Audit of Suicides & Undetermined Deaths in Leeds 2008-2010

NHS Airedale, Bradford and Leeds

Leeds CITY COUNCIL

Report Authors

Nicholas Leigh-Hunt, Registrar in Public Health, NHS Airedale, Bradford and Leeds
Victoria Eaton, Consultant in Public Health, NHS Airedale, Bradford and Leeds
Catherine Ward, Emotional Health & Wellbeing Lead, NHS Airedale, Bradford and Leeds
Lisa Hollingworth, Contract Manager, NHS Airedale, Bradford and Leeds
James Womack, Senior Public Health Information Analyst, NHS Airedale, Bradford and Leeds

Acknowledgements

We are very grateful to numerous colleagues and partners for their contribution to this report,

Irene Stockwell, Team Administrator, NHS Airedale, Bradford and Leeds
Charlotte Hanson, Health Improvement Specialist Emotional Health and Well-Being, NHS Airedale, Bradford and Leeds
Adam Taylor, Senior Public Health Information Analyst, NHS Airedale, Bradford and Leeds
David Hinchliff, HM Coroner
Charlotte Smith**,** Administrative Officer, HM Coroner's Service
Evelyn Krasner, Public Health Manager, NHS Hull

Contents

Tables

Charts

Figures

Executive Summary

The Leeds Mental Health and Wellbeing Needs Assessment (2011), which is linked into the Joint Strategic Needs Assessment, identified the need to undertake a suicide audit for Leeds to provide more up to date intelligence on the factors affecting suicide in Leeds. The last citywide audit was carried out in 2006. Nationally, the consultation on the cross-government suicide prevention strategy for England (2011) has highlighted six key areas for action. Together these documents provide the impetus for this audit.

This audit aims to increase our understanding of local suicide data and patterns in order to shape local decisions and priorities around suicide prevention. The findings are presented in terms of the national strategy recommendations; these will inform the partnership workshop in July 2012 which will be attended by key stakeholders. The aim is to begin the process of decision making and take positive steps towards developing a suicide prevention strategy for Leeds.

The report has identified figures in line with those of the Office of National Statistics but in addition provides greater depth of understanding of themes around suicide locally. Those individuals taking their own life tend to be locally born white men between the ages of 30-50 years, with higher rates within specific areas of Leeds. Overall figures have not changed greatly compared to previous audits which emphasises the need for further work to address entrenched patterns.

While this report is limited to some extent by source records, it does provide a picture of suicide in Leeds today. It will allow the challenge of reducing suicide to be taken up, and we envisage, following this report, a local evidence based suicide prevention strategy will be agreed and prioritised by senior partners across the city.

Summary of Findings

- Audit derived rates for suicide for the Leeds population
  - Are similar to those calculated by the Office of National Statistics
  - Do not appear to be changing over time

- Of those taking their own life in Leeds:
  - 79% were male
  - 61% were from a white British background
  - 57% were born in Leeds
  - 47% were in the 30-50 age group

- Time and place:
  - The highest number of recorded deaths was in the LS12 postcode, followed by LS11, LS14, LS15, LS8 and LS9 postcodes
  - More suicides occur towards the end of the week

- Figures for risk factors are:
  - 42% were unemployed or on long term sick leave
  - 40% had relationship problems
  - 76% were single, divorced or separated
  - 37% were known to have either a drug or alcohol problem or both
  - 43% had previously attempted suicide and 30% had self harmed

- Methods:
  - 60% died by hanging /strangulation
  - 25% died by poisoning (with no one poison predominating)
  - 75% died in their own home, with the next most common location of death being in a park or woodland

- Contact with services:
  - 76% had contact with primary care in the three months prior to death
  - 31% made their last contact with primary care for a mental health problem
  - 17% had made contact with accident and emergency
  - 37% were known to be in contact or previously had contact with mental health services

Recommendations

In 2011, the Government published "No Health Without Mental Health[3]" which includes new measures to develop individual resilience from birth through the life course and build population resilience and social connectedness within communities.

These are powerful suicide prevention measures, however to ensure this approach is effective, there has to be equal commitment and responsibility for suicide prevention from key organisations across the city.

Evidence tells us that there is no "one" single approach to local suicide prevention work, therefore we need a broad and coordinated system working with a wide range of partners, organisations and sectors including people who have been affected by the suicide of a close family member.

These recommendations are based on findings from the audit and the review of the evidence base for suicide prevention strategies (Appendix 3), and are listed within the framework of the key recommendations of the National Prevention Strategy[2]

1) Reduce the risk of suicide in key high-risk groups

- By working with men of working age identified as high risk in Leeds, particularly those :
    - Living alone
    - With relationship difficulties
    - With alcohol/substance abuse
    - With a history of self-harm and suicide attempts

A potential intervention for which there is good evidence from observational studies is the use of peer support workers/community mental health educators (gatekeeper)

2) Tailor approaches to improve mental health in specific communities

- Continue risk minimisation processes in the mental health services
- Developing resilience in children and young people
- Improving mental health in offenders
- Strategies to reduce alcohol and drug use in the local population
- Improving mental health in the workplace
- Developing neighbourhood networks

Potential approaches are detailed in No Health Without Mental Health: Delivering better mental health outcomes[1], Making Children's Mental Health Everyone's Responsibility[2], Reducing Demand, Restricting Supply, Building Recovery: Supporting people to live a drug-free life[3]

3) Reduce access to the means of suicide

- Continue to ensure absence of potential ligature points in mental health hospitals and prisons

As death by hanging in private homes is the most common method in Leeds and no individual medication or poison predominated in cases of self poisoning, there is no specific intervention that can address the methods used by the majority people in Leeds. However it is advised that approaches include those addressed in 5) around preventing dramatisation of any particular method in the media

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

- Working in partnership with the Coroner's Office and the Police, there will be information available for bereaved families and friends regarding statutory and voluntary agencies in Leeds who are able to provide support and advice

Both health professional and voluntary sector led group therapy for adults and psychologist led group therapy for children have been shown to reduce the level of maladaptive grief reactions. A number of key partners in the public and voluntary sectors are listed in the National Prevention Strategy[2]

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

- By working with local media to
  - Prevent dramatisation of any particular method in the media and graphic description of reported suicide cases
  - Highlight where individuals at risk of suicide can access support from the professional or voluntary sector
  - Dispel myths and reduce stigma

This is in line with the Press Complaints Commission Code of Practice[4]

6) Support research, data collection and monitoring

- Through a quarterly audit process
- To enable shared learning to take place between providers of secondary care mental health services, the police, the Coroner and the auditors agreement regarding the sharing of information will be sought

Introduction

Suicide is one of the leading preventable causes of death under 65 years and the 2011 Leeds Mental Health Assessment [5] highlighted a need for more accurate figures. This audit therefore set out to establish a figure for deaths due to suicide that was more inclusive of all potential suicides as opposed to a figure based solely on deaths formally classified as suicide.

Aims of the Audit

Aims of this audit were to:

- Compare data with findings from previous audits and the mental health needs assessment, and therefore evaluate previous prevention strategies
- Compare local data and trends with national and regional data and trends
- Identify local risk factors, groups at risk or localities of higher incidence
- Inform future prevention strategies in conjunction with a review of the evidence base for them
- Have baseline data for monitoring future trends and evaluate future prevention strategies
- Develop a sustainable system for future data collection

Policy

National Policies & Guidance this work supports are

National Suicide Prevention Strategy

The draft suicide prevention strategy for England[6] outlines seven key areas for action

- Reduce the risk of suicide in key high-risk groups
- Tailor approaches to improve mental health in specific groups
- Reduce access to the means of suicide
- Provide better information and support to those bereaved or affected by a suicide
- Support the media in delivering sensible and sensitive approaches to suicide and suicidal behaviour
- Support research, data collection and monitoring
- Making it happen locally and nationally

No Health without Mental Health

The six principles outlined in No Health without Mental Health[7]are all applicable to suicide prevention work:

- More people will have good mental health
- More people with mental health problems will recover
- More people with mental health problems will have good physical health
- More people will have a positive experience of care and support
- Fewer people will suffer avoidable harm
- Fewer people will experience stigma and discrimination

Public Health Outcomes Framework

The Public Health Outcomes Framework[8] suggests indicators on:

- D5.2 Suicide rate (the three year rolling average age standardised mortality rate from suicide and injury of undetermined intent)
- D5.8 Mortality rate of people with mental illness

The NHS Outcomes Framework

NHS Outcomes Framework[9] contains the indicator:

- 1.5 Under 75 mortality rate in people with serious mental illness

Local Policies & Guidance this work supports are

The Annual Report of the Director of Public Health in Leeds[10] states that decreasing the suicide rate contributes to the key outcome of reducing death before 75 years.

In the 2011 Leeds Mental Health Assessment [1], it was recommended that a new and updated audit should be undertaken to inform a citywide suicide strategy.

Closing the Gap - Service needs and prohibitions to access: The LGB community, self-harm, suicidal ideation and suicide[11] listed a number of recommendations around mental health services for the LGB community.

Findings from the Mental Health Needs Assessment

Data on suicide for 2006 to 2008 from the Office of National Statistics (ONS) has been published in the 2011 Leeds Mental Health Assessment[1], alongside regional and national data for comparison:

Table 1: ONS rates per 100,000 population for suicides by age group, Leeds, Yorkshire & Humber and England 2006-2008

Age Band	Leeds	Yorkshire & Humber	England
1-4	0.0	0.0	0.0
5-14	0.4	0.2	0.1
15-34	6.7	6.4	5.8
35-64	10.8	9.8	9.3
65-74	3.5	5.1	3.6
75+	3.7	7.0	4.6
Total	**6.7**	**6.7**	**6.1**

Source: Mental Health and Wellbeing in Leeds: An Assessment of Need of the Adult Population 2011

The total suicide rate for Leeds was the same as for Yorkshire and the Humber region for the 2006-2008 period, but slightly higher than the rate for England. Reported rates in Leeds were higher in the under 65 age groups compared to the regional and England figure, but lower in the over 65s. Rates for Leeds are reported as having risen slightly over time, most of the increase within the 15-64 age groups, but a reported fall in the over 65 age groups:

Table 2: ONS rates per 100,000 population for suicides by age group, Leeds 2004-2006 to 2006-2008

Age Band	2004-2006	2005-2007	2006-2008
1-4	0.0	0.0	0.0
5-14	0.0	0.0	0.4
15-34	6.0	6.1	6.7
35-64	10.2	10.4	10.8
65-74	4.1	4.1	3.5
75+	4.4	2.5	3.7
Total	**6.3**	**6.3**	**6.7**

Source: Mental Health and Wellbeing in Leeds: An Assessment of Need of the Adult Population 2011

Caution needs to be taken in the interpretation of these figures due to data quality issues for the over 65 age group.

Table 3: ONS rates per 100,000 population for suicides by gender and age group, Leeds 2006-2008

Age Band	Female	Male
1-4	0.0	0.0
5-14	0.8	0.0
15-34	2.9	10.3
35-64	4.3	17.5
65-74	2.2	5.0
75+	2.0	6.5
Total	**3.0**	**10.7**

Source: Mental Health and Wellbeing in Leeds: An Assessment of Need of the Adult Population 2011

The reported rates for 2006-2008 were higher for men than women for all age groups except children.

Findings from Previous Audits

Table 4: Findings from 2004-5 and 2006 Audits

Dates of Audit	**April 2004-December 2005**	**January 2006- December 2006**
Time Period	9 months	1 year
Number	27	49
Median age group	40-49 years	40-45 years
Sex	70% male 30% female	69% male 31% female
Method for men	63% hanging 16% self poisoning 11% jumping from height	54% hanging 26% self poisoning 5% jumping from height
Method for women	38% hanging 50% self poisoning 13% jumping from height	13% hanging 53% self poisoning 20% jumping from height
Risk factors	48% relationship problems 22% unemployed	25% relationship problems 29% debt/redundancy
GP visit ≤1 week prior to death	41%	12% of men 33% of women
GP visit ≤1 month prior to death	56%	30% of men 53% of women
Known to mental health services	48%	42%

Audit 2008-2010

Method

This audit considered suicides for the calendar years 2008-2010 from cases identified via Coroner's records and reports contained therein but did not inspect clinical records

The notes reviewed as part of the audit are a snapshot of the lives of individuals, some of whom experienced complex lifestyle changes and significant recent breakdown in employment and/or relationships. The audit team were given access to the records by the HM Coroner's office in Leeds and are mindful of the privileged position of reading through the events leading to the last intimate moments of a person 's life and the sensitivities therein. .

Initially paper records comprising lists of deaths reported to the coroner were inspected to identify possible and known suicides. Subsequently summary details of individuals initially identified from these paper records were inspected on the Coroner's electronic database to exclude those where it was evident that death was not due to suicide.

Individuals excluded on this inspection of the electronic database had:

- Deaths clearly stated to be from natural causes, e.g. from a medical pathology
- Injuries due to an external agent, e.g. road traffic accidents, murder
- Deaths due to alcohol alone with no other cause or known psychiatric history and where intent was unknown
- Deaths due to substance misuse with no other cause or known psychiatric history and where intent was unknown
- Deaths due to alcohol and substance misuse with no other cause or known psychiatric history and where intent was unknown

The remaining files were examined in full, and therefore included those for all individuals with:

- Suicide verdicts
- Open verdicts
- Narrative verdicts
- Deaths due to self inflicted violent means
- Deaths due to alcohol and either another cause or if there was a known psychiatric history or where intent was unknown
- Deaths due to substance misuse and either another cause or if there was a known psychiatric history or where intent was unknown

On review of the case notes the same inclusion and exclusion criteria were applied; the table below summaries the numbers of cases included at each stage of the process:

Table 5: Numbers Included & Excluded

Year	Initially detected	After database review	After case note review
2008	164	78	62
2009	148	74	57
2010	144	70	60
Total	456	222	179

In this audit process figures for the different verdicts and undetermined deaths have been combined though this does not imply or infer any legal judgement.

Results

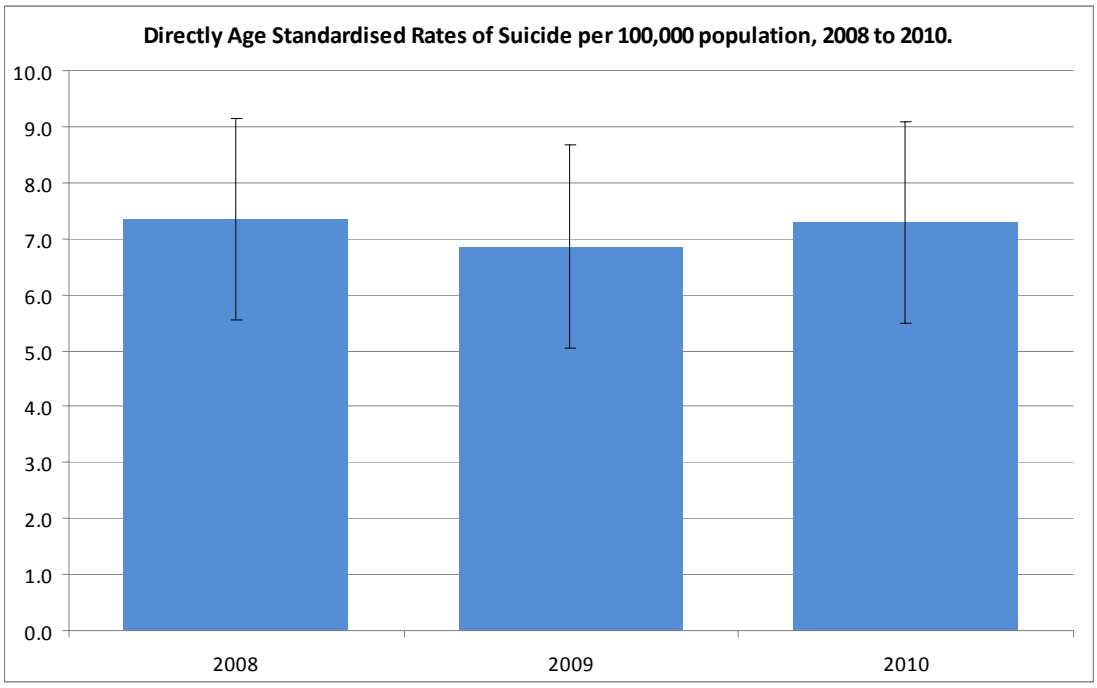
Trends

Directly standardised rates for the Leeds population for each year and the three year rolling average based on the figures from the audit are shown in Table 6 and graphically in Chart 1 below

Table 6: Audit derived directly standardised suicide and undetermined death rates for the Leeds population, 2008-2010

	Number	Population	Directly Standardised Rate per 100,000	95% C.I.
2008-2010	179	2,384,549	7.2	1.0
2008	62	785,814	7.3	1.8
2009	57	795,398	6.9	1.8
2010	60	803,337	7.3	1.8

Chart 1: Audit derived directly standardised suicide and undetermined death rates for the Leeds population, 2008-2010



These figures are similar to the Office of National Statistics derived figure of 6.7 per 100,000 for 2006-2008.

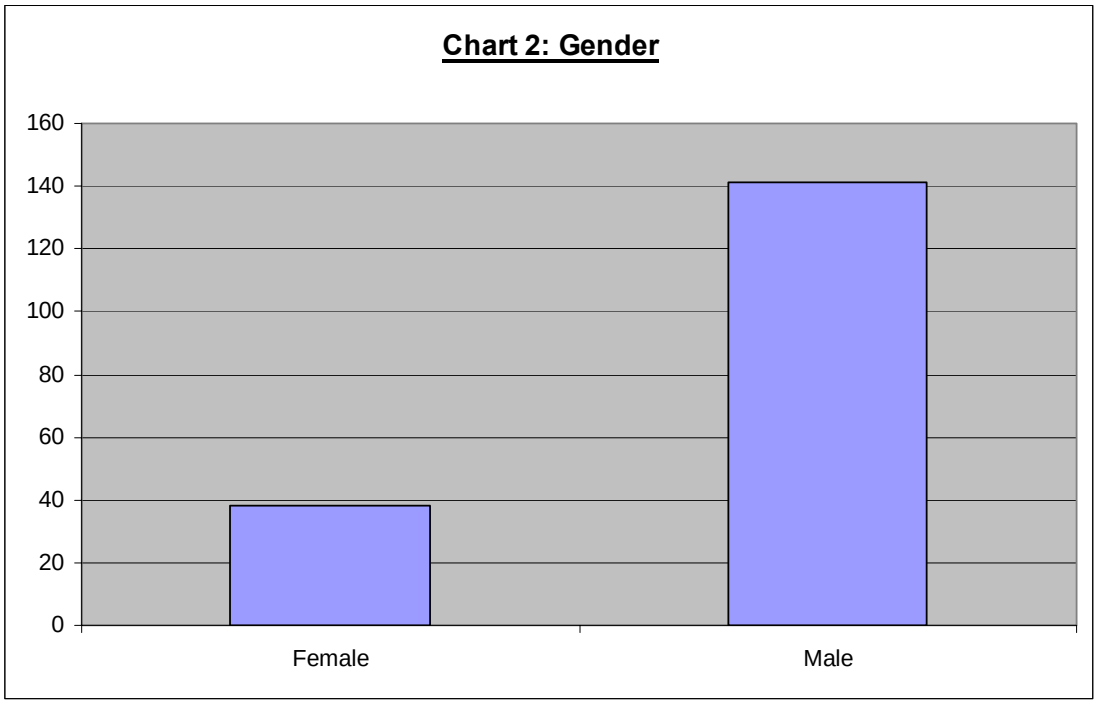
The age specific crude rates for each year and the three year average are in Table 7.

Table 7: Audit Derived Age Specific Crude Rates, 2008-2010

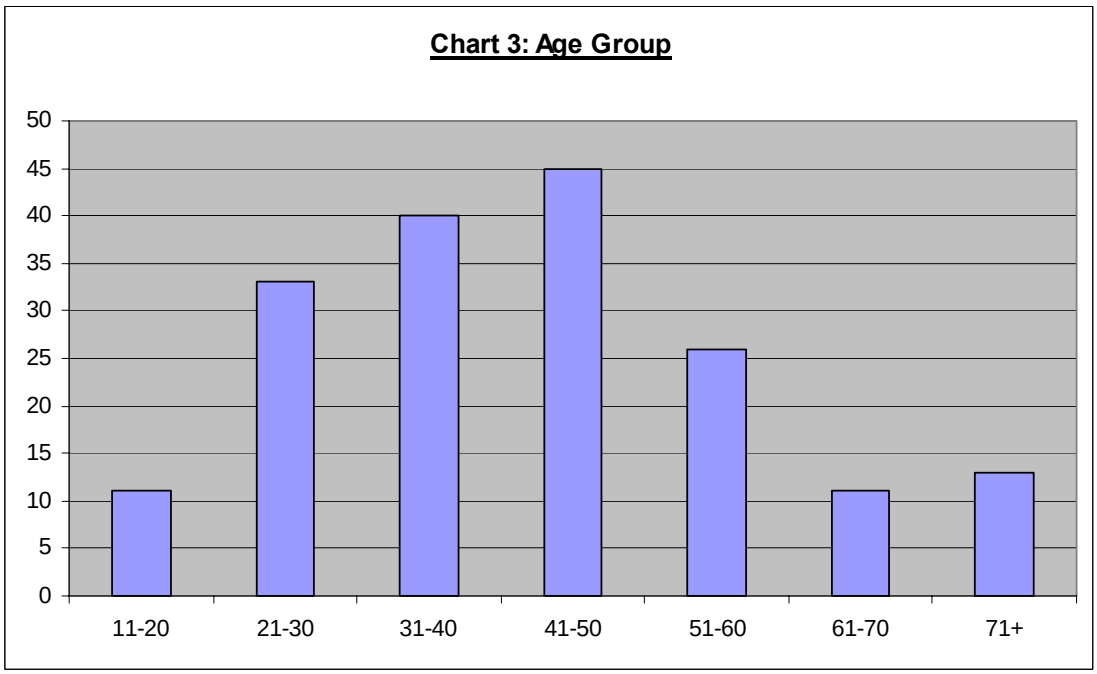
Age Group	Rates per 100,000 population			
	2008	2009	2010	2008-10
0-4	0	0	0	0
5-9	0	0	0	0
10-14	0	0	0	0
15-19	7.3	1.8	7.4	5.5
20-24	13.4	3.9	5.1	7.4
25-29	13.1	7.0	5.5	8.5
30-34	6.8	3.4	11.4	7.2
35-39	19.9	16.8	8.5	15.1
40-44	7.0	22.5	14.0	14.5
45-49	15.8	3.9	18.6	12.8
50-54	9.2	13.6	15.4	12.8
55-59	4.8	12.2	5.0	7.3
60-64	5.1	5.0	12.3	7.5
65-69	0	3.4	3.3	2.2
70-74	7.4	10.9	0	6.1
75-79	4.4	9.0	4.5	5.9
80-84	0	6.1	6.0	4.1
85 plus	0	6.9	6.7	4.6

Demographics

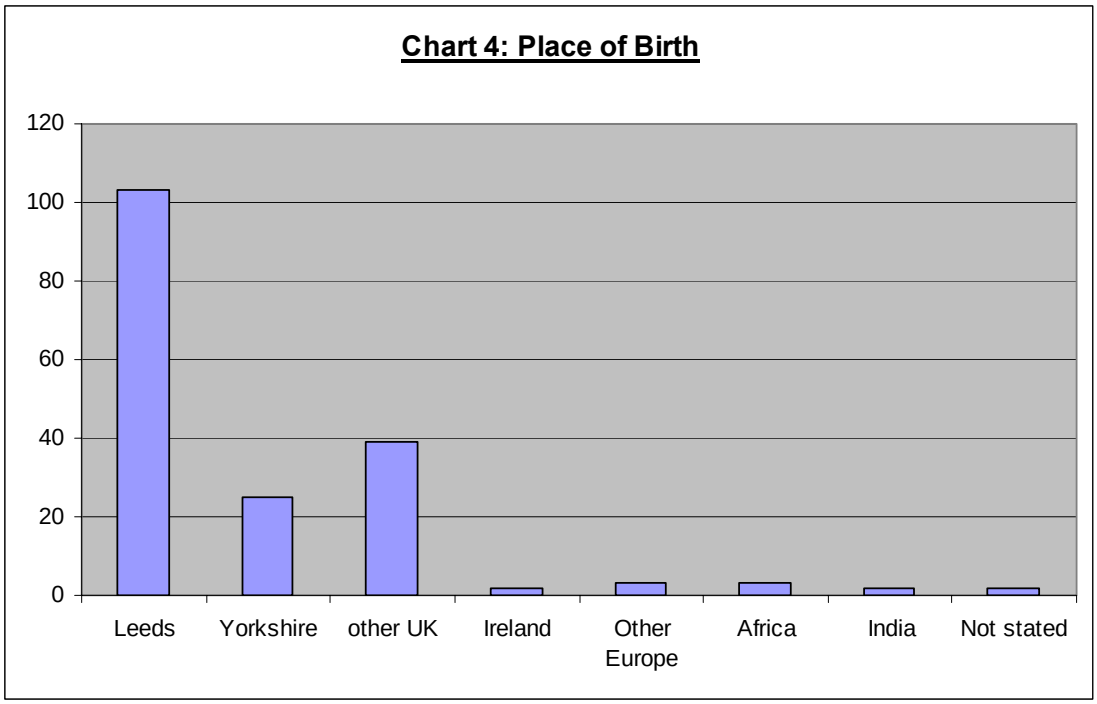
21% were women versus 79% male



More deaths occurred in individuals under the age of 50 years with the highest number in the 41-50 year age group.



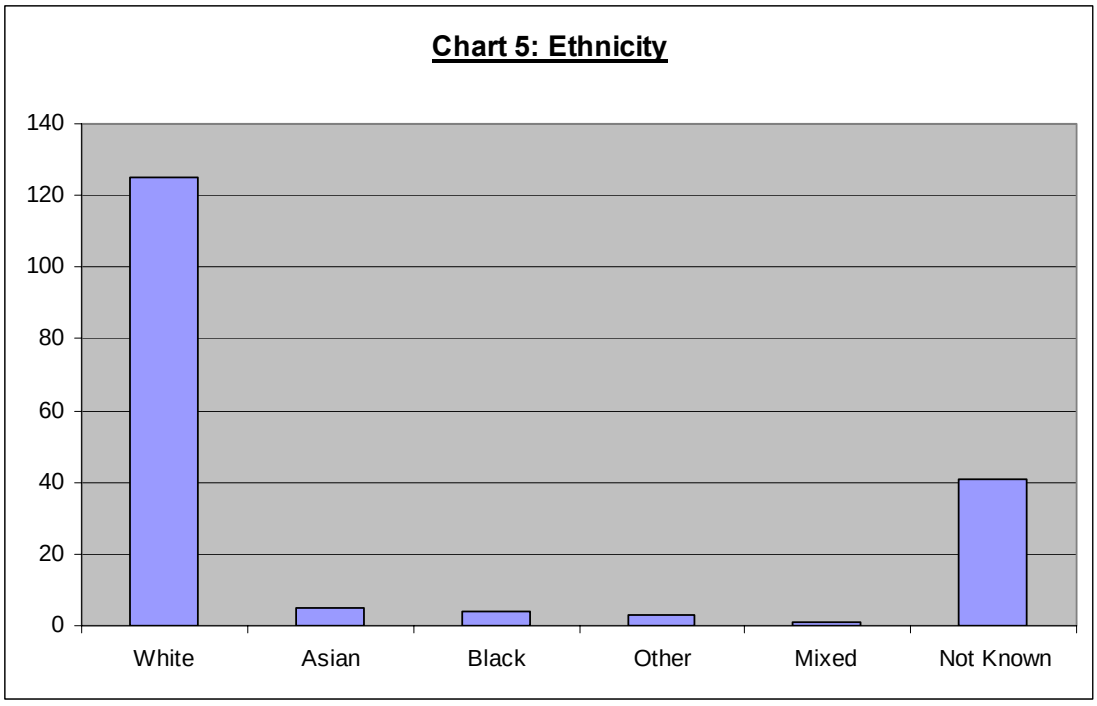
57% were born in Leeds, 14% in Yorkshire, 22% elsewhere in the UK, 3% from elsewhere in Europe and 3% from the rest of the world. Place of birth was easily identifiable from the Coroner's records.



61% were of white British background, 9% from another white background, and 7% from a non-white background though information was not apparent from the notes for 23%. Ethnicity status is not a defined category on the summary notes record and is only found on either police reports, notification of death by drugs submissions or the pathologist's post mortem report.

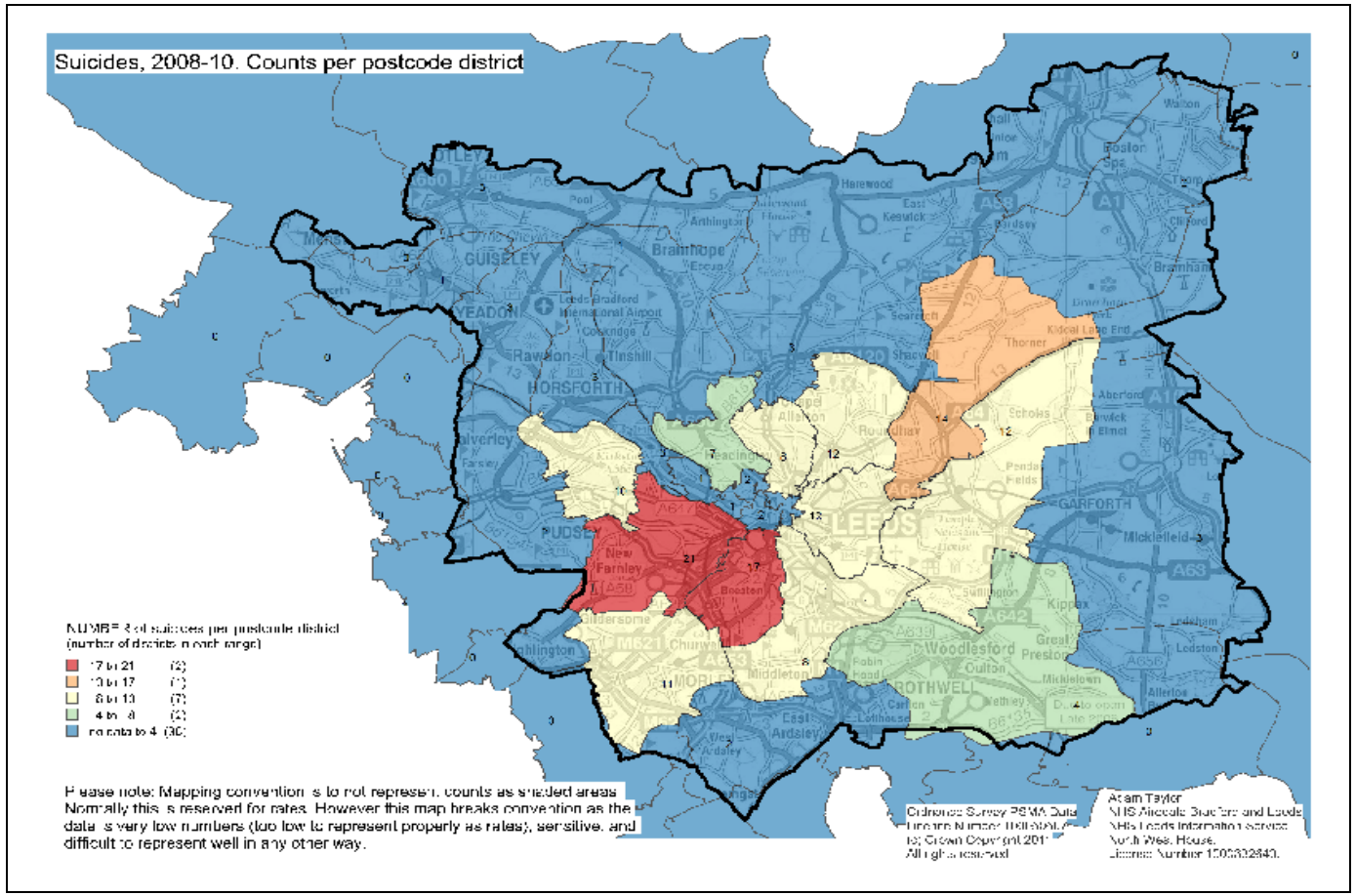
There were at least four deaths of lesbian, gay, bisexual or transgender individuals, though sexuality was rarely documented as a category. However police and coroners officer statements did state sexuality as a narrative where the informant described their relationship with the deceased.

Therefore, whilst information was available to make assumptions regarding sexuality and ethnicity, only when clearly stated in the notes was this then recorded



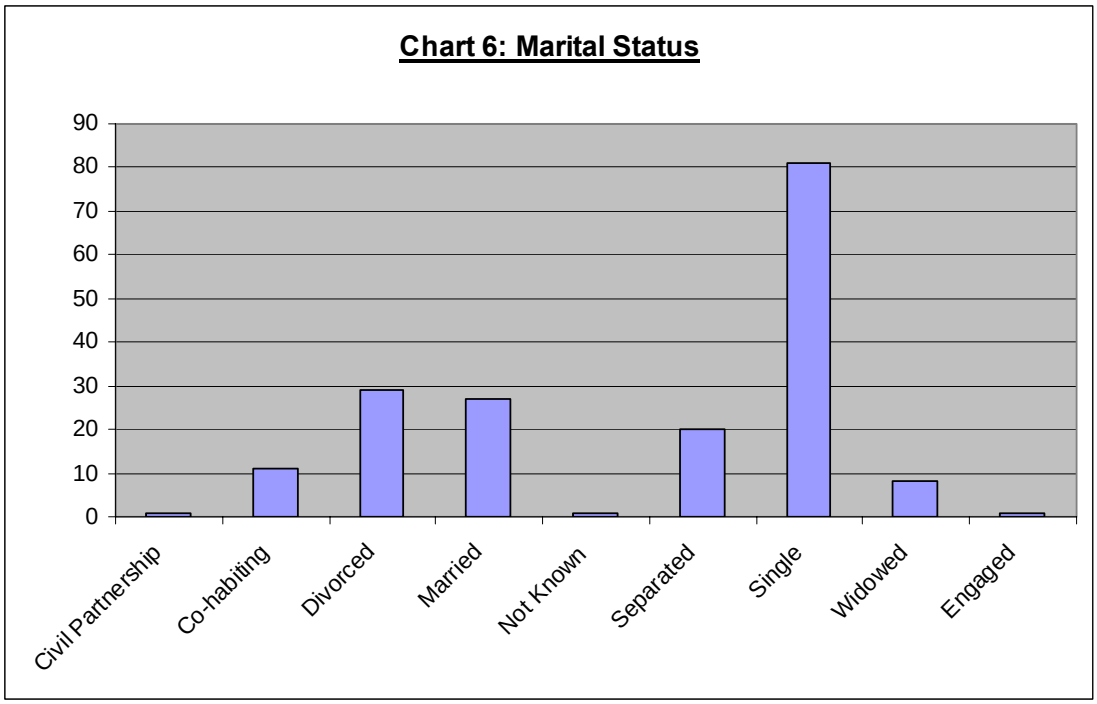
The LS12 postcode had the highest number of recorded deaths, followed by LS11, LS14, LS15, LS8 and LS9 postcodes. Counts by postcode for deaths in each area of Leeds are shown in Figure 1 overleaf.

Figure 1: Suicide and Undetermined Deaths, Counts by Postcode District

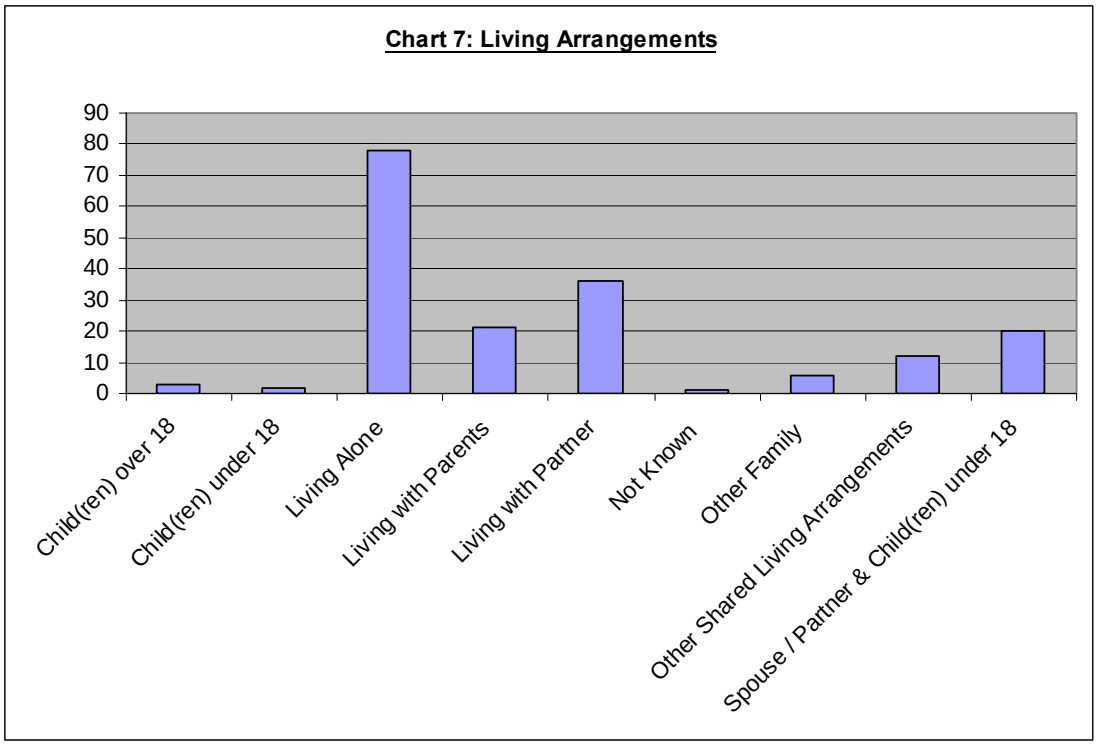


Risk factors

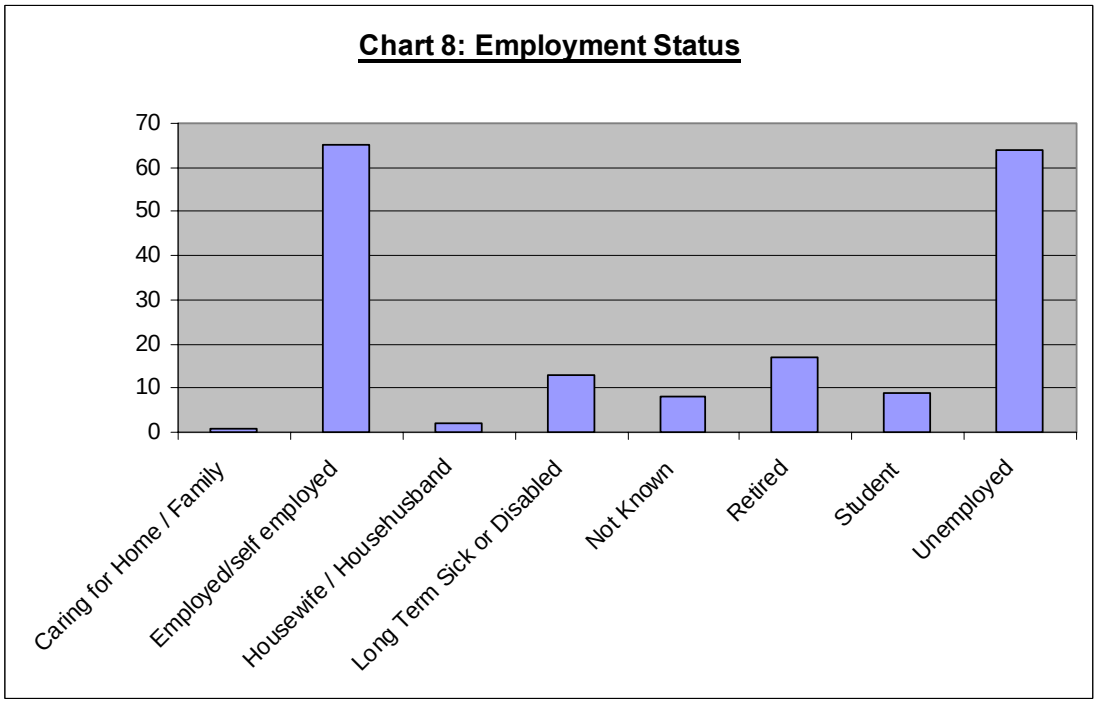
76% were single, divorced or separated compared to 22% married, cohabiting or in a civil partnership



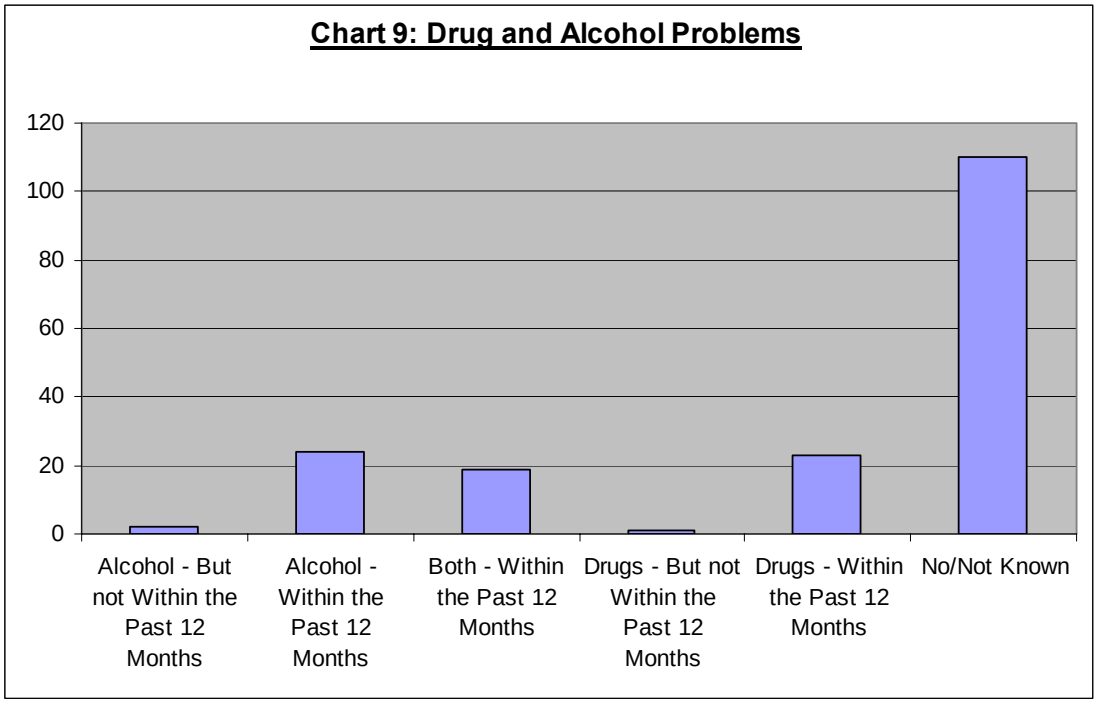
43% were living alone and 12% living with parents compared to 31% living with a partner and with or without children. Complexities of relationship breakdown were evident in the majority of individual lives. The theme of relationship breakdown was identified as a contributing factor in a high proportion of the case files analysed. Violence in the home either through witnessing domestic violence as a child or being abused by partner or parent was identified for a smaller group of individuals and significant to mention. Many of these individuals were known to both statutory and voluntary services at some point in their lives and this was evident from the GP reports contained within the Coroner's records.



35% were unemployed, 10% were retired and 7% were on long term sick or disabled, 36% were employed or self-employed. Qualitative data suggests that some people were recently unemployed, self employed and not working at the time of death or on shorter term sick leave.



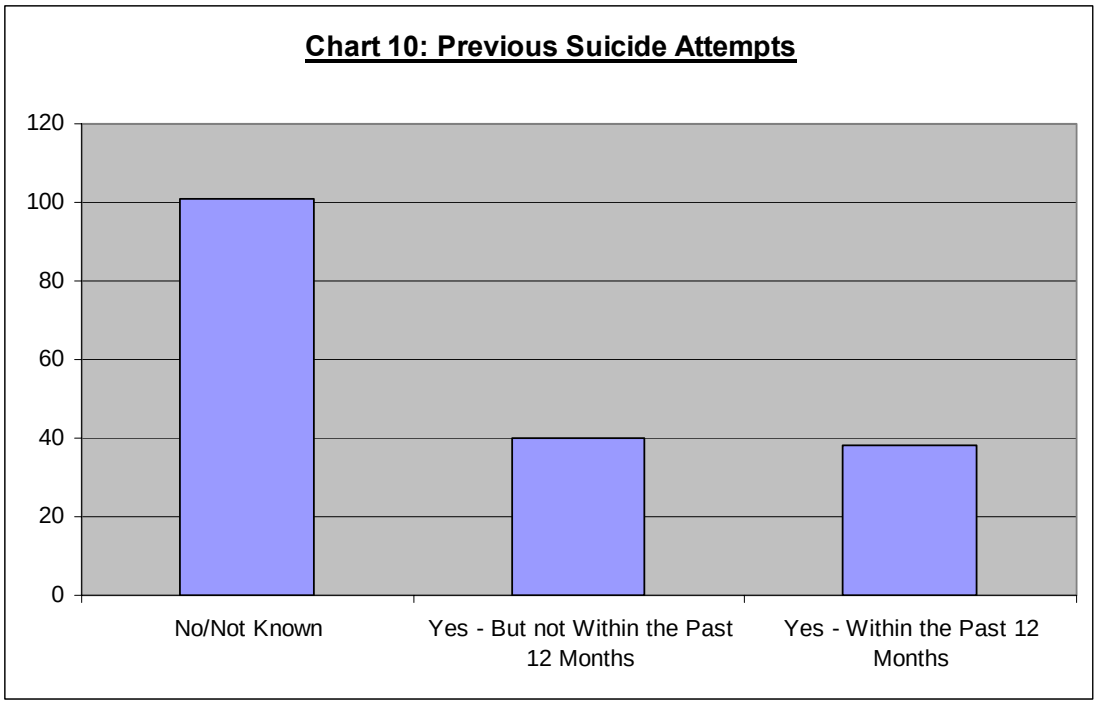
13% had an alcohol problem and 13% had a drugs problem in the year before death, and 11% had both a drugs and alcohol problem, with smaller numbers having had a drugs or alcohol problem more than a year before. Alcohol was a compounding factor for a number of individuals. This was generally identified as a history of longer term alcohol problems and over half of this information was identified through GP reports to the Coroner which indicates disclosure and primary care involvement.



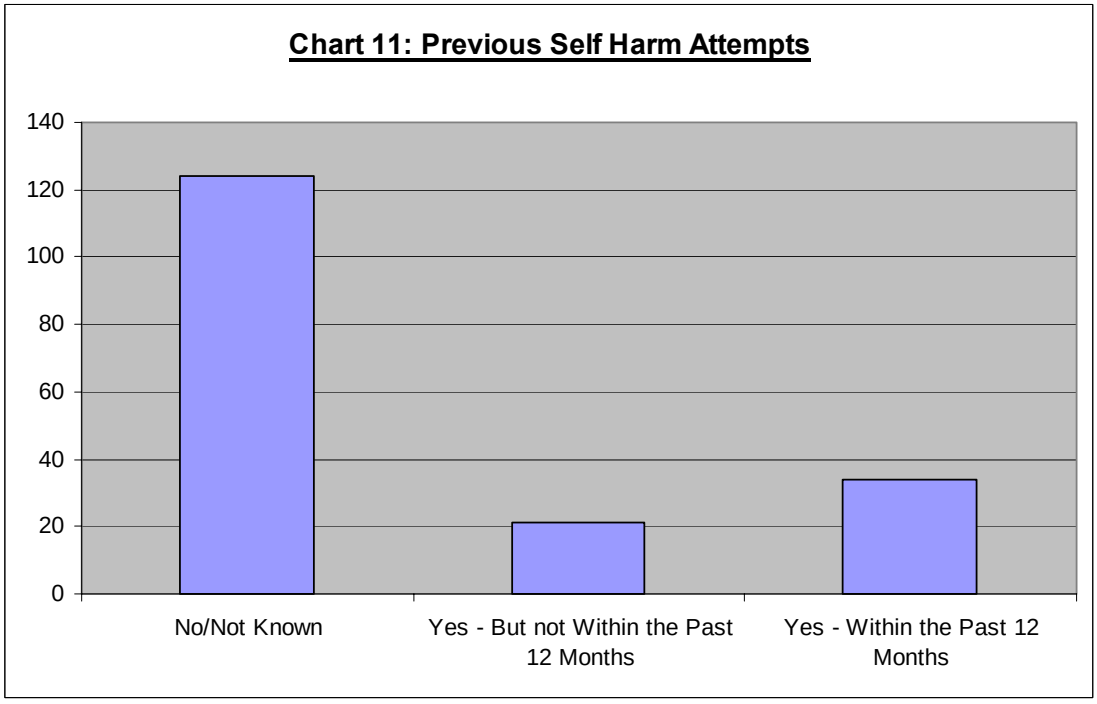
40% had a relationship or family problem, 15% had a physical illness or disability, 7% had debt problems or were bankrupt and 6% had contact with the criminal justice system. 9% had been bereaved, a theme that was also identified in the qualitative analysis. Often the bereavement was of parents, siblings or partners. Many were grieving the loss of a loved one over year later.

History of self harm and suicide attempts

21% had attempted suicide in the past year and 22% had attempted suicide more than a year ago, compared to 56% who had no known previous attempts. 6% had a family history of suicide. A previous suicide attempt was distinguished from a self harm incident and these were recorded separately.

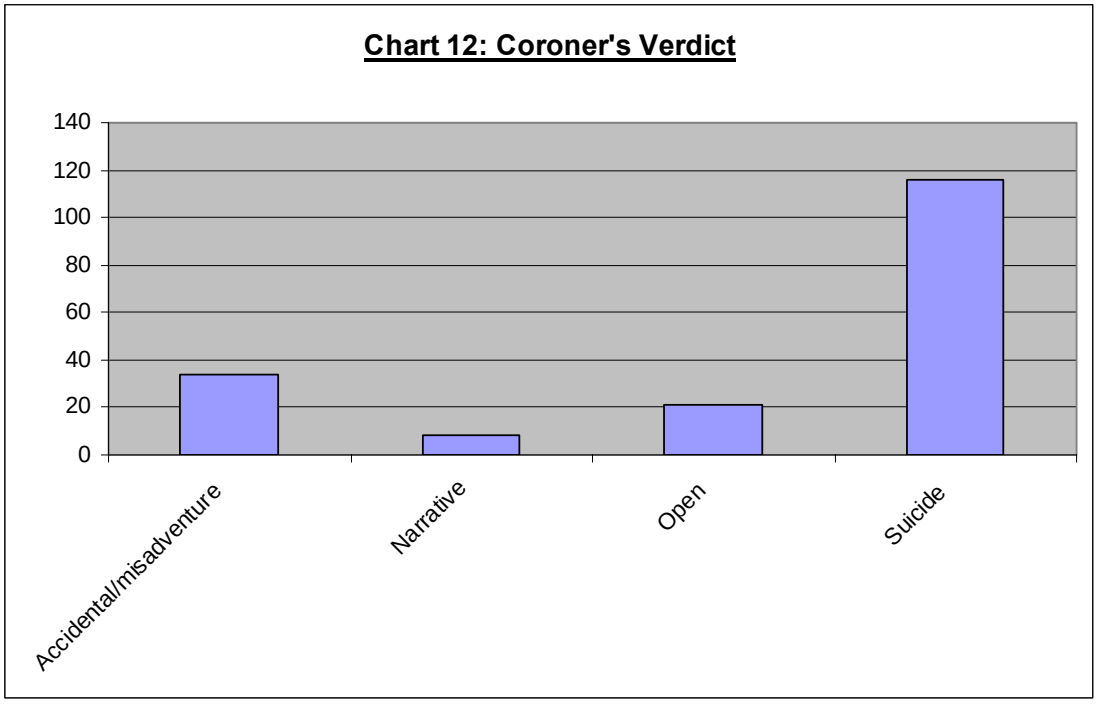


19% had self-harmed in the past year and 11% had self-harmed more than a year ago, compared to 69% who had no known history of self-harm which was evident in the Coroner's report.

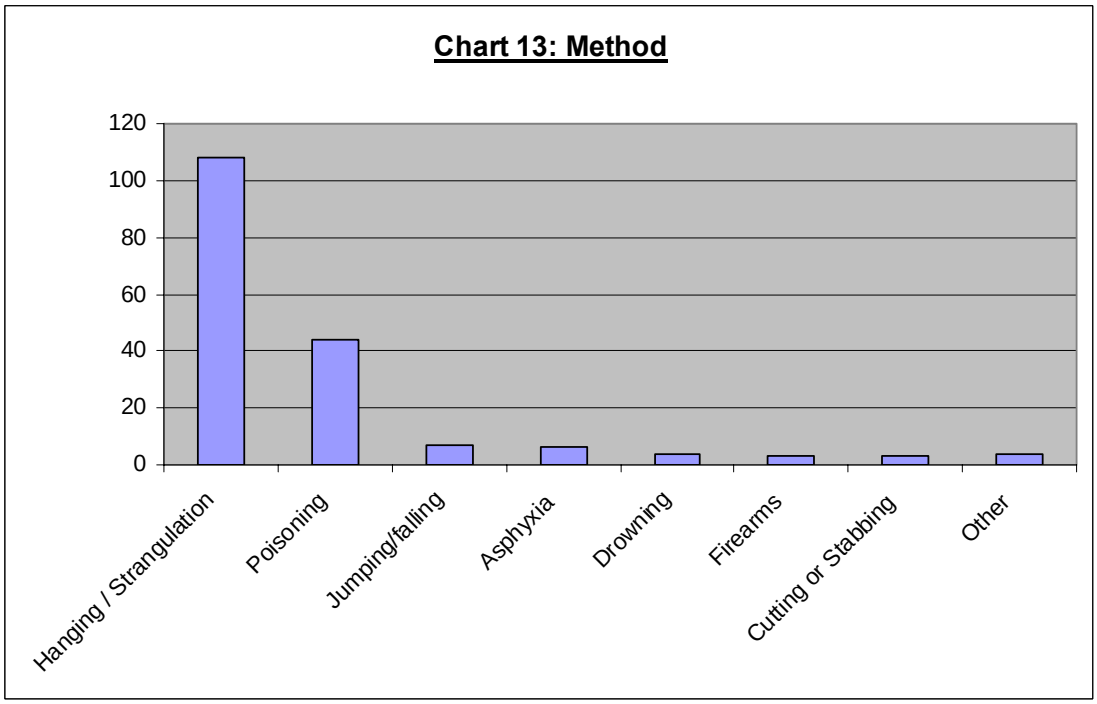


Details of Act & Method

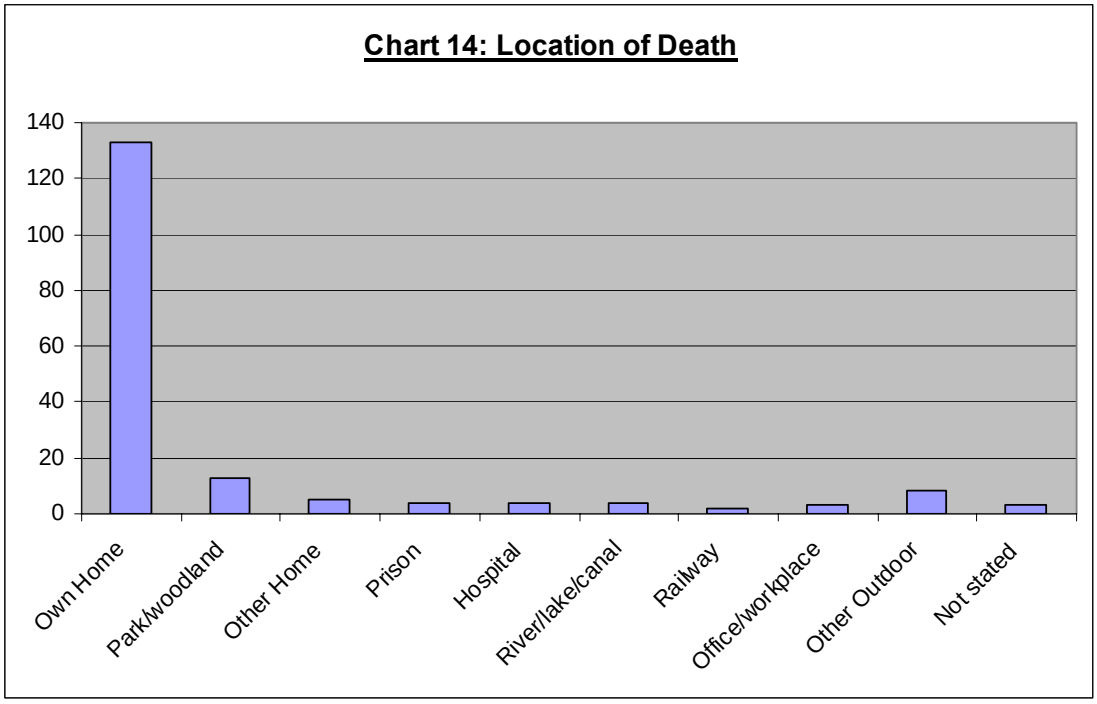
65% had a verdict of suicide, 19% a verdict of accidental death/misadventure, and 16% had a narrative or open verdict.



60% died by hanging /strangulation, with 25% dying by poisoning. Where a prescription drug was used, no one drug predominated.



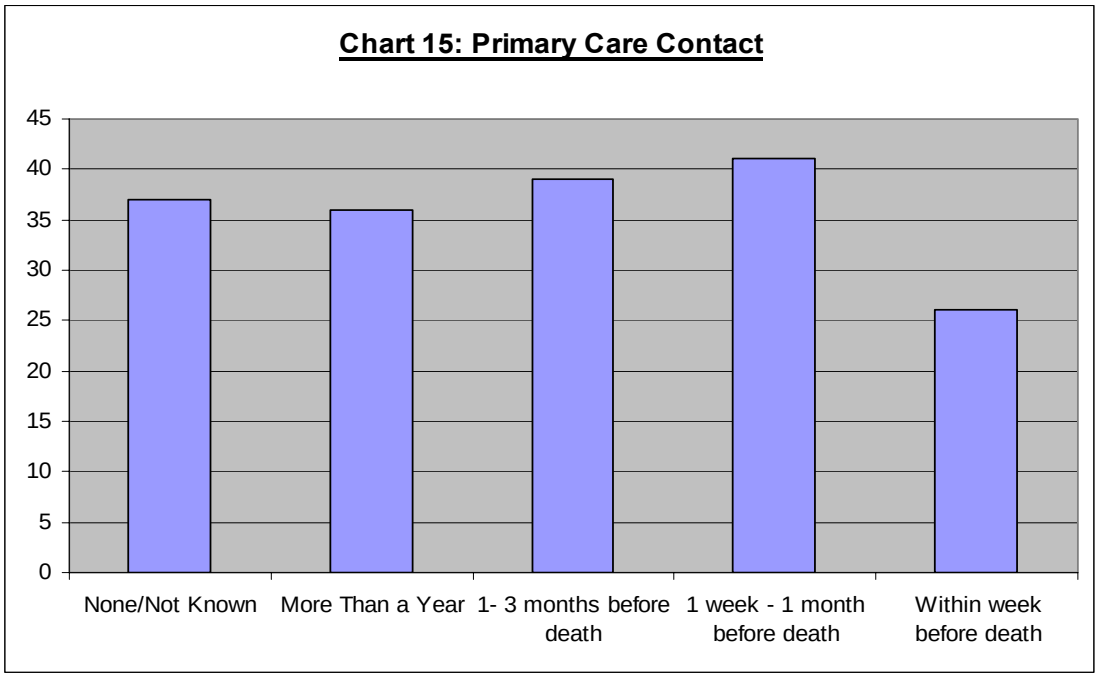
75% died in their own home, with the next most common location of death being in a park or woodland, 7%. This supports evidence there is no predominant location in Leeds. A written message of some form was left by 36% including hand written notes, emails and text messages.



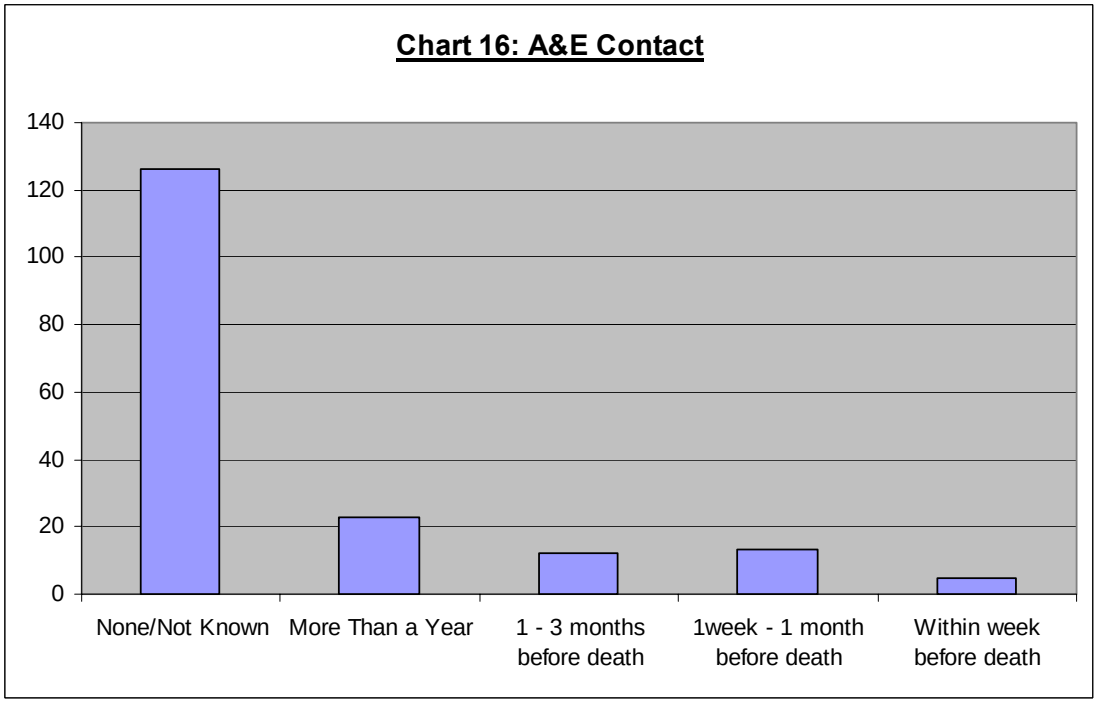
A number of inquests for deaths in custody and other offender health related deaths during 2008-2010 had not been heard by the Coroner's court by the time the notes were audited. Complexities of gathering evidence, statutory procedures and dates for jury sittings all add to the length in time for offender related deaths to be heard. These could not be included in the audit and therefore the number of deaths in prison in this report is fewer than those recorded for Leeds.

Contact with services

38% had contact with primary care in the month before death with 15% having contact in the week before, and 22% having contact between one and three months prior to death. 31% had made their last contact with primary care for a mental health problem and 34% had made contact for a physical problem. By detailed interrogation of the notes 25% of individuals had a long term condition diagnosed and/or were suffering with pain, being prescribed regular analgesia for pain relief and in contact with primary care. Physical ill health was often a compounding factor.

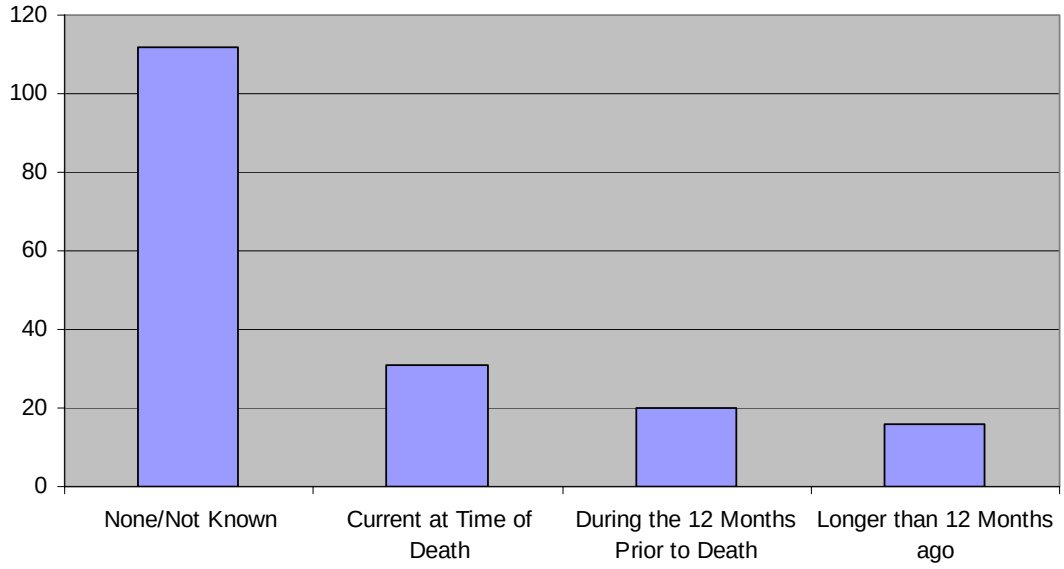


10% had contact with an accident and emergency department in the month before death and 7% had contact between one and three months prior to death. 19% had made their last contact for a mental health problem and 10% had made contact for a physical problem at an accident and emergency department.



17% had ongoing contact with specialist mental health services at the time of death, 11% had contact with them in the year prior to death and 9% had had contact with them more than a year before death. This means that while 37% of individuals were known or previously known to mental health services, the remaining 63% had no contact with mental health services. This is in line with national data that shows that the majority of people who complete suicide are not in contact with secondary mental health services.

Chart 17: Contact with Mental Health Services



18% had a diagnosis of depression, 6% a diagnosis of schizophrenia or psychosis, with smaller numbers of other mental health diagnoses.

Small numbers had contact with other services with around 5% of individuals having had contact with any single type of non-medical service. Referrals made by primary care to other services i.e. psychiatric referrals or substance use services were not always followed up by the individual or delays in accessing services in a timely manner were identified.

Communication between services and primary care regarding non attendance were not identified with alacrity by providers. It is difficult to ascertain from the Coroner's records if primary care referrers had been informed that their patient had failed to attend for an appointment. If communication was received by primary care it was months later or came to light post death.

Comparison with Previous Audits

Table 8 below gives some idea of the trends from audits undertaken in Leeds:

Table 8: Comparison between Audits

Dates of Audit	**April 2004-December 2005**	**January 2006-December 2006**	**January 2008-December 2010**
Time Period	9 months	1 year	3 years
Number	27	49	179
Median age group	40-49 years	40-45 years	40-50 years
Sex	70% male 30% female	69% male 31% female	79% male 21% female
Method for men	63% hanging 16% self poisoning 11% jumping from height	54% hanging 26% self poisoning 5% jumping from height	67% hanging 18% poisoning 2% jumping
Method for women	38% hanging 50% self poisoning 13% jumping from height	13% hanging 53% self poisoning 20% jumping from height	34% hanging 45% poisoning 2% jumping
Risk factors	48% relationship problems 22% unemployed	25% relationship problems 29% debt/redundancy	40% relationship problem 15% disability/physical illness 9% bereaved 7% debt/bankruptcy 6% forensic history
GP visit ≤1 week prior to death	41%	12% of men 33% of women	12% of men 24% of women
GP visit ≤1 month prior to death	56%	30% of men 53% of women	33% of men 53% of women
Known to mental health services	48%	42%	36% of men 45% of women

Appendix 1: Case File Summarised Examples

Male aged eighty six years who had a long term condition was admitted to hospital for surgery. He told a member of nursing staff of his intention to take his life if he was not able to cope alone at home post operatively. He stated on a number of occasions that he did not want to be a burden to anyone. No action was taken by health professionals during his inpatient stay despite him articulating his intention. He killed himself twenty four hours after his discharge home. His wife had died one year earlier and they had been married for over sixty years.

Male aged fifty seven years recently diagnosed with Parkinson's disease. He was extremely anxious regarding the impact of this diagnosis on his long term future. He stated in a note left to loved ones the he couldn't face life with mental and physical disability. We are unaware from the notes what support he had received from health care professionals regarding his diagnosis as there was limited information from his general practitioner.

Male aged forty four years on long term sickness and opiate use as a result of a long term condition. He made regular visits to his general practitioner who made a referral to the community drugs service. He did not engage with the service and his friends reported his physical health had deteriorated prior to his death.

Male aged forty seven years old. He had experienced various adverse life events all of which had an effect on his confidence levels. He had a previous history of obsessive compulsive disorder, low mood and was socially isolated. He was referred to a local community mental health team but they had difficulty in contacting him. As a result he was discharged from the service and latterly took his life.

Female aged sixteen years who was beset with a number of personal and emotional issues. She had previous contact with the CAMHs service but was not in touch with them at the time of her death. She was receiving positive support from the voluntary sector as she was experimenting with recreational drugs. She had good support from both her family and friends at the time of her death but had reported feeling bullied at school.

Appendix 2: Data Tables

Gender	Count
Female	38
Male	141
Total	179

Age Group	Count
11-16	<5
17-20	10
21-30	33
31-40	40
41-50	45
51-60	26
61-70	11
71-80	9
81-90	<5
Total	179

Postcode of Usual Residence	Count
LS1	<5
LS2	<5
LS3	<5
LS4	<5
LS5	<5
LS6	7
LS7	8
LS8	12
LS9	12
LS10	8
LS11	17
LS12	21
LS13	10
LS14	14
LS15	12
LS16	10
LS16	<5
LS17	<5
LS18	<5
LS19	<5
LS20	<5
LS21	<5
LS22	<5
LS23	<5
LS25	<5
LS26	<5
LS27	11
LS28	<5
WF3	<5
Total	179

Sexual Orientation	Count
Bisexual	<5
Heterosexual	82
Homosexual	<5
Not Known	92
Transgender	<5
Total	179

Marital Status	Count
Civil Partnership	<5
Co-habiting	11
Divorced	29
Married	27
Not Known	<5
Separated	20
Single	81
Widowed	8
Engaged	<5
Total	179

Home Situation	Count
Child(ren) over 18	<5
Child(ren) under 18	<5
Living Alone	78
Living with Parents	21
Living with Partner	36
Not Known	<5
Other Family	6
Other Shared Living Arrangements	12
Spouse / Partner & Child(ren) under 18	20
Total	179

Ethnicity	Count
Black African	<5
Black Caribbean	<5
Indian	<5
Mixed White / Black African	<5
Not Known	41
Other Asian Background	<5
Other Ethnic Background	<5
Other White Background	13
Pakistani	<5
White British	109
White Irish	<5
Total	179

Place of Birth	Count
Leeds	103
Yorkshire	25
other UK	39
Ireland	<5
Other Europe	<5
Africa	<5
India	<5
Not stated	<5
Total	179

Employment Status	Count
Caring for Home / Family	<5
Employed/self employed	65
Housewife / Househusband	<5
Long Term Sick or Disabled	13
Not Known	8
Retired	17
Student	9
Unemployed	63
Prison	<5
Total	179

Manner of Death	Count
Burning	<5
Cutting or Stabbing	<5
Drowning	<5
Electrocution	<5
Firearms	<5
Hanging / Strangulation	108
Jumping/falling	7
Poisoning	44
Asphyxia	6
Stood in front of a train	<5
Unascertained	<5
Total	179

Day of Week	Count
Monday	20
Tuesday	18
Wednesday	22
Thursday	34
Friday	32
Saturday	32
Sunday	21

Location of Death	Count
Hospital	<5
Not stated	<5
Other Home	5
Own Home	133
Prison	<5
Railway	<5
Bridge	<5
Park/woodland	13
Office/workplace	<5
Cemetery	<5
River/lake/canal	<5
Street/lane	<5
Quarry/wasteland	<5
Private Lock-up	<5
Total	179

Poison Substance	Times used
Amisulpride	<5
Amitriptyline	5
Amlodipine	<5
Amphetamine	<5
Amitriptyline	<5
Atenolol	<5
Atracurium	<5
Clozapine	<5
Codeine	<5
Coproxamol	<5
Co-codamol	<5
Diazepam	<5
Dihydrocodeine	<5
Diphenhydramine	<5
Dothiepin	<5
Heroin	5
Ibruprofen	<5
Methadone	5
Morphine	<5
Nytol	<5
Olanzapine	<5
Oxycodone	<5
Paracetomol	6
Propofol	<5
Quetiapine	<5
Sertraline	<5
Not stated	<5

Evidence of Risk	Count
No/Not Known	169
Yes	10
Total	179

Previous History of Suicide	Count
No/Not Known	101
Yes - But not Within the Past 12 Months	40
Yes - Within the Past 12 Months	38
Total	179

History of Self Harm	Count
No/Not Known	124
Yes - But not Within the Past 12 Months	21
Yes - Within the Past 12 Months	34
Total	179

History of Drugs/Alcohol	Count
Alcohol - But not Within the Past 12 Months	<5
Alcohol - Within the Past 12 Months	24
Alcohol and drugs - Within the Past 12 Months	19
Drugs - But not Within the Past 12 Months	<5
Drugs - Within the Past 12 Months	23
No/Not Known	110
Total	179

Social & Physical Risk Indicators	Count
Bereavement	17
Debt / Bankruptcy	13
Forensic History	11
Physical Illness / Disability	27
Redundancy	7
Relationship/Family Problems	72
Work stress/stress	<5
Terminally ill relative	<5

Family History	Count
No/Not Known	169
Yes	10
Total	179

Supporting Evidence Note	Count
No	115
Yes	64
Total	179

Contact with GP - Time	Count
None/Not Known	37
More Than a Year	36
Within Previous 3 Months	39
Within Previous Month	41
Within Previous Week	26
Total	179

Contact with GP - Reason	Count
None stated/known & other	60
Mental Health Problem	56
Physical Health Problem	61
Physical and Mental Health Problems	<5
Total	179

Contact with A+E - Time	Count
None/Not Known	126
More Than a Year	23
Within Previous 3 Months	12
Within Previous Month	13
Within Previous Week	5
Total	179

Contact with A+E - Reason	Count
None stated/known & other	127
Mental Health Problem	34
Physical Health Problem	18
Total	179

Contact with Specialist MH Service	Count
None/Not Known	112
Current at Time of Death	31
During the 12 Months Prior to Death	20
Longer than 12 Months ago	16
Total	179

Mental Health Diagnosis	Count
Alcohol Misuse	6
Anxiety / Phobia / Panic Disorder / OCD	<5
Bipolar Affective Disorder	6
Depressive Illness	33
Drug Misuse	<5
Eating Disorder	<5
Not Known	17
Personality Disorder	<5
Schizophrenia & Other Delusional Disorders	12
Adjustment dis-order/reaction	<5
Attachment disorder	<5
Hyperactive & behaviour problems	<5

Contact with Services other than medical	Count
Alcohol Services	13
Faith Community	<5
None Known	139
Occupational Health	<5
Probation Service / Youth Justice	6
Substance Misuse Services	14
Voluntary Sector Services	5
Total	179

Coroner's Verdict	Count
Accidental/misadventure	34
Narrative	8
Open	21
Suicide	116
Total	179

Appendix 3: The Evidence Base for Suicide Prevention Strategies

Search Strategy

In order to identify the evidence for suicide prevention strategies, a search for systematic reviews in the subject area in the following databases was undertaken: Medline, PsycINFO, CINAHL, EMBASE, NICE, Bandolier, Google, NHS evidence clinical knowledge summaries, CRD/HTA/DARE, Cochrane Library. A total of 34 systematic reviews were identified, but 8 were unobtainable, leaving 26 from which the evidence below was drawn.

The studies are listed in tables 9 and 10 on pages 5 and 13 respectively, and each graded according to the hierarchy of evidence below:

Level of evidence	Type of evidence
1++	High-quality meta-analyses, systematic reviews of RCTs, or RCTs with a very low risk of bias
1+	Well-conducted meta-analyses, systematic reviews of RCTs, or RCTs with a low risk of bias
1–	Meta-analyses, systematic reviews of RCTs, or RCTs with a high risk of bias*
2++	High-quality systematic reviews of case–control or cohort studies. High-quality case–control or cohort studies with a very low risk of confounding, bias or chance and a high probability that the relationship is causal
2+	Well-conducted case–control or cohort studies with a low risk of confounding, bias or chance and a moderate probability that the relationship is causal
2–	Case–control or cohort studies with a high risk of confounding bias, or chance and a significant risk that the relationship is not causal
3	Non-analytic studies (for example, case reports, case series)
4	Expert opinion, formal consensus

In general there is little strong evidence for any type of intervention or for what is most effective in any individual population group. For many of the studies changes in suicidal behaviour or ideation were chosen as the outcome of interest, and fewer looked at changes in suicide rates; because of the relative rarity at which suicide occurs in a given population, it is difficult to detect a significant change in rate except in large studies

Findings from the studies are summarised according to the interventions and the population groups they are applicable to. It should be noted that this is not a comprehensive literature search and does not include studies for all types of intervention and population group, only those included in recent systematic reviews.

Education & Awareness Training

Suicide awareness and education campaigns for the public have rarely been systematically evaluated and often show no benefit; where effectiveness has been shown it may be related to good access to treatment or linked to short term improvements in awareness and knowledge (Dumesnil & Verger, 2009; Mann et al, 2005; Van der Feltz-Cornelis, 2011). They may be effective in specific groups, such as the military and young people (Bagley et al, 2011; Crowley et al, 2004). There is some evidence to support primary care physician education especially in the recognition and treatment of unipolar and bipolar depression (Mann et al, 2005; Van der Feltz-Cornelis, 2011).

Media

There is limited evidence of effectiveness for media restrictions and conflicting evidence for their effect on youth suicide prevention (Mann et al, 2005; Crowley et al, 2004). Evidence of impact following introduction of media guidelines is largely based on studies of railway suicides; their findings may be subject to publication bias, as the few studies suggesting no impact were published prior to 1990 (Krysinska & De Leo, 2008; Sisask & Värnik, 2012).

Access to means

Restriction of access to means such as pesticides, firearms, prescription medications, barriers at jumping sites and reducing access to railway tracks may reduce means-specific rates but not overall rates as a result of substitution of other means (Sarchiapone et al, 2011; Mann et al, 2005; Krysinska & De Leo, 2008; Van der Feltz-Cornelis, 2011; Leitner, 2008). There is little or no evidence of impact for such prevention programmes on youth suicide rates (Crowley et al, 2004).

Gatekeepers

There is good evidence from observational studies to show that professional and non-professional gatekeeper training reduces suicide rates, particularly in the military and institutions (Bagley et al, 2011; Isaac et al, 2009; Mann et al, 2005).

Population screening

There is limited evidence for general population screening, though there is good evidence for screening of the over 65s (Mann et al, 2005; Oyama et al, 2008).

Pharmacological Interventions

There is some evidence to show that some types of pharmacological treatments may reduce suicidal behaviour or risk factors, but no strong evidence showing that any one is effective in reducing suicide rates (Guo et al, 2003).

Lithium is effective at reducing rates of attempted and completed suicide in individuals with mood disorders but should be used cautiously (Cipriani et al, 2005; Leitner, 2008). Evidence suggests that other antidepressants reduce suicidal thoughts in depressive patients and the elderly but due to very low rate of suicidal behaviour in these studies there is no strong evidence that antidepressants reduce suicide attempts or suicide (Daigle et al, 2011; Heisel et al, 2006; Leitner, 2008; Mann et al, 2005; Moller, 2006). There is no clear evidence showing differences in the speed or capacity to reduce suicidal thoughts between antidepressants (Moller, 2006). Ecological studies suggest that increased prescribing of antidepressants is associated with a decline in national suicide rates in several countries, particularly in those with previously high rates (Mann et al, 2005; Moller, 2006).

Psychosocial Interventions

There is some evidence to show that some types of psychosocial treatments may reduce suicidal behaviour or risk factors, but no strong evidence showing that any one is effective in reducing suicide rates (Guo et al, 2003) (Mann et al, 2005). There is evidence for reductions in attempted suicide for cognitive behaviour therapy and dialectical behaviour therapy but little evidence for the effectiveness of psychosocial interventions for suicidal ideation or following self-harm (Crawford et al, 2007; 2011; Guo & Harstall, 2003; Leitner, 2008).

Evidence is equivocal for psychosocial interventions to prevent repeat suicidal behaviour delivered to children or adults by health and non-health practitioners in clinical, community or home settings (Daigle et al, 2011; Newton et al, 2010; Repper, 1999; Robinson et al, 2010). Psychosocial interventions for bereaved adults or children may reduce anxiety and depression, but there is no evidence of effect on rates of suicide (McDaid et al 2008).

Follow up

There is limited evidence for the effectiveness of follow-up care (Mann et al, 2005). A small number of studies have shown consistent reductions in completed suicide for the maintenance of ongoing contact with the suicidal person, and in attempted suicide for informal social support for the suicidal person (Leitner, 2008). Telephone contacts may also be effective at preventing repetition of suicidal behaviour, though hospitalisation and intensive outreach do not appear effective (Daigle et al, 2011).

Children and Young People

School-based prevention programmes, both universally and selectively targeted, improve knowledge around suicide and reduce risk factors but do not significantly change behaviour or suicide rates (Crowley et al, 2004; Cusimano & Sameem, 2011; Guo & Harstall, 2003; Miller et al, 2009)

There is some evidence of impact of GP awareness and education interventions on suicide rates, weak evidence for contact cards, conflicting evidence for media restrictions, but little or no evidence of impact on suicide rates of programmes targeting family risk factors, access to means or crisis hotlines (Crowley et al, 2004). Psychosocial interventions for bereaved children may reduce anxiety and depression, but there is no evidence of effect on rates of suicide (McDaid et al 2008)

Evidence is equivocal for psychosocial interventions to prevent repeat suicidal behaviour delivered to children by health and non-health practitioners in clinical, community or home settings (Daigle et al, 2011; Newton et al, 2010; Repper, 1999; Robinson et al, 2010).

Ethnic minority groups

There is a lack of evidence for prevention strategies specifically targeted at black and minority ethnic groups (Bhui & McKenzie, 2006).

Military personnel

Multi-component interventions may be effective at reducing suicide rates for military personnel (Bagley et al, 2011). There is good evidence from observational studies to show that professional and non-professional gatekeeper training reduces suicide rates in military personnel (Isaac et al, 2009).

Bereaved

Combined health professional and volunteer led group therapy for adults and psychologist led group therapy for children may reduce anxiety and depression, and a psychiatric nurse counsellor led brief CBT family intervention results in fewer maladaptive grief reactions, but there is no evidence of effect of these interventions on rates of suicide (McDaid et al 2008).

Table 9: Reviews of Primary Research Studies

Author, date & Level of Evidence	Studies included	Databases	Population Group	Interventions	Findings
Bagley et al, 2011 **2++**	7 non-randomised studies	Medline, Cochrane Library, PsychInfo, 2005-2008	Military or ex-military personnel	Multi-component interventions including education on risk factors, flash cards, tracking at risk soldiers, gatekeepers, life skills training and gambling treatment programmes	Declines in suicides and suicide attempts observed but no control for secular trends, or statistically significant effect sizes reported
Bhui & McKenzie, 2006 **3**	3 non-randomised studies	Not stated	Black and minority ethnic groups in England and Wales	Not clearly stated	There is a lack of evidence for prevention strategies targeted at BME groups
Cipriani et al, 2005 **1+**	32 RCTs	Medline, EMBASE, CINAHL, PsycLIT, PSYNDEX, LILACS, CENTRAL, to 2002	Diverse	Lithium for individuals with mood disorders versus other medication	In 7 studies individuals receiving lithium were less likely to die by suicide (OR 0.26, 95% CI 0.09-0.77). The likelihood of suicide and self harm taken together was also lower in those receiving lithium (OR 0.21, 95% CI 0.08-0.50)

Author & date	Studies included	Databases	Population Group	Interventions	Findings
Crawford et al, 2007 **2++**	18 RCTs	EMBASE, PsycINFO, Medline, to 2005	Individuals of all ages following self harm	Intervention of a fixed number of sessions of psychosocial interventions such as cognitive–behavioural therapy, interpersonal psychotherapy and dialectical behaviour therapy versus none	No evidence that psychosocial interventions following self harm reduce the likelihood of subsequent completed suicide, pooled root difference in suicide rate was 0.0 (95% CI -0.03-0.03)
Cusimano & Sameem, 2011 **2-**	I RCT and 7 semi-randomised studies	MEDLINE, CINAHL, PsycINFO, Cochrane Library, HTA DARE, CTR, NHSEED, WoS to 2009	Adolescents in middle and high schools	School-based prevention programmes seeking to improve knowledge around suicide and help-seeking behaviour, train peers to recognise the signs of potential suicide, or modify maladaptive cognitive processes	Knowledge and attitudes were improved in most studies though help-seeking behaviour was not always changed. In the 2 studies where the impact on suicide attempts was measured a small decrease was noted
Daigle et al, 2011 **2++**	35 RCTS	Pubmed and PsycINFO 1966 to 2010	Individuals previously attempting suicide	Pharmacological or psychological treatments, regular visits by outreach workers, postal or telephone contacts, emergency card provision, hospitalisation or more intensive outreach programmes	Only 2 of the 6 pharmacological treatments were significantly better than a placebo, while CBT and psychodynamic therapies may prevent repetition of suicidal behaviour. Telephone contacts may be effective, though hospitalisation and intensive outreach did not appear effective

Author & date	Studies included	Databases	Population Group	Interventions	Findings
Dumesnil & Verger, 2009 **2-**	(1 RCT, 3 cohort and 11 before and after studies	Medline, Cochrane Library, HDA PsycINFO, DARE, WoS, 1987 to 2007	Diverse	Public education campaigns aimed at Improving awareness of suicidal crises and depression	Public education campaigns improve public awareness and knowledge at least in the short term, however only 1 non-randomised study showed a fall in suicide rates
Heisel et al, 2006 **1-**	4 RCTS	Medline, PsycINFO, 1966 to 2005	Adults aged over 65 years	Comparisons of different pharmacological and other interventions , antidepressants with or without psychotherapy versus usual care, outreach visits to nursing homes	There was no clear difference between venlafaxine versus dothiepin or nortryptyline versus paroxetine, all reducing suicidal ideation with improvement related to underlying severity of the condition rather than age. Outreach visits reduced depression scores with no effect on suicidal ideation
Isaac et al, 2009 **2++**	1 RCT 12 Cohort Studies	MEDLINE, PsycINFO, to 2009	Diverse	Interventions using professional and non-professional gatekeeper training for suicide prevention	Despite no RCT evidence, a 33% relative risk reduction in suicide rate was observed in a cohort of 5 million military personnel with significant decreases in smaller cohort studies. In the 7 studies assessing improvement in knowledge positive outcomes were identified

Author & date	Studies included	Databases	Population Group	Interventions	Findings
Krysinska & De Leo, 2008 **2+**	15 observational studies	Medline, PsycINFO 1966 to 2007	Railway suicides	Various interventions including deep channels between the rails, sliding doors at platforms limiting access to the track, airbags or skirts at fronts of trains, fencing along track in proximity of psychiatric hospitals and suicide hot spot stations, improving station surveillance, responsible media reporting and community media campaigns	Limited evidence of some effect when used alone or as part of a complex intervention
Lapierre et al, 2011 **2-**	19 studies describing 11 interventions (includes Oyama et al, 2008)	Cochrane library, MEDLINE, ERIC, PsycINFO 1966–2009	Individuals aged 60 years and older	Primary care collaborative interventions, telephone counselling, clinical treatment and strategies to improve resilience, or community based outreach programmes	Evidence suggests such programmes reduce suicidal ideation and behaviour to varying degrees with outreach reducing suicide rates

Author & date	Studies included	Databases	Population Group	Interventions	Findings
McDaid et al 2008 **2+**	4 RCTS 1 controlled study 3 observational studies with control	30 databases, including Medline, EMBASE, PsycINFO and the Science Citation Index, grey literature, to 2007	adults or children bereaved through suicide, with no restriction on relationship to individual committing suicide	A variety of interventions including support groups, self-help groups, volunteer-led groups and health professional delivered therapeutic interventions, given in diverse settings such as school, university the family home, the scene of the suicide, and a suicide prevention centre.	Limited evidence to suggest that psychologist led group therapy for children, and combined health professional and volunteer led group therapy for adults may reduce anxiety and depression, and that a brief CBT family intervention by a trained psychiatric nurse counsellor results in fewer maladaptive grief reactions. However there is no evidence of effect on rates of suicide by the bereaved
Miller et al, 2009 **2+**	11 controlled studies and 2 observational studies	PsycINFO, ERIC, 1967 to 2008	School age children	School-based prevention programmes	All studies of both universally and selectively targeted interventions had methodological weaknesses and provide only limited evidence with none for impact on suicide rates

Author & date	Studies included	Databases	Population Group	Interventions	Findings
Moller, 2006 **2+**	23 RCTS 16 epidemiological studies	Medline to 2005	Diverse	Antidepressants for suicide	Evidence from RCTS suggests that antidepressants reduce suicidal thoughts in depressive patients but due to very low rates of suicidal behaviour in these studies there is no evidence that antidepressants reduce suicide attempts or suicide. There is no clear evidence showing differences in the speed or capacity to reduce suicidal thoughts between antidepressants. Ecological studies suggest that increased prescribing of antidepressants is associated with a decline in national suicide rates in several countries, particularly in those with previously high rates
Newton et al, 2010 **2+**	7RCTs 3 quasi-RCTs	15 database including Medline, 1985 to 2009	Paediatric A&E patients with suicidal behaviour	Mental health-based interventions focused on suicide prevention initiated in A&E or immediately after discharge from the A&E department	Problem solving skills-based treatment, manual assisted cognitive behavioural therapy, interpersonal problem-solving skills training, hospital admission or a community-based outreach programme did not significantly reduce suicide or self harm attempts, though a brief educational intervention with referral options reduced suicide rates and a rapid response outpatient team model reduced suicide related hospitalisation

Author & date	Studies included	Databases	Population Group	Interventions	Findings
Oyama et al, 2008 **2++**	Five quasi-experimental studies	MEDLINE, PsycINFO CINAHL to 2007	Japanese aged over 65 years	Universal annual population two-step depression screening performed by public health nurse and psychiatrist and health education in a community setting with follow-up by GP or psychiatrist versus no intervention	Large studies with pooled incidence rate ratios for completed suicide: With psychiatrist follow up for men: 0.30 (95% CI: 0.13–0.68) women: 0.33 (95% CI: 0.19–0.58) With GP follow up: for men: 0.73 (95% CI: 0.45–1.18) women: 0.36 (95% CI: 0.21–0.60)
Repper, 1999 **1-**	7 RCTS	MEDLINE, CINAHL, Science Citation Index 1990 to 1999	Individuals presenting to A&E one or more episodes of self poisoning or deliberate self harm	Counselling or psychotherapy given by health and non-health practitioners in clinical or home settings	Little or no difference in suicidal ideation, mood and deliberate safe harm outcomes between those receiving intervention and control groups, but study sizes small. No data on numbers of individuals completing suicide

Author & date	Studies included	Databases	Population Group	Interventions	Findings
Robinson et al, 2010 **1-**	15 RCTs	Cochrane Central Register of Controlled Trials, Medline, Embase, PsycINFO 1980 to 2010	Individuals aged 12-25 years	Psychological or other therapeutic interventions for the management of suicide risk and deliberate self harm where intent was not specified	Some evidence for effectiveness when compared to usual care but not to a control intervention. CBT reduced suicidal ideation and number of DSH attempts but not the number of individuals carrying out DSH, but there was no evidence for effectiveness for individual problem solving or skills based therapies, and evidence for group-based problem solving and family therapies was unclear
Sarchiapone et al, 2011 **2-**	50 studies	Pubmed, Web of Science Cochrane Library	Diverse	Interventions to reduce access to means of committing suicide	Restriction of access to means such as pesticides, firearms, prescription medications, barriers at jumping sites and their descriptions in the media may reduce means-specific rates but not overall rates

Table 10: Reviews Including Systematic Reviews

Author & date	Studies included	Databases	Population Group	Interventions	Findings
Crowley et al, 2004 **2++**	7 systematic reviews includes Guo & Harstall, 2003	Multiple databases from medical, nursing, social sciences, specialist reviews, HTAs and the grey literature to 2003	Young people aged 15 to 24 years	Interventions to prevent youth suicide delivered through school, primary care, or targeting family risk factors or at risk groups, preventing access to means, media restrictions, or identifying potential points of access to those contemplating suicide	GP education on recognition, management and prevention of youth suicidal behaviour may have some impact on suicide rates Weak evidence for contact cards., and conflicting evidence for media restrictions Insufficient evidence for school-based universal or high risk group programmes Little or no evidence of impact on suicide rates of programmes targeting family risk factors, access to means or crisis hotlines

Author & date	Studies included	Databases	Population Group	Interventions	Findings
Guo et al, 2003 **2++**	Health Technology Assessment of 10 Systematic Reviews	10-20 medical and sociological literature databases and Websites	Diverse	Systematic reviews of interventions for suicide prevention strategies measuring suicide related outcomes	No strong evidence showing that any one suicide prevention strategy is effective in reducing suicide rates, though some evidence to show that some types of psychosocial and pharmacological treatments may reduce suicidal behaviour or risk factors
Guo & Harstall, 2003 **2++**	10 systematic reviews	Multiple medical and sociological databases and Websites, 1990 to 2003	Diverse	School based strategies Adult interventions	School based strategies reduce risk factors and behaviour though there is no evidence for impact on suicide rates There is some evidence of benefits for cognitive behavioural therapy and weaker evidence for other interventions for specific risk groups

Author & date	Studies included	Databases	Population Group	Interventions	Findings
Leitner et al, 2008 **1-**	200 primary studies and 37 systematic reviews, Includes Cipriani et al, 2005 Mann et al, 2005 Repper,1999	18 databases from medical, nursing social sciences, specialist reviews, HTAs and the grey literature to 2006	Diverse, but mainly Canadian and U.S. studies	Pharmacological interventions (most of studies in review) Non-pharmacological interventions Psychotherapies	Lithium may reduce attempted and completed suicide but should be used cautiously. Due to the range of agents studied evidence for the effect of antidepressants on suicidal behaviour and ideation is equivocal, but very little for self harm Limited number of studies showing consistent reductions in completed suicide for restrictions in the access to means and the maintenance of ongoing contact with the suicidal person, and consistent reductions in attempted suicide for restrictions in the access to means and informal social support for the suicidal person Consistent evidence for reductions in attempted suicide for cognitive behaviour therapy and dialectical behaviour therapy, the latter having a stronger evidence base, but little evidence for the effectiveness of non-pharmacological interventions for suicidal ideation

Author & date	Studies included	Databases	Population Group	Interventions	Findings
Mann et al, 2005 **2++**	10 systematic reviews and meta-analyses 18 RCTS 24 cohort studies 41 ecological or population based studies Includes Guo & Harstall, 2002	MEDLINE, Cochrane Library, PsychINFO 1966-2005	Diverse	Awareness and education of general public, primary care physicians, or other gatekeepers Screening Treatment by Pharmacotherapy, psychotherapy and follow-up care after suicide attempts Means Restriction Media restrictions	Public awareness and education campaigns have rarely been systematically evaluated and often show no benefit. Some evidence to support primary care physician education and gatekeeper training, particularly in institutions for the latter Limited evidence for screening Limited RCT evidence on suicide outcomes for trails of antidepressants but ecological studies show lower suicide rates with greater use of SSRIs. A number of psychotherapies have been shown to reduce suicide attempts and behaviour. Limited evidence for the effectiveness of follow-up care Restricting access to lethal means may prevent use of a particular method and may lead to substitution of other means, with no effect on overall rates of suicide Limited evidence

Author & date	Studies included	Databases	Population Group	Interventions	Findings
Sisask & Värnik, 2012 **2+**	4 systematic reviews 4 meta-analyses 48 research articles. Includes Mann et al, 2005	MEDLINE PsycINFO, Cochrane Library	Diverse	Studies looking at the impact of media reporting and suicidal behaviour	Most of the studies support the theory that media reporting has an effect on suicidal behaviour but such findings may be subject to publication bias, as only four studies did not report an association and were published prior to 1990. Six studies, five of them Austrian, showed that introduction of media guidelines reduced the number of subway suicides and suicide attempts .
Van der Feltz-Cornelis, 2011 **2+**	6 systematic reviews includes Mann et al. (2005) Leitner et al. (2008) Isaac et al. (2009) Dumesnil et al. (2009)	Pubmed, Cochrane, DARE	Diverse	Effective interventions for the prevention of suicidal behavior	Effective best practices were: 1) Training GPs in the recognition and treatment of mental disorders, especially unipolar and bipolar depression 2) Awareness campaigns, provided there is good access to treatment 3) Training gatekeepers for those at risk 4) improvement of healthcare services targeting people at risk, such as making adequate inpatient and outpatient aftercare for people who have attempted suicide 5) Training journalists in responsible reporting about suicide or imposing of media blackouts 6) Restricting access to lethal means of suicide

Included Studies

Bagley, S.C., Munjas, B. and Shekelle, P. A Systematic Review of Suicide Prevention Programs for Military or Veterans. Suicide and Life-Threatening Behavior 2010, 40(3), 257-265.

Bhui, K. and McKenzie, K. Suicide Prevention for BME groups in England: Report from the BME Suicide Prevention Project, 2006. Centre for Health Improvement and Minority Ethnic Services, University of London

Cipriani, A., Pretty, H., Hawton, K. and Geddes, J.R. Lithium in the Prevention of Suicidal Behavior and All-Cause Mortality in Patients With Mood Disorders: A systematic review of randomised controlled trials. The American Journal of Psychiatry; Oct 2005; 162, 10;

Crawford, M.J., Thomas, O., Khan, N. and Kulinskaya, E. Psychosocial interventions following self-harm: Systematic review of their efficacy in preventing suicide. British Journal of Psychiatry 2007, 190, 11-17.

Cusimano, M.D. and Sameem, M. The effectiveness of middle and high school-based suicide prevention programmes for adolescents: a systematic review. Injury Prevention 2011, 17, 43-49.

Daigle, M.S. Pouliot, L., Chagnon, F., Greenfield, B. and Mishara, B. Suicide Attempts: Prevention of Repetition. The Canadian Journal of Psychiatry 2011, 56, (10), 621-629.

Dumesnil, H. & Verger, P. (2009). Public awareness campaigns about depression and suicide: A review. Psychiatric Services, 60, 1203–1213

Heisel, M.J. Suicide and its prevention among older adults. Canadian Journal of Psychiatry 2006, 51 (3), 143-54.

Isaac, M. et al. Gatekeeper Training as a Preventative Intervention for Suicide: A Systematic Review. Canadian Journal of Psychiatry, 2009, 54 (4), 260–268.

Krysinska, K. and De Leo, D. Suicide on Railway Networks: Epidemiology, Risk Factors and Prevention. Australian and New Zealand Journal of Psychiatry, 2008, 42, 763

Lapierre S; Erlangsen A; Waern M; De Leo D; Oyama H; Scocco P; Gallo J; Szanto K; Conwell Y; Draper B; Quinnett P; International Research Group for Suicide among the Elderly Crisis. Journal of Crisis Intervention & Suicide, 2011, 32 (2), 88-98.

McDaid, C., Trowman, R., Golder, S., Hawton, K. and Sowden, A. Interventions for people bereaved through suicide: systematic review. British Journal of Psychiatry, 2008, 193, 438-443.

Miller, D.N., Eckert, T.L. and Mazza, J.J. Suicide prevention programs in the schools: a review and public health perspective. School Psychology Review 2009, 38 (2), 168-188.

Moller, H. Evidence for beneficial effects of antidepressants on suicidality in depressive patients. A systematic review. European Archives of Psychiatry and Clinical Neuroscience, 2006, 256, 329–343.

Newton, A.S., Hamm, M.P., Bethell, J., Rhodes, A.E., Bryan, C.J., Tjosvold, L., Ali, S., Logue, E. and Manion, I.G. Pediatric suicide-related presentations: a systematic review of mental health care in the emergency department. Annals of Emergency Medicine 2010, 56(6), 649-659.

Oyama, H., Sakashita, T., Ono, Y., Goto, M., Fujita, M. and Koida, J. Effect of Community-based Intervention Using Depression Screening on Elderly Suicide Risk: A Meta-analysis of the Evidence from Japan. Community Mental Health Journal, 2008, 44, 311–320.

Repper, J. A review of the literature on the prevention of suicide through interventions in accident and emergency departments. Journal of Clinical Nursing, 1999, 8 (1), 3-12.

Sarchiapone, M., Mandelli, L., Iosue, M., Andrisano, C. and Roy, A. Controlling Access to Suicide Means. International Journal of Environmental Research and Public Health 2011, 8, 4550-4562.

Crowley, P., Kilroe, J. and Burke, S. Youth suicide prevention. London: Health Development Agency, 2004

Guo, B., Scott, A. and Bowker, S. Suicide prevention strategies: evidence from systematic reviews. Edmonton: Alberta Heritage Foundation for Medical Research Health Technology Assessment 28, 2003.

Guo, B. and Harstall, C. For which strategies of suicide prevention is there evidence of effectiveness? Copenhagen, WHO Regional Office for Europe, Health Evidence Network report 2004

Leitner, M., Barr, W. and Hobby, L. Effectiveness of Interventions to Prevent Suicide and Suicidal Behaviour: A Systematic Review. Health & Community Care Research Unit, Liverpool University on behalf of Scottish Government Social Research, 2008.

Mann, J.J. et al, Suicide Prevention Strategies: A Systematic Review. Journal of the American Medical Association, 2005, 294 (16), 2064-2074.

Sisask, M. and Värnik, A. Media Roles in Suicide Prevention: A Systematic Review. International Journal of Environmental Research and Public Health 2012, 9, 123-138.

Leitner, M., Barr, W. and Hobby, L. Effectiveness of Interventions to Prevent Suicide and Suicidal Behaviour: A Systematic Review. Health & Community Care Research Unit, Liverpool University on behalf of Scottish Government Social Research, 2008.

Van der Feltz-Cornelis, C. M. et al. Best Practice Elements of Multilevel Suicide Prevention Strategies. Crisis 2011, 32 (6), 319–333.

Unobtainable Studies

Ploeg, J., Ciliska, D., Dobbins, M., Hayward, S., Thomas, H. & Underwood, J. The effectiveness of school-based curriculum suicide prevention programs for adolescents. Canadian Journal of Public Health, 1996, 87 (5), 319-24.

Takada, M. & Shima, S. Industrial Health, 2010, 48 (4), 416-26.

Luxton, D.D., June, J.D. & Kinn, J.T. Technology-based suicide prevention: current applications and future directions. Telemedicine journal and e-health: the official journal of the American Telemedicine Association, 2011, 17 (1), 50-54).

Fountoulakis, K.N., Gonda, X., Siamouli, M. & Rihmer, Z. Psychotherapeutic intervention and suicide risk reduction in bipolar disorder: A review of the evidence. Journal of Affective Disorders, 2009, 113 (1-2), 21-29.

Beautrais, A., Fergusson, D., Coggan, C., Collings, C., Doughty, C., Ellis, P., Hatcher, S., Horwood, J., Merry, S., Mulder, R., Poulton, R. & Surgenor, L. Effective strategies for suicide prevention in New Zealand: a review of the evidence. The New Zealand medical journal, 2007, 120, 1175-8716.

Tarrier, N., Taylor, K. & Gooding, P. Cognitive-behavioral interventions to reduce suicide behavior: a systematic review and meta-analysis. Behavior Modification 2008, 32(1), 77-108

Shropshire, A.M. & Thornton, K. Prevention measures for adolescent suicide: an evidence-based review. American Journal for Nurse Practitioners, 2011, 15 (5-6), 30-2.

Macgowan, M.J. Psychosocial treatment of youth suicide: a systematic review of the research. Research on Social Work Practice, 2004, 14(3), 147-62.

References

1 No Health Without Mental Health: Delivering better mental health outcomes, Department of Health 2011

2 Making Children's Mental Health Everyone's Responsibility, Report of the National Advisory Council for Children' s Mental Health and Psychological Wellbeing 2011

3 Reducing Demand, Restricting Supply, Building Recovery: Supporting people to live a drug-free life, Home Office Drug Strategy, 2010

4 Press Complaints Commission Code of Practice, http://www.pcc.org.uk/cop/practice.html

5 Mental Health and Wellbeing in Leeds: An Assessment of Need of the Adult Population 2011

6 Consultation on preventing suicide in England: A cross-government outcomes strategy to save lives , Department of Health 2011

7 No health without mental health: A cross-government mental health outcomes strategy for people of all ages, Department of Health 2011

8 Improving outcomes and supporting transparency, A public health outcomes framework for England, 2013-2016, Department of Health 2012

9 The NHS outcomes framework 2012/2013, Department of Health 2011

10 The Annual Report of the Director of Public Health in Leeds, 2011 http://www.leeds.nhs.uk/Your-health/phar-2011.htm

11 Richards, A. et al, Closing the Gap - Service needs and prohibitions to access: The LGB community, self-harm, suicidal ideation and suicide