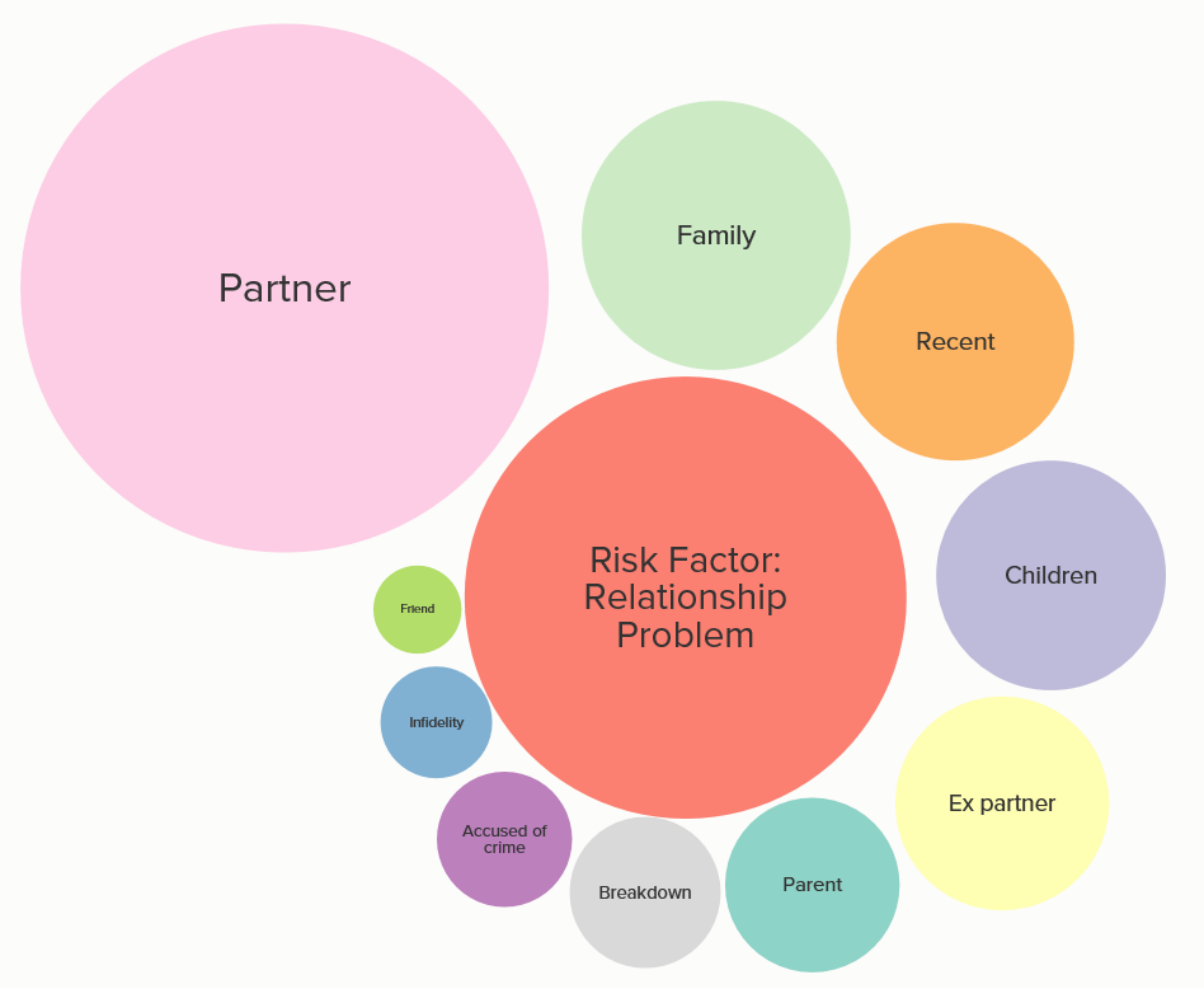



**Figure 25: Analysis of risk factor: Relationship problem**

We also searched for evidence of divorce or separation in the audit, particularly if it occurred prior to the death. 44% of those that died had experienced a divorce or separation (roughly equal to the average rate in England according to the ONS: 42%). There were 18 cases of recent divorce over the three audit years (2014-16). Access to children, domestic violence, substance misuse and infidelity all emerged as key issues.

### 3.3.4 Physical Illness or Disability

56% of those in the audit experienced some form of physical illness or disability. The illnesses and disabilities we recorded were so wide ranging that we found it difficult to succinctly extract key themes. As expected, the proportion of those with physical illnesses or disabilities increased with age, from 29% in those aged 10 to 19 years old to 88% in those over 80 years old. Our finding that nearly 3 out of 10 individuals aged under 20 years old experienced a physical illness or disability is likely to be a higher level than the average for the population; however, we do not have an accurate way to compare our findings to morbidity levels in the Leeds population.

One qualitative finding that did emerge was that 9% of those who died were suffering from some type of intense pain, which was usually chronic and often musculoskeletal. This potentially suggests an opportunity for clinicians who are not doing so already to consider the mental health impacts of severe pain. Recently published evidence from a large American study suggests that chronic pain doubles the risk of suicide (Petrosky, et al., 2018).

### 3.3.5 Worklessness and Redundancy

47% of those in the audit experienced some level of worklessness other than retirement. Qualitative analysis showed that this was mostly due to a long-term condition (31%) or mental health problem (14%). Worklessness was a recent issue in 8% of worklessness cases and redundancy was cited in 6% of overall audit cases. For comparison, 21% of the Leeds population was economically inactive during the audit period (PHE, Fingertips, 2019). This is defined as neither in employment nor available to start work within two weeks, nor actively seeking employment in the last four weeks.

### 3.3.6 Financial Difficulty and Gambling

Financial difficulty was observed in 35% of suicides, which equated to 72 individuals. Over half of these cases were experiencing debt. Substance misuse was cited as a major cause of financial difficulty, in addition to benefits issues, payday loans, and pressure to pay rent or utility bills. We know from evidence that gambling is likely to have played a more significant role in suicides than what we observed, although gambling was only cited in five cases (2%). Those with a gambling history were found to be 12.7 times more likely to have a history of redundancy.

**Evidence Review:**

*Financial Difficulty and Suicide*

Across the population, some economic factors mean a person is at higher risk of suicide. For example, economic inactivity and economic recessions are strongly associated with suicide (Reeves, McKee, & Stuckler, 2018). This also applies to problem debt. Meltzer et al (2011) suggested that people who had fallen in arrears were twice as likely to think about suicide, even after controlling for other factors like employment, negative life events and family situation.

The Money and Mental Health Policy Institute (MMHPI) analysed the 2014 Adult Psychiatric Morbidity Survey for links between problem debt and suicide. 3% of people in problem debt have *attempted* suicide in the last year, more than three times the rate amongst those without a debt problem (0.8%). A quarter (23%) of those who attempted suicide in the last year were in problem debt.

MMPHI also conducted a qualitative analysis amongst their research community (2018). They found that a person's financial circumstances can drive suicidal thoughts and behaviours in two distinct ways:

- Long-term financial difficulties (persistent poverty and financial insecurity; burden of debt; stigma of problem debt and secrecy)
- Sudden triggers (income shocks; insensitive and aggressive collections practices; accrual of interest and charges)

*Harmful Gambling and Suicide*

Gambling, like alcohol, is a legal activity on a continuum of harm. Problem gambling is gambling to a degree that compromises, disrupts or damages family, personal or recreational pursuits.

The evidence-base regarding gambling-related suicide is mixed, and there is little robust data available in the UK.

- Numerous studies in Europe, North America, Asia, and Australia have found links between suicidal ideation, suicide attempts and problem gambling
- There is a very wide range of 4-40% for suicide attempts and 12-92% for suicidal ideation prevalence amongst problem gamblers (Thon, et al., 2014)
- Amongst a cohort of Swedish mental health in-/outpatients, suicide rates increased 15 times amongst men and women of all ages with a gambling disorder diagnosis

The new Leeds Community Gambling Service (GamCare) and Northern Gambling Service (LYPFT) will be consistently screening for suicide risk as part of treatment and support provided to those at risk or suffering from harmful gambling.

### 3.3.7 Bereavement

29% of suicides in the audit showed evidence of suffering from the death of a friend or relative. A third were recent bereavements, and half were of parents. Another fifth were of partners. Those experiencing bereavement were found to be 2.7 times more likely to have a history of mental health problems compared to those that died from suicide and did not experience bereavement. This suggests an opportunity for targeting bereavement services.

### 3.3.8 Previous suicide history and exposure to suicide

1 in 10 Leeds residents that died from suicide during the audit period had exposure to one or more family members or close friends that also died from suicide. This is consistent with the previous audit (2011-13) figure and is a known risk factor addressed in national guidance on preventing suicides.

We know from evidence that there are as many as 30 suicide attempts for every suicide death in the population, with only 40% of those who attempted suicide coming into contact with healthcare services as a result (Han, et al., 2016). We found that 42% of the audit population had a previous history of suicide attempts, often within the previous year. Individuals in this category had 4.5 times the odds of simultaneously suffering from substance misuse. They also had 11.7 times the odds of having a history of self-harm; reflecting the complex links between self-harm and suicide. We observed that 22% of the audit population had a recorded history of self-harm, with the most frequently recorded methods being cutting and overdosing.

### 3.3.9 Forensic History and Domestic Violence

The forensic history of suicide deaths was usually readily available as police are responsible for investigating all suspected suicides. 30% of cases had some involvement with the police prior to their death, often due to assault (18% of forensic history cases), including domestic violence (10% of forensic history cases), and substance misuse (15% of forensic history cases).

Those with a forensic history were 4.5 times more likely to have substance misuse issues, three times more likely to have relationship problems, and 5.4 times more likely to be homeless.

We observed eight cases over the three year audit period of individuals who died from suicide and were recently charged and or accused of sexual offenses. These often included offenses towards minors. This highlights an opportunity to safeguard the mental health of those accused of crimes associated with a high level of stigma.

There were 43 recorded instances of suicide deaths where the individual had a history of domestic abuse. This equated to 21% of the audit population. It was clear that in 50% of cases the individual was the abuser, typically of a spouse or partner. 16% of

the domestic violence cases were individuals abused by a spouse or partner, 17% were abuse by some other family member, and 14% were instances of adverse childhood events.

### 3.3.10 Adverse Childhood Experiences

We know from the evidence that those with a history of adverse childhood experiences (ACEs) are more likely to seriously consider suicide or attempt suicide in adulthood by a factor of three (Thompson, Kingree, & Lamis, 2019). We were also aware that the likelihood of finding evidence of ACEs in Coroner's records would be low and result in underreporting the true prevalence. Nevertheless, one in five suicides in the audit showed a history of ACEs. 41% of ACE cases involved family breakdown. Physical and sexual abuse, substance misuse by a parent, domestic violence, parents in prison and neglect were all present in these cases. There was a mention of social services involvement in 20% of ACE cases.

Those with an ACE history were 12.4 times more likely to have attempted suicide in the past and 3.5 times the odds of having a forensic history.

### 3.3.11 Substance misuse

50% of the audit population had a history of substance misuse within the previous 12 months. For half of these individuals, their abuse involved alcohol only and for 20% the abuse was drug related only, with the remainder being a mixture of the two. The most common drugs reported appeared to be cocaine (45% of substance misuse cases), cannabis (29%) and heroin (29%).

## 3.4 Non-Resident Deaths in Leeds

In addition to the 205 suicides among Leeds residents, we collected data on deaths that occurred in Leeds by non-residents. The findings are examined separately below.

### 3.4.1 Demographics

There were 11 suicide deaths identified in the audit among non-Leeds residents: two female and nine male. These individuals were all White British and none of them appeared to be students, although three were under the age of 25, and none were over the age of 65.

Three of the 11 deaths occurred in a car park, while two occurred at a hotel, and another two at a prison. The remaining deaths were on roads, railways or at the individual's place of work. Consistent with the Leeds residents deaths, the majority of suicides occurred by hanging/ strangulation (5 out of 11).

### 3.4.2 Healthcare Service Use

Non-residents who died from suicide in Leeds were found to be less likely to have a history of contact with specialised mental health services (18% versus 42% in Leeds residents), but were equally likely to have a history of mental health diagnosis. They were also equally likely to have been in contact with their GP in the previous year and far less likely to have seen a GP in the previous month (9% versus 43% in Leeds residents). Only 1 out of the 11 individuals had any contact with Accident and Emergency department or healthcare community services in the year prior to death. There may be some recording bias to these figures as case notes relating to Leeds resident suicides may have more information in Coroner's reports about access to local services.

### 3.4.3 Risk Factors

A larger proportion of the non-resident deaths tended to be homeless compared to resident deaths (27% versus 5% in Leeds residents). A history of adverse childhood experiences also featured more heavily in this group, 45% versus 21% for the resident population. These individuals were half as likely to have a previous history of suicide attempts, although had similar levels of self-harming and substance misuse. There were no significant differences amongst the remaining risk factors.

# 4 Recommendations

The following recommendations are based on the findings of this audit, national policy, and a review of current evidence. They are structured according to the six areas for action suggested in the 2012 National Suicide Prevention Strategy (HM Government) and its refresh in 2017 (HM Government).

### 4.1.1 Area for action 1

Reduce the risk of suicide in key high-risk groups:

This audit has identified that those at the highest risk of suicide within Leeds are:

- Aged 40 to 65
- Male
- Born locally and predominantly living in deprived areas of Leeds
- Living alone
- Single/ separated/ divorced
- Experiencing worklessness
- Experiencing relationship problems
- Have a history of self-harm or previous suicide attempt(s)
- History of a mental health diagnosis
- Have a history of drug/ alcohol misuse

#### *4.1.1.1 Recommendation 1*

Engage partners from a wide range of organisations, ensuring key suicide prevention work is undertaken by skilled people who have access to the groups identified as most at risk. Support partners to embed effective actions within their own action plans across the city that link to the Leeds Strategic Suicide Prevention Plan.

#### *4.1.1.2 Recommendation 2*

Target interventions towards those identified as most at risk. Every agency working to prevent suicide should consider how their work promotes resilience and good mental health, whilst reflecting the needs of the local population.

#### *4.1.1.3 Recommendation 3*

Actions to reduce risk for people in contact with the criminal justice system to include points of transition, first contact, early days of custody and the pre- and post-release period. Link the suicide prevention agenda to other plans in the city where criminal justice work is being prioritised.

### 4.1.2 Area for action 2

Tailor approaches to improve mental health in specific groups.

Specific groups which the audit shows to be at a high risk of suicide are:

- Those who have a history of drug or alcohol abuse
- Adverse childhood experiences
- Domestic violence (both victims and perpetrators)
- Contact with the criminal justice system
- Accused of an offense, especially those with stigma attached (i.e. sexual offenses)
- Those in ill physical health, particularly those experiencing chronic pain
- Those who have poor mental health

#### *4.1.2.1 Recommendation 4*

Work with primary care to increase the recognition of those at risk of suicide. This audit shows that half of the people had contact with primary care within three months of their death. Clinical Commissioning Group partners to work collaboratively with Leeds City Council, frontline services and the voluntary sector, ensuring acute and community services are better joined up, avoiding gaps in support during transitions and improving access for those that need it most.

#### *4.1.2.2 Recommendation 5*

Appropriate management of poor mental health at an early stage, including swift access to care, with family and friends involved in care planning where appropriate. Research shows that those with depression and other mental illnesses can benefit from a range of interventions both pharmacological (Zalsman, et al., 2016; Reinstatler & Nagy, 2015; Cipriani, Hawton, Stockton, & Geddes, 2013) and psychosocial (Zalsman, et al., 2016; Donker, et al., 2013) and these can reduce the risk of suicide. Ensure healthcare strategies are aligned and embed relevant recommendations from the latest Leeds Suicide Prevention Action Plan.

### 4.1.3 Area for action 3

Reduce access to the means of suicide.

The audit shows that Leeds does not have a defined geographical area at which multiple suicides take place. The majority of deaths occur within the home. The evidence on suicide prevention interventions however is particularly strong around reducing access to the means of suicide (Zalsman, et al., 2016; Pirkis, et al., 2015).

#### *4.1.3.1 Recommendation 6*

Continue to develop real time surveillance including data from partners to tailor specific activity around reducing the means of suicide. Partners should include the West Yorkshire Police, along with the transport and rail sector to inform future local action.

#### *4.1.3.2 Recommendation 7*

Continue to work with the local media to dispel myths around any high-frequency locations (should they arise) as an effective means of suicide prevention.

### 4.1.4 Area for action 4

Provide interventions and support to those bereaved or affected by suicide.

The audit shows that 10% of those included in the audit had been bereaved by suicide. Leeds City Council has commissioned the Leeds Suicide Bereavement Service, an innovative peer-led postvention service that offers support to those bereaved by suicide.

#### *4.1.4.1 Recommendation 8*

Continue to prioritise postvention interventions that are aimed towards those who are bereaved by suicide, and ensure that the Leeds Suicide Bereavement Service receives timely referrals from local organisations.

#### *4.1.4.2 Recommendation 9*

Engage with partners who are most likely to be in early contact with those who are bereaved by suicide (e.g. Accident and Emergency departments, West Yorkshire Police, Coroner's office) to ensure early access to appropriate services.

### 4.1.5 Area for action 5

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

There is evidence suggesting that adverse media coverage can be a risk factor for suicide (Pirkis, et al., 2015) and there are concerns that some media coverage can contribute to the 'contagion' effect of suicide (PHE, 2015).

In partnership with the National Union of Journalists, Leeds City Council have developed guidelines for the media to aid journalists when reporting on a death by suicide (Stack, 2003). These guidelines have been well received nationally.

#### *4.1.5.1 Recommendation 10*

Continue to work with colleagues in the media and promote the use of the national guidelines developed in Leeds in partnership with the National Union of Journalists.

### 4.1.6 Area for action 6

Support research, data collection and monitoring.

The Leeds Suicide Audit continues to be cited as an example of good practice. As discussed in the Introduction, the audit process is part of a comprehensive approach to intelligence on suicide in Leeds.

#### *4.1.6.1 Recommendation 11*

Continue to undertake a suicide audit at regular intervals to gather detailed knowledge about the epidemiology and risk factors of those taking their own life in the city.

#### *4.1.6.2 Recommendation 12*

Continue to inform partners on suicide intelligence using the audit, real time surveillance and Office for National Statistics mortality statistics, so that relevant organisations can develop coordinated responses to both emerging risks and clusters should they arise.

# 5 Limitations of this Audit

As an audit team we have made every effort to ensure that the research process was as robust as possible. However, there are some limitations to the methodology:

### 5.1.1 Breadth of the Source Material

The Coroner's records are the best possible resource that can be used to obtain the kind of detailed information required in relation to suicides occurring in Leeds. The primary aim of the Coroner's process is to judge the cause of the death in question, and not to comprehensively portray an individual's entire life and persona. This introduces a recording bias into the audit; we are restricted to the details that those in the inquest deemed pertinent. These details are also likely to be more recent ones and based on service contacts.

### 5.1.2 Accuracy of the Source Material

Much of the information we obtained about risk factors was ascertained from witness statements provided by people who knew the deceased individual. This information is subjective and may not represent the true situation. We account for this in part by attempting to only record risks that are not speculative. A history of mental health diagnosis, for example, was only captured where recorded by a medical professional. However, there is a large amount of chance involved, for example looking for evidence of a gambling history would likely only come from a witness who happened to mention it to the police or from a health professional who was aware (for example, the individual's GP).

### 5.1.3 Time Lag

The audit is retrospective and looks back on the years 2014 to 2016; this means these deaths occurred three to five years prior to the publication of this research. This time lag is unavoidable as in order to access the Coroner's records, the evidence needs to have already been assembled and the inquest completed by the Coroner. This process can be lengthy, particularly if the case is complex (for example, a death within a prison). The time lag means that we cannot guarantee that the audit findings are perfectly applicable to the current situation in Leeds. This is why the data from the audit is supplemented by both real time surveillance and national statistics provided by the ONS to provide a more detailed picture of suicides in Leeds.

### 5.1.4 Low Number of Cases

There were 205 cases included in this audit which is a small number, especially when divided into subcategories. The small numbers mean that it can be difficult to tell if changes between audits and differences between categories actually represent true differences or whether they are due to chance.

# 6 References


Cipriani, A., Hawton, K., Stockton, S., & Geddes, J. (2013). Lithium in the prevention of suicide in mood disorders: updated systematic review and meta-analysis. *BMJ*.

Conway. (2012). The Henry Ford Health System No Harm Campaign: A Comprehensive Model to Reduce Harm and Save Lives. *The Joint Commission Journal on Quality and Patient Safety*, 318-327.

Donker, T., Calear, A., Grant, J., van Spijker, B., Fentron, K., Hehir, K., . . . Christensen, H. (2013). Suicide prevention in schizophrenia spectrum disorders and psychosis: a systematic review. *BMC Psychology*, 1-10.

Han, B., Kott, P., Hughes, A., McKeon, R., Blanco, C., & Compton, W. (2016). Estimating the rates of deaths by suicide among adults who attempt suicide in the United States. *J Psychiatr Res*, 77:125.

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

HM Government. (2017). *Preventing suicide in England: Third progress report of the cross-government outcomes strategy to save lives.* HM Government. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/582117/Suicide_report_2016_A.pdf

HM Government. (2018). *A connected society: A strategy for tackling loneliness – laying the foundations for change.*

Knapp, M., McDaid, D., & Parsonage, M. (2011). *Mental health promotion and mental illness prevention: Chapter 13 - The economic case.* London: Department of Health.

Masango, S., Rataemane, S., & Motojesi, A. (2016). Suicide and suicide risk factors: A literature review. *South African Family Practice*, 25-29.

Meltzer, H., Bebbington, P., Brugha, T., Jenkins, R., McManus, S., & Dennis, M. (2011). Personal debt and suicidal ideation. *Psychological Medicine*, 771-8.

Mental Health Foundation. (2017). *Policy briefing: Loneliness – the public health challenge of our time.*

Morris, S. (2019, May 10). Retrieved May 29, 2019, from The Guardian: https://www.theguardian.com/law/2019/may/10/judges-reduce-benchmark-for-inquest-decisions-on-suicide

ONS. (2018, September 4). *Suicides in the UK: 2017 registrations*. Retrieved June 4, 2019, from

https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/suicidesintheunitedkingdom/2017registrations

Petrosky, E., Harpaz, R., Fowler, K., Bohm, M., Helmick, C., Yuan, K., & Betz, C. (2018). Chronic Pain Among Suicide Decedents, 2003 to 2014: Findings From the National Violent Death Reporting System. *Ann Intern Med*, 169.

PHE. (2015). *Guidance for developing a local suicide prevention action plan.*

PHE. (2015). *Identifying and responding to suicide clusters and contagion.*

PHE. (2015). *Local action on health inequalities: Reducing social isolation across the life-course.*

PHE. (2016). *% population from ethnic minorities, Annual Population Survey*. Retrieved from Fingertips: https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/3/gid/1938132983/pat/6/par/E12000003/ati/102/are/E08000035/iid/92860/age/164/sex/4

PHE. (2017/18). *Mental Health and Wellbeing JSNA*. Retrieved May 03, 2019, from Fingertips.

PHE. (2019, July). Retrieved from Fingertips: https://fingertips.phe.org.uk/wider-determinants#page/4/gid/1938133042/pat/6/par/E12000003/ati/101/are/E08000035/iid/92899/age/204/sex/4

Pirkis, J., Too, L., Spittal, M., Krysinksa, K., Robinson, J., & Cheung, Y. (2015). Interventions to reduce suicides at suicide hotspots: a systematic review and meta-analysis. *Lancet Psychiatry, 2*(11), 994-1001.

Pitman, A. (2014). Effects of suicide bereavement on mental health and suicide risk. *The Lancet Psychiatry*, 86-94.

Reeves, A., McKee, M., & Stuckler, D. (2018). Economic suicides in the Great Recession in Europe and North America. *The British Journal of Psychiatry*.

Reinstatler, L., & Nagy, Y. (2015, Mar). Ketamine as a Potential Treatment for Suicidal Ideation: A Systematic Review of the Literature. *Drugs in R&D, 15*(1), 34-43.

Samaritans. (2018). *https://www.nspa.org.uk/wp-content/uploads/2018/05/Samaritans_Men_and_Suicide_Report_web.pdf.* Retrieved from NSPCA.

Schreiber, J., Culpepper, L., Roy-Byrne, P., & Solomon, D. (2018). Suicidal ideation and behavior in adults. *UpToDate*.

Stack, S. (2003). Media coverage as a risk factor in suicide. *Epidemiology and Community Health*, 238-240.

Thompson, M., Kingree, J., & Lamis, D. (2019). Associations of adverse childhood experiences and suicidal behaviors in adulthood in a U.S. nationally representative sample. *Child Care Health Dev, 45*(1), 121-128.

Thon, N., Preuss, U., Polzleitner, A., Quantschnig, B., Scholz, H., & Kuhberger, A. (2014). Prevalence of suicide attempts in pathological gamblers in a nationwide Austrian treatment sample. *General Hospital Psychiatry, 36*(3), 342-346.

Wertheimer, A. (2002). *A Special Scar.* London: Routledge.

What Works Wellbeing. (2019). Retrieved from https://whatworkswellbeing.org/blog/untangling-loneliness-what-does-it-mean-how-do-we-experience-it-across-the-lifecourse/

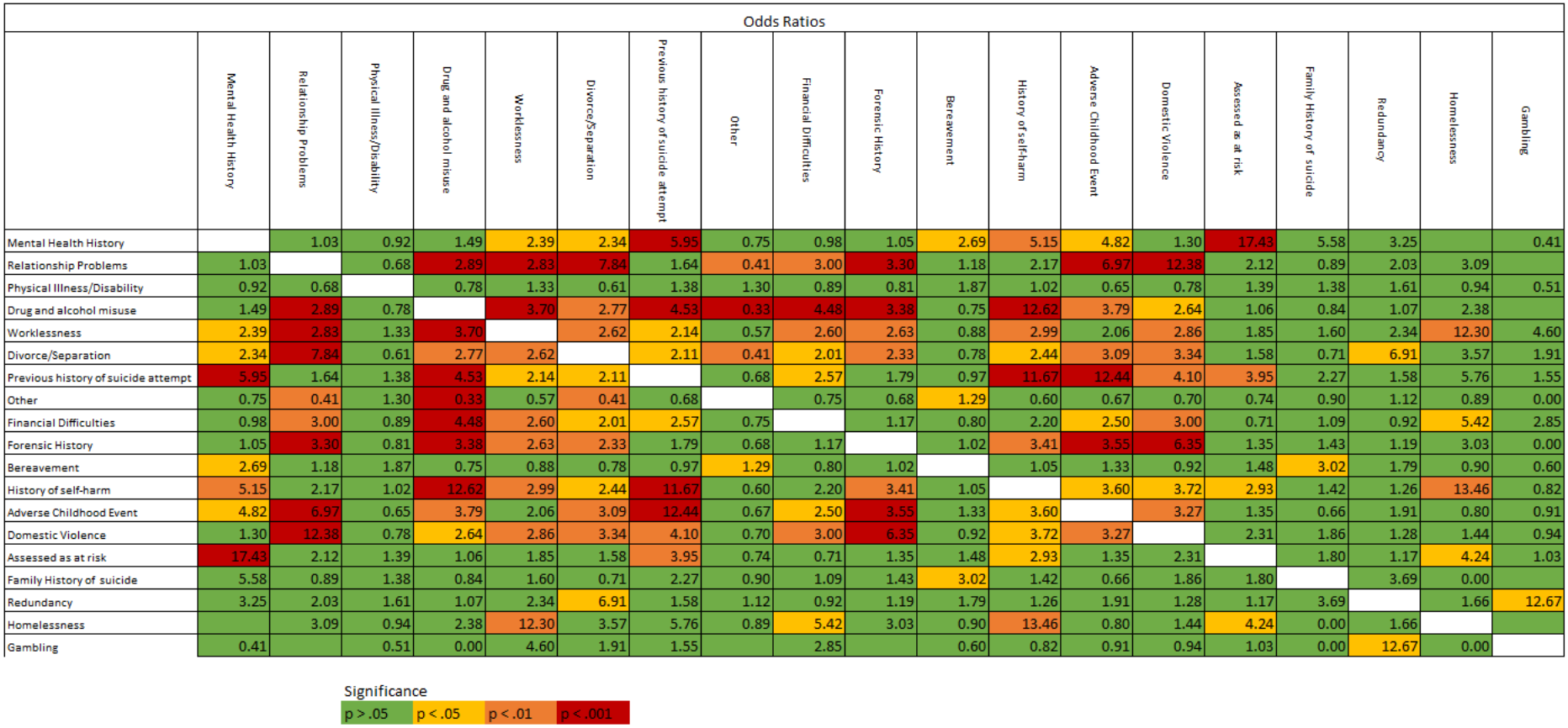
World Health Organisation. (2008). *Preventing Suicide: How to start a Survivors' Group.* Retrieved from http://www.who.int/mental_health.

Zalsman, G., Hawton, K., Wasserman, D., van Heeringen, K., Arensman, E., & Sarchiapone, M. (2016, July). Suicide prevention strategies revisited: 10-year systematic review. *Lancet Psychiatry, 3*(7), 646-59.

# 7 Appendix 1 – Additional data

| | Overall (including unknown ethnicity) | BAME | White British and White Other |
|---|---|---|---|
| **Persons** | 8.8 (7.6 – 10.0) | 5.8 (3.0 – 8.5) | 8.5 (7.2 – 9.8) |
| **Female** | 2.8 (1.9 – 3.8) | 1.3 (0 – 3.2) | 2.8 (1.8 – 3.8) |
| **Male** | 15.0 (12.8 – 17.3) | 10.4 (5.1 – 15.6) | 14.4 (12.0 – 16.8) |

**Table 11: Suicide rates per 100,000 population by gender and ethnicity with 95% confidence intervals**



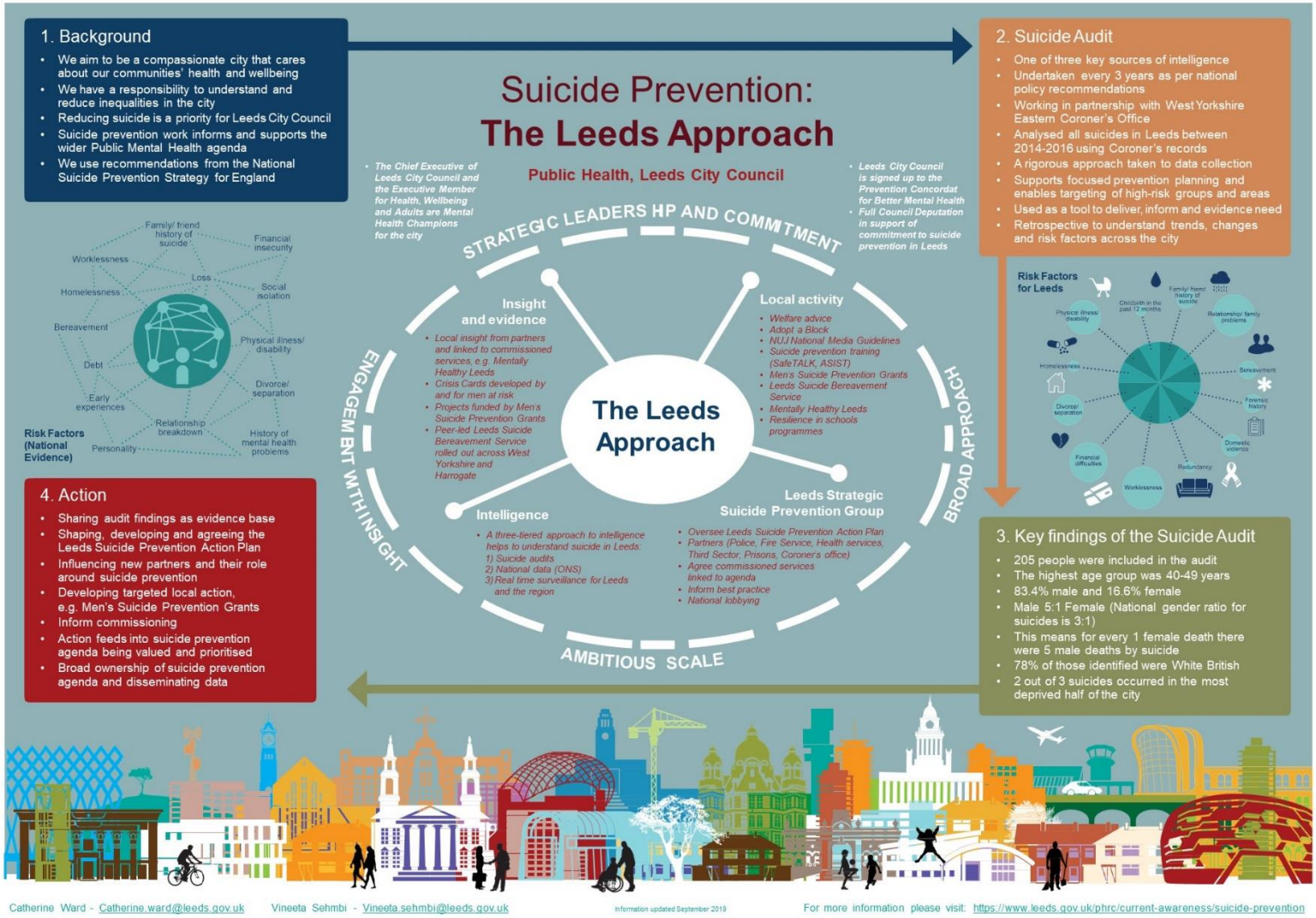
| Odds Ratios | Mental Health History | Relationship Problems | Physical Illness/Disability | Drug and alcohol misuse | Worklessness | Divorce/Separation | Previous history of suicide attempt | Other | Financial Difficulties | Forensic History | Bereavement | History of self-harm | Adverse Childhood Event | Domestic Violence | Assessed as at risk | Family History of suicide | Redundancy | Homelessness | Gambling |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mental Health History | | 1.03 | 0.92 | 1.49 | 2.39 | 2.34 | 5.95 | 0.75 | 0.98 | 1.05 | 2.69 | 5.15 | 4.82 | 1.30 | 17.43 | 5.58 | 3.25 | | 0.41 |
| Relationship Problems | 1.03 | | 0.68 | 2.89 | 2.83 | 7.84 | 1.64 | 0.41 | 3.00 | 3.30 | 1.18 | 2.17 | 6.97 | 12.38 | 2.12 | 0.89 | 2.03 | 3.09 | |
| Physical Illness/Disability | 0.92 | 0.68 | | 0.78 | 1.33 | 0.61 | 1.38 | 1.30 | 0.89 | 0.81 | 1.87 | 1.02 | 0.65 | 0.78 | 1.39 | 1.38 | 1.61 | 0.94 | 0.51 |
| Drug and alcohol misuse | 1.49 | 2.89 | 0.78 | | 3.70 | 2.77 | 4.53 | 0.33 | 4.48 | 3.38 | 0.75 | 12.62 | 3.79 | 2.64 | 1.06 | 0.84 | 1.07 | 2.38 | |
| Worklessness | 2.39 | 2.83 | 1.33 | 3.70 | | 2.62 | 2.14 | 0.57 | 2.60 | 2.63 | 0.88 | 2.99 | 2.06 | 2.86 | 1.85 | 1.60 | 2.34 | 12.30 | 4.60 |
| Divorce/Separation | 2.34 | 7.84 | 0.61 | 2.77 | 2.62 | | 2.11 | 0.41 | 2.01 | 2.33 | 0.78 | 2.44 | 3.09 | 3.34 | 1.58 | 0.71 | 6.91 | 3.57 | 1.91 |
| Previous history of suicide attempt | 5.95 | 1.64 | 1.38 | 4.53 | 2.14 | 2.11 | | 0.68 | 2.57 | 1.79 | 0.97 | 11.67 | 12.44 | 4.10 | 3.95 | 2.27 | 1.58 | 5.76 | 1.55 |
| Other | 0.75 | 0.41 | 1.30 | 0.33 | 0.57 | 0.41 | 0.68 | | 0.75 | 0.68 | 1.29 | 0.60 | 0.67 | 0.70 | 0.74 | 0.90 | 1.12 | 0.89 | 0.00 |
| Financial Difficulties | 0.98 | 3.00 | 0.89 | 4.48 | 2.60 | 2.01 | 2.57 | 0.75 | | 1.17 | 0.80 | 2.20 | 2.50 | 3.00 | 0.71 | 1.09 | 0.92 | 5.42 | 2.85 |
| Forensic History | 1.05 | 3.30 | 0.81 | 3.38 | 2.63 | 2.33 | 1.79 | 0.68 | 1.17 | | 1.02 | 3.41 | 3.55 | 6.35 | 1.35 | 1.43 | 1.19 | 3.03 | 0.00 |
| Bereavement | 2.69 | 1.18 | 1.87 | 0.75 | 0.88 | 0.78 | 0.97 | 1.29 | 0.80 | 1.02 | | 1.05 | 1.33 | 0.92 | 1.48 | 3.02 | 1.79 | 0.90 | 0.60 |
| History of self-harm | 5.15 | 2.17 | 1.02 | 12.62 | 2.99 | 2.44 | 11.67 | 0.60 | 2.20 | 3.41 | 1.05 | | 3.60 | 3.72 | 2.93 | 1.42 | 1.26 | 13.46 | 0.82 |
| Adverse Childhood Event | 4.82 | 6.97 | 0.65 | 3.79 | 2.06 | 3.09 | 12.44 | 0.67 | 2.50 | 3.55 | 1.33 | 3.60 | | 3.27 | 1.35 | 0.66 | 1.91 | 0.80 | 0.91 |
| Domestic Violence | 1.30 | 12.38 | 0.78 | 2.64 | 2.86 | 3.34 | 4.10 | 0.70 | 3.00 | 6.35 | 0.92 | 3.72 | 3.27 | | 2.31 | 1.86 | 1.28 | 1.44 | 0.94 |
| Assessed as at risk | 17.43 | 2.12 | 1.39 | 1.06 | 1.85 | 1.58 | 3.95 | 0.74 | 0.71 | 1.35 | 1.48 | 2.93 | 1.35 | 2.31 | | 1.80 | 1.17 | 4.24 | 1.03 |
| Family History of suicide | 5.58 | 0.89 | 1.38 | 0.84 | 1.60 | 0.71 | 2.27 | 0.90 | 1.09 | 1.43 | 3.02 | 1.42 | 0.66 | 1.86 | 1.80 | | 3.69 | 0.00 | |
| Redundancy | 3.25 | 2.03 | 1.61 | 1.07 | 2.34 | 6.91 | 1.58 | 1.12 | 0.92 | 1.19 | 1.79 | 1.26 | 1.91 | 1.28 | 1.17 | 3.69 | | 1.66 | 12.67 |
| Homelessness | | 3.09 | 0.94 | 2.38 | 12.30 | 3.57 | 5.76 | 0.89 | 5.42 | 3.03 | 0.90 | 13.46 | 0.80 | 1.44 | 4.24 | 0.00 | 1.66 | | |
| Gambling | 0.41 | | 0.51 | 0.00 | 4.60 | 1.91 | 1.55 | | 2.85 | | 0.60 | 0.82 | 0.91 | 0.94 | 1.03 | 0.00 | 12.67 | 0.00 | |

Significance

p > .05 | p < .05 | p < .01 | p < .001

**Figure 26: Risk factor odds ratios, coloured by statistical significance**

# 8 Appendix 2 – The Leeds Approach to Suicide Prevention



# 9 Appendix 3 – Ethnicity findings

**Ethnicity findings from the Leeds Suicide Audit (2014-16)**

The detailed notes held by the coroner do not include a formal recording of the deceased's ethnicity, so this data was taken from other sections of the notes (e.g. GP records, drug-related death forms, post mortem reports) when it was available.

The Suicide Audit therefore includes the following information about ethnicity:

| | |
|---|---|
| White British | 78% |
| Other White background | 6% |
| Black, Asian and Minority Ethnic (BAME) | 8% |
| Ethnicity not known | 8% |

This first category is high yet we were very cautious in our audit and didn't assume that people were White British based on the colour of their skin or their name/ background and looked for further evidence.

This is the strength of the audit as it was carried out in such a thorough way without making presumptions; however it means that the 8% is likely to contain White British people who could not have this ethnicity confirmed.

These latest findings mean that suicide prevention work will continue to predominantly focus on high risk groups, alongside the other recommendations highlighted in the audit.

Although wider mental health promotion work is still seen as a key priority with people from BAME groups, the data from the audit does not provide a case for an investment in specific suicide prevention work within BAME communities.


**Front and back cover images courtesy of Orion Consortium and Space2 collaboration between Seacroft Men's Group, artist Jelena Zindovic and poet Peter Spafford.**

The work is a visual interpretation of the poems written by the Seacroft Men's Group and Peter Spafford at the group's poetry workshops earlier this year.

It explores and challenges the concept of home, belonging, society, identity and survival and represents the ethics of how the group operates, bringing the positive thinking, playfulness and encouragement into day to day existence.