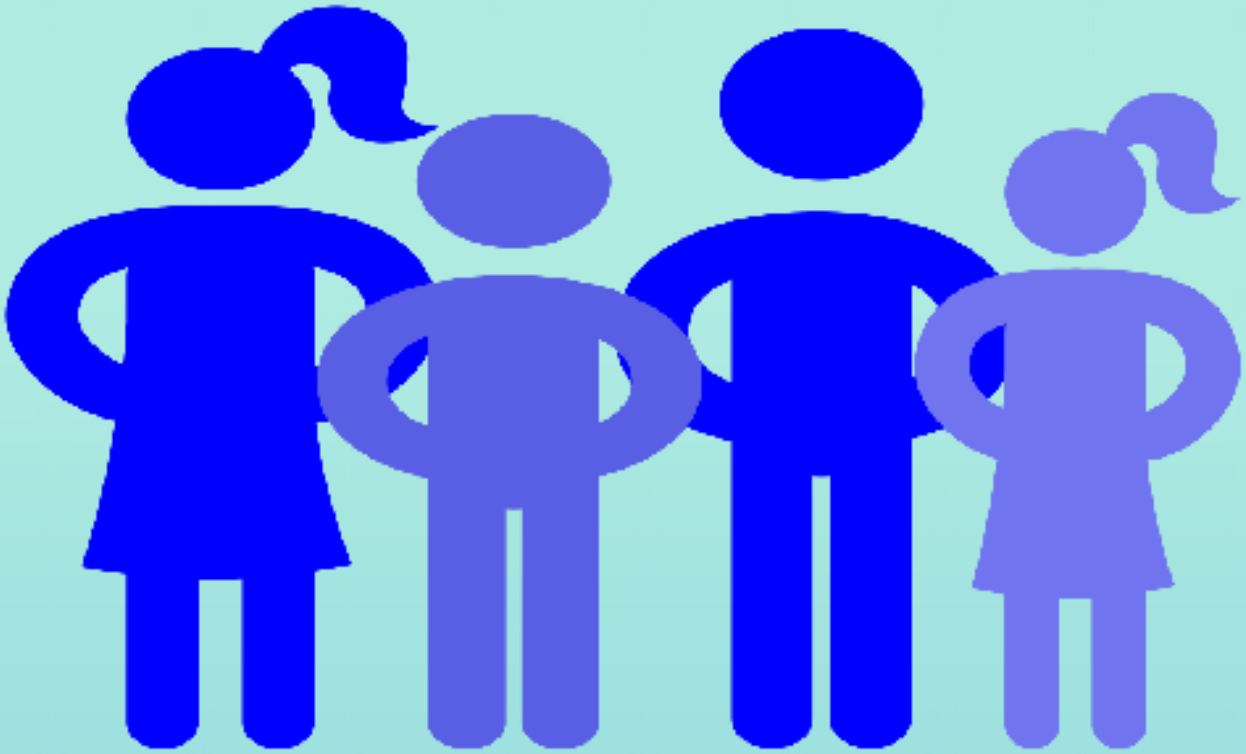
Suicide by children and young people in England



National Confidential Inquiry into Suicide and Homicide by People with Mental Illness

May 2016

MANCHESTER 1824
The University of Manchester

HQIP
Healthcare Quality Improvement Partnership

Please cite this report as:
Suicide by children and young people in England. National Confidential Inquiry into Suicide and Homicide by People with Mental Illness (NCISH). Manchester: University of Manchester, 2016.

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The Healthcare Quality Improvement Partnership (HQIP) is led by a consortium of the Academy of Medical Royal Colleges, the Royal College of Nursing and National Voices. HQIP's aim is to promote quality improvement, and it hosts the contract to manage and develop the Clinical Outcome Review Programmes, one of which is the National Confidential Inquiry into Suicide and Homicide by People with Mental Illness (NCISH), funded by NHS England, the Scottish Government, NHS Wales, the Northern Ireland Department of Health, Social Services and Public Health (DHSSPS) and the States of Guernsey and Jersey. The programmes, which encompass confidential enquiries, are designed to help assess the quality of healthcare, and stimulate improvement in safety and effectiveness by systematically enabling clinicians, managers and policy makers to learn from adverse events and other relevant data. More details can be found at: www.hqip.org.uk/national-programmes/a-z-of-clinical-outcome-review-programmes/

SUICIDE BY CHILDREN AND YOUNG PEOPLE IN ENGLAND: SUMMARY

HOW WE CARRIED OUT THE STUDY

We carried out an examination of suicides in England by people aged under 20 years who died between January 2014 and April 2015. This is the first phase of a UK-wide investigation into suicides by people aged under 25.

We collected data from a range of investigations by official bodies in England. The study did not conduct new investigations. We identified relevant antecedents prior to suicide from these investigations.

MAIN FINDINGS

There were 145 suicides and probable suicides by children and young people in England in the study period. The suicide rate in this age group is low overall but is highest in the late teens. The majority of deaths were in **males** (70%).

Over a quarter (28%) had been **bereaved**—13% by the suicide of a family member or friend. Over a third (36%) had a **physical health condition,** the most common conditions being acne and asthma. **Academic pressures** were common antecedents, almost a third (29%) of those in education were facing exams or exam results at the time of death.

Bullying, mostly historical, was reported in 22%. Online bullying was less common than face-to-face bullying. **Social isolation** or withdrawal were reported in 25%. **Suicide-related internet use** was an antecedent in 23% of deaths.

The majority (54%) had indicated their risk through previous **self-harm**, and around a quarter (27%) had expressed **suicidal ideas** in the week before they died. Almost half (43%) were not known to any service or agency.

Most antecedents of suicide—exam pressures, abuse, bullying, bereavement, physical health conditions and self-harm—were more common in the females who died.

Abuse, academic pressures and bullying were more common in under 18s, while excessive drinking, illicit drug use and serious self-harm were more common in 18-19 year olds.

Ten common themes in suicide by children and young people:

* family factors such as mental illness
* abuse and neglect
* bereavement and experience of suicide
* bullying
* suicide-related internet use
* academic pressures, especially related to exams
* social isolation or withdrawal
* physical health conditions that may have social impact
* alcohol and illicit drugs
* mental ill health, self-harm and suicidal ideas

KEY MESSAGES

Suicide rates rise sharply in the late teens; numerous factors appear to contribute to this.

Many young people who die by suicide have not expressed recent suicidal ideas. An absence of suicidal ideas can not be assumed to show lack of risk.

Agencies that work with young people can contribute to suicide prevention by recognising the pattern of cumulative risk and "final straw" stresses that leads to suicide.

Improved services for self-harm and access to CAMHS are crucial to addressing suicide and there is a vital role for schools, primary care, social services, and youth justice.

WHY WAS THIS STUDY LAUNCHED?

Rates of suicide and self-harm in young people

Suicide is one of the main causes of mortality in young people[1], and for families its impact is especially traumatic.

A previous NCISH report showed that between 2003 and 2013, an average of 428 people aged under 25 died by suicide in England per year. 137 were aged under 20, and 60 were aged under 18[2].

The UK as a whole has relatively low rates of suicide by children and young people but there are large differences between the UK countries—suicide rates are lower in England and Wales than in Scotland and Northern Ireland[3]. In England, the suicide rate in children and young people is lower than 10 years ago[1,2] but this fall occurred in the early 2000s and there has been no fall since around 2006[1,2].

Self-harm is more common in young people, the highest rates being in females aged 15 to 19[4]. Self-harm is strongly associated with increased risk of future suicide[5] and self-harm rates in young people appear to be rising[4].

Antecedents of suicide in children and young people

Several risk factors for suicide are common to all age groups—mental illness, self-harm, drug or alcohol misuse, social isolation.

However, child and young person-specific factors have also attracted public concern, e.g. bullying and increasingly the impact of online bullying, the role of internet sites and social media, and educational and exam stresses[6].

Availability of services

Children and young people at risk of suicide may be in contact with a range of services including primary care, mental health, social care and the justice system. However, they may find it hard to access the services they need or fall between agencies.

Children and young people who have been abused may not know who to turn to or find barriers to help-seeking. "Looked after" children may lose contact with services after leaving a care setting[7].

Approximately half of young people who self-harm do not come into contact with services[8]. Rates of contact with mental health services before suicide are lower among young people[9].

The lack of a national, comprehensive system for investigation and learning

Until now, there has been no national multi-agency investigative process focussing on suicide in children and young people, and no national system for reporting suicide trends or recommending prevention priorities in this age group.

Aims of phase 1 of the study (this report):

- To examine the antecedents of suicide in children and young people.
- To determine how frequently suicide is preceded by children and young person-specific factors of public concern (e.g. bullying, abuse, internet and social media use, and educational stressors).

In phase 2, we will:

- Examine the role of support services.
- Make recommendations to strengthen suicide prevention for young people.

HOW WE CARRIED OUT THE STUDY

Report coverage

This report covers phase one of a national investigation into suicide in children and young people. The study is being undertaken in two phases:

1. The first year has focused on people aged 10-19 years who died by suicide (includes open verdicts) in England.

2. Data collection is now being extended to include people aged up to 24, in all UK countries. A further report will be published in 2017 and will include recommendations for services.

This report describes the antecedents of suicide by people aged under 20, based on deaths that occurred during a 16 month period.

Definitions

Suicides were deaths that received a conclusion of suicide or open verdict at coroner's inquest, as is conventional in research and national statistics.[10]

In line with the Office for National Statistics (ONS) procedures for identifying deaths by suicide, deaths coded with the following International Classification of Diseases, Tenth Revision (ICD-10)[11] codes were included in the study: X60-X84; Y10-Y34 (excluding Y33.9); Y87. Deaths receiving a narrative verdict at coroner inquest were included in the study if ONS procedures for identifying suicide deaths applied one of these ICD-10 codes.

Further definitions are provided in the appendix.

Notification of deaths by suicide of children and young people

National suicide data were obtained from ONS for individuals aged between 10 and 19 during the first year of the study. These deaths occurred between January 2014 and April 2015. In total, 145 deaths by suicide were notified by ONS in the time period (table 1).

Data were received from one or more of the following data sources for 130 (90%) individuals.

1. Coroner inquest hearings (127 cases)

Audio CDs of inquest hearings were requested in all cases. Coroners were sent the name(s) of individuals who died by suicide in their jurisdiction and asked to provide a CD recording of the inquest hearing (or where not available, copy statements or depositions submitted as evidence).

Table 1: Available data sources

	Number (%)
Total deaths by suicide in children and young people (notified by ONS)	145
Deaths on which at least 1 report has been obtained	130 (90%)
Coroner inquest hearings received	127 (88%)
CDOP child death investigations received (under 18s only)	35 (53%) of deaths in under 18s
Single source of data received	80 (55%)

2. Child Death Overview Panel (CDOP) child death investigations (under 18 years only) (35 cases)

Local Safeguarding Children's Boards (LSCB) were asked to provide copies of any CDOP analysis proformas (Form C) in cases where the CDOP had reviewed the death of an individual by suicide or deliberate self-inflicted harm. Around a third of LSCBs did not participate, usually due to uncertainties over the release of personal data. There were also LSCBs who had not reviewed, finalised, or provided the Form C to the study at the time of writing.

3. Serious Case Reviews (5 cases)

Serious Case Reviews were sought from the National Society for the Prevention of Cruelty to Children (NSPCC) national case review repository[12] or from the relevant LSCB.

4. Criminal justice system reports (1 case)

The Prisons and Probation Ombudsman (PPO) agreed to notify the study when a new report

meeting the study criteria was published and available to download on their website[13].

In addition, the Independent Police Complaints Commission (IPCC) agreed to notify the study when an investigation on an apparent suicide of a young person in or after release from custody was conducted.

5. National Confidential Inquiry into Suicide and Homicide by People with Mental Illness (NCISH) data (17 cases)

A full description of our own data collection processes can be found elsewhere[2]. In brief:

* patients (i.e. individuals in contact with mental health services within 12 months of suicide) were identified from mental health trust records
* a detailed questionnaire was sent to the consultant psychiatrist responsible for the care of the patient.

Seventeen (12%) individuals were identified as patients from our data. This is likely to increase as data collection is completed. The number of mental health patients is therefore an under-estimate at this stage.

6. NHS Serious Incident Review reports (18 cases)

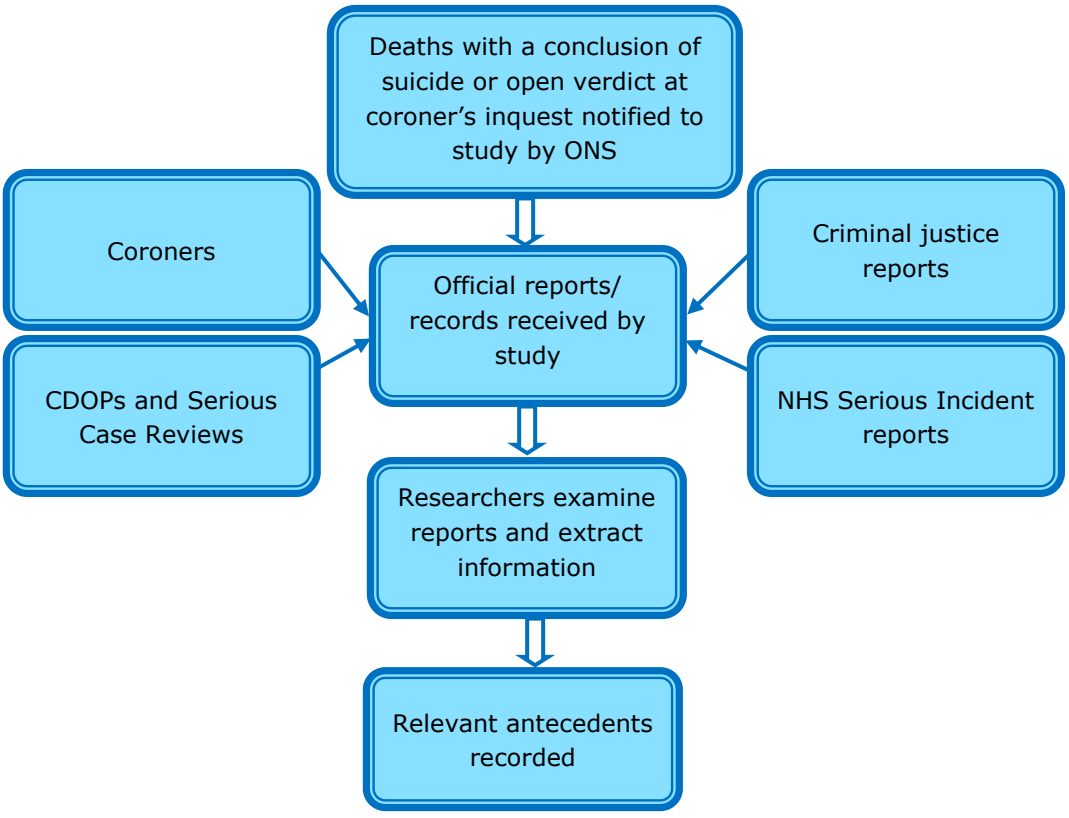
For those individuals who were identified as patients from the NCISH database, the medical director at the NHS Trust where the patient was treated was asked to provide a copy of the NHS Serious Incident Review report.

Analysis

Information was taken from the sources listed above via a data extraction proforma on to a standardised database for aggregate analysis (see figure 1).

Descriptive data are presented as numbers and percentages. The denominator in all estimates was the total number of cases on which information was received (i.e. 130) unless otherwise specified. If an item was not recorded in any data source then it was assumed to be absent or not relevant. Pearson's chi square tests were used to examine associations between males and females, and between under 18s and 18-19 year olds. Significant differences ($p<0.05$) are highlighted in the tables. With this sample size, several differences were of borderline statistically significance. These are shown in the tables as $p<0.1$.

Figure 1: Data flow



WHAT WE FOUND

Deaths notified in the study period

Numbers

We were notified by ONS of 145 deaths by suicide in people aged under 20 in the 16 month study period.

Age and gender

Figure 2 shows the number of suicides by age and gender. The number of suicides increased into the late teens. The number of male suicides was higher than females, more obviously in the late teens, with a male to female ratio of 2.4:1 overall.

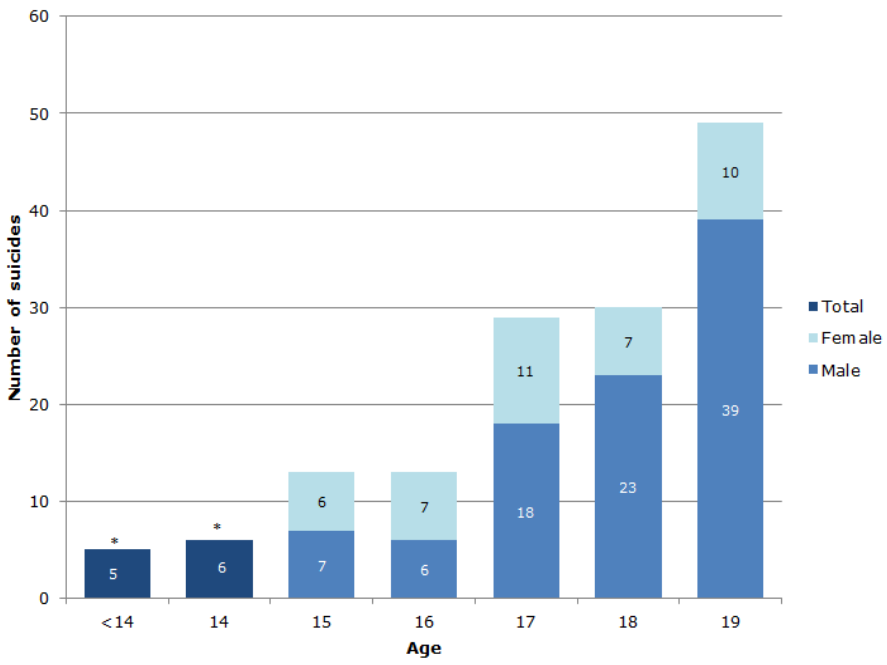
Method of suicide (figure 3)

The most common method of suicide for males and females was hanging/ strangulation. This was followed by jumping/multiple injuries, i.e. mainly being struck by a train (16, 11%) or jumping from a height (11, 8%). Females died by self-poisoning significantly more often than males, and males by jumping/multiple injuries. Sixty-five (64%) males died by hanging, similar to the proportion of females (27, 63%). There were six deaths following gas inhalation.

Antecedents of suicide

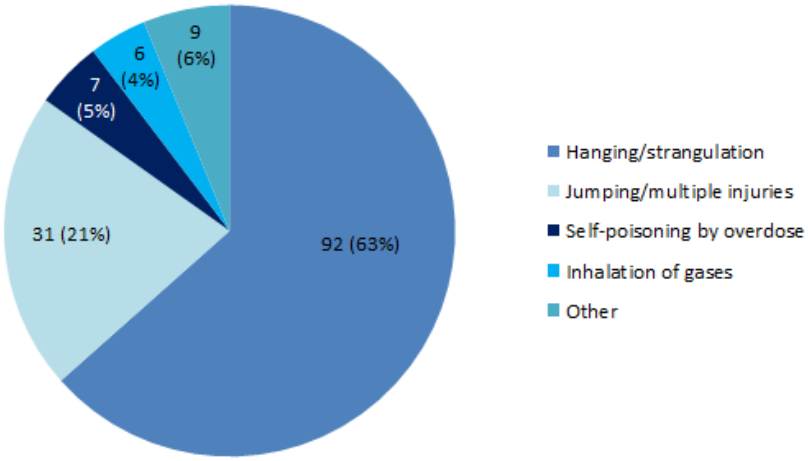
We recorded information on 130 (90%) of the 145 children and young people who died by suicide in the study period. The remainder of the findings is based on these 130 individuals (see tables 2 and 3). Ninety-two (71%) were male. Fourteen (11%) were from a black or minority ethnic group.

Figure 2: Number of suicides, by age and gender



* Note: males and females have been combined because of low numbers

Figure 3: Method of suicide



Family environment and relationships

Seven (5%) were living alone at the time of death. Fifty-five (42%) were living with two parents (including a step parent). Twenty-seven (21%) lived with a single parent. There was evidence of possible disruption to the family environment by mental illness (18, 14%), physical illness (15, 12%), or substance misuse (14, 11%) in a parent, carer or sibling. Eleven (8%) had witnessed parental domestic abuse.

WHAT WE FOUND

Thirty-two (25%) were in a relationship at the time of death, 25 (19%) had a relationship breakup in the 3 months prior to death, and an additional 33 (25%) had relationship problems in that period.

Forty-seven (36%) had family problems in the 3 months prior to death and 6 (5%) had experienced parental separation or divorce.

Abuse

A history of abuse (physical, emotional or sexual) was recorded in 17 (13%). In 8 cases there was a history of child neglect. This gives a total of 20 people with a history of abuse and/or neglect, as 5 had experienced both abuse and neglect. Six had previously been under a Child Protection Plan or subject to a statutory order.

In 15 (12%) the abuse occurred more than 3 months prior to death.

Bereavement

Bereavement was recorded in 36 (28%). Six had experienced more than one bereavement. Nine (7%) had experienced the death of a parent.

Seventeen (13%) had been bereaved by suicide. Nine had lost a family member or partner to suicide and 8 a friend or acquaintance.

For 19 (53% of those who were bereaved), the bereavement had occurred more than 3 months prior to suicide; in 12 (33%) it had occurred more than 12 months earlier.

Five (4% of total) had been bereaved in the 3 months prior to suicide.

Bullying

Twenty-eight (22%) were known to have been a victim of bullying. Twenty-six (20%) were victims of face-to-face bullying and 8 (6%) were victims of online bullying. In 20 (71% of those who had been bullied) the bullying had occurred more than 3 months earlier.

Nine (7%) had been bullied in the 3 months prior to death, and in this group 5 had experienced online bullying.

Social isolation

Twenty (15%) were recorded as being socially isolated. A further 13 (10%) were reported as having recently become socially withdrawn.

Suicide-related internet use

Sixteen (12%) searched the internet for information on suicide method and 5 died by a method they were known to have searched on. Twelve (9%) expressed suicidal thoughts via social media and 8 had been victims of online bullying—5 in the 3 months prior to death. In total, 30 (23%) had used the internet in a way that was related to suicide.

Concerns about sexuality

Four (3%) were recorded as having concerns about their sexuality, e.g. struggling with how they would tell family or friends that they were gay.

Academic pressures

Sixty-nine (53%) were in education (school, further or higher education) at the time of death. Thirty-five (27%) were experiencing academic pressures. In 20 (15%) these pressures were exam-related, i.e. current exams, impending exams or exam results. Of these 20 individuals, 11 (55%) were known to be experiencing exam-related stress. Four died on the day of an exam or the following day.

Six students, all in further or higher education, were experiencing academic-related stress unrelated to exams, e.g. being unhappy with their university course. Nine (7%) had moved away from their home address to attend school, college or university. Eight (6%) individuals had recently dropped out of further or higher education.

Twenty-five (19%) were reported as experiencing problems related to being a student in the 3 months prior to death. In 17 (13%) these were academic pressures.

WHAT WE FOUND

Table 2: Antecedents of suicide in children and young people

	Male (n=92)	Female (n=38)	Total (n=130)
Family environment			
Living with single parent	17 (18%)	10 (26%)	27 (21%)
Living alone	4 (4%)	3 (8%)	7 (5%)
Family (parent, carer, sibling) history of:			
Mental illness	11 (12%)	7 (18%)	18 (14%)
Physical illness	10 (11%)	5 (13%)	15 (12%)
Substance misuse	10 (11%)	4 (11%)	14 (11%)
Witness to domestic abuse*	5 (5%)	6 (16%)	11 (8%)
Abuse			
Abuse (emotional, physical and/or sexual**)	10 (11%)	7 (18%)	17 (13%)
Neglect	5 (5%)	3 (8%)	8 (6%)
Experience of loss			
Bereaved*	21 (23%)	15 (39%)	36 (28%)
Bereaved by suicide	11 (12%)	6 (16%)	17 (13%)
Bullying			
Bullying (any)	17 (18%)	11 (29%)	28 (22%)
Face-to-face bullying	15 (16%)	11 (29%)	26 (20%)
Online bullying**	3 (3%)	5 (13%)	8 (6%)
Social isolation			
Socially isolated (i.e. had no or few friends)	14 (15%)	6 (16%)	20 (15%)
Recent social withdrawal	15 (16%)	4 (11%)	19 (15%)
Suicide-related internet use			
Search for information on suicide method	10 (11%)	6 (16%)	16 (12%)
Posting suicidal ideas on social media	8 (9%)	4 (11%)	12 (9%)
Academic pressures			
Academic pressures overall	25 (27%)	10 (26%)	35 (27%)
Current exams, impending exams or exam results at time of death	12 (13%)	8 (21%)	20 (15%)
Medical history			
Physical health condition***	26 (28%)	21 (55%)	47 (36%)
Alcohol use seen as excessive	23 (25%)	11 (29%)	34 (26%)
Illicit drug use	29 (32%)	9 (24%)	38 (29%)

Differences between males and females significant at $p<0.01$ marked by ***; $p<0.05$ marked by **

With this sample size, several differences were of borderline statistical significance. Differences between males and females at $p<0.1$ are therefore marked by *.

WHAT WE FOUND

Employment

Thirty-two (25%) were in full-time employment or training. Thirteen (10%) were unemployed. Twenty -two (17%) reported problems in the workplace, loss of job or unemployment in the 3 months prior to death.

Medical history

A physical health condition was recorded in 47 (36%) and in 36 (28%), the condition had lasted over 12 months. The most common conditions were dermatological problems (e.g. acne or eczema, n=14, 11%) and respiratory disease (e.g. asthma, n=13, 10%). We have not had access to information on specific treatments for these conditions.

Alcohol and drugs

Alcohol use was reported to be excessive in 34 (26%). Illicit drug use was reported in 38 (29%). Twenty-seven (21%) had taken illicit drugs in the 3 months prior to death, and in 6 this included drugs other than cannabis. Four were known to have taken "legal highs".

Self-harm and suicidal ideas

Seventy (54%) had a history of self-harm. Cutting and self-poisoning (overdose) were the most common methods.

Seventy-four (57%) had expressed thoughts of suicide (i.e. suicidal intention or hopelessness, e.g. 'I can't do this anymore'). Most often these thoughts were expressed to a family member (31, 24%), friends or peers (19, 15%) or a health professional (16, 12%) such as a GP or in A&E. Twelve (9%) expressed suicidal thoughts via social media.

Thirteen (10%) had an episode of self-harm in the week prior to death. In 3, medical intervention at A&E was required. Suicidal ideas were reported for 35 (27%) people in the week prior to death—21 (16%) on the day of death.

Fifty-four (42%) left a suicide note.

Psychiatric diagnosis

Fifty-one (39%) had a diagnosis of mental illness. Affective disorder (bipolar affective disorder or depression) was the most common diagnosis.

Twenty (15%) people were receiving anti-depressants, and in 17 (13%) these were SSRI drugs.

Contact with services

Fifty-six (43%) had no known contact with any agencies (e.g. child and adolescent or adult mental health services, social services, child protection).

Fifty-three (41%) had contact with mental health services, 23 (18%) had contact with social care or local authority services, and 39 (30%) had contact with youth justice/police, including 6 who had been victims of crime or violence.

Twenty-nine (22%) had had contact with one or more agencies in the week prior to their death, 16 (12%) with mental health services, 5 (4%) with social care or local authority services, and 9 (7%) with youth justice/police. At the time of death, 5 were a "looked after" child and a further 3 had previously been a "looked after" child.

Males and females

Tables 2 and 3 show that many of the reported antecedents of suicide were more commonly found in females than males (see footnote to table 2 for note on statistical significance). This was the pattern for abuse (especially sexual abuse, 5 (13%) v 3 (3%)), bullying (including online bullying), bereavement, physical health conditions, and exam pressures. Females more often had a history of self-harm and contact with mental health and social or local authority care services.

In contrast, males more often had no recent service contact. A higher proportion of males had a history of illicit drug use.

WHAT WE FOUND

Table 3: Clinical antecedents and contact with services

	Male (n=92)	Female (n=38)	Total (n=130)
Self-harm and suicidal ideas			
Previous self-harm***	43 (47%)	27 (73%)	70 (54%)
Self-harm by self-poisoning (overdose)*	9 (10%)	8 (21%)	17 (13%)
Self-harm by cutting**	20 (22%)	15 (39%)	35 (27%)
Serious recent episode of self-harm**	13 (14%)	12 (32%)	25 (19%)
Suicidal ideas at any time	50 (54%)	24 (63%)	74 (57%)
Suicidal ideas within 1 week of death	26 (28%)	9 (24%)	35 (27%)
Suicide note left**	32 (35%)	22 (58%)	54 (42%)
Psychiatric diagnosis			
Any diagnosis of mental illness	35 (38%)	16 (42%)	51 (39%)
Affective disorder (bipolar affective disorder or depression)	18 (20%)	5 (13%)	23 (18%)
Anxiety/obsessive compulsive/post-traumatic stress disorder	7 (8%)	5 (13%)	12 (9%)
No diagnosis of mental illness	57 (62%)	22 (58%)	79 (61%)
Service contact (at any time)			
Child and adolescent mental health services***	23 (25%)	19 (50%)	42 (32%)
Adult mental health services	16 (17%)	7 (18%)	23 (18%)
Social care or local authority services***	11 (12%)	12 (32%)	23 (18%)
Youth justice/police	25 (27%)	14 (37%)	39 (30%)
No service contact*	44 (48%)	12 (32%)	56 (43%)

p<0.01 marked by ***; p<0.05 marked by **; p<0.1 marked by *, see footnote to table 2 for explanation of statistical significance.

Under 18 year olds

Sixty-six people aged under 18 died by suicide in the study period, 46% of all suicides in people under 20. We obtained information on antecedents in 63 (95%). Differences in under 18s compared to 18-19 year olds are presented in tables 4 and 5 (see footnote to table 2 for note on statistical significance).

Under 18s more often had mental illness, substance misuse or domestic abuse in their family. A history of abuse was also more likely to be reported in this younger age group.

A higher proportion had been bullied, and online bullying was more common.

Under 18s were significantly more likely to be in education at the time of death (48, 76% v 21, 31%), and academic and exam pressures were more frequent antecedents. Twenty-four (38%) were experiencing academic pressures. Sixteen (25%) had exam-related pressures, i.e. current exams, impending exams or exam results. Of these, 8 (50%) were reported as experiencing exam-related stress.

A similar proportion of under 18s and 18-19 year olds had a history of suicidal ideas, and a history of self-harm. However, the last episode of self-harm was more often severe in 18-19 year olds, i.e. required medical intervention. The under 18s had more often self-harmed by cutting.

WHAT WE FOUND

Table 4: Antecedents of suicide in under 18s and 18-19 year olds

	Under 18 (n=63)	18-19 (n=67)
Family environment		
Living with single parent	11 (17%)	16 (24%)
Family (parent, carer, sibling) history of:		
Mental illness***	15 (24%)	3 (4%)
Physical illness	6 (10%)	9 (13%)
Substance misuse	9 (14%)	5 (7%)
Witness to domestic abuse	8 (13%)	3 (4%)
Abuse		
Abuse (emotional, physical and/or sexual)**	13 (21%)	4 (6%)
Experience of loss		
Bereaved	17 (27%)	19 (28%)
Bereaved by suicide	7 (11%)	10 (15%)
Bullying		
Bullying (any)	16 (25%)	12 (18%)
Face-to-face bullying	15 (24%)	11 (16%)
Online bullying	5 (8%)	3 (4%)
Social isolation		
Socially isolated (i.e. had no or few friends)	8 (13%)	12 (18%)
Recent social withdrawal	11 (17%)	8 (12%)
Suicide-related internet use		
Search for information on suicide method	9 (14%)	7 (10%)
Posting suicidal ideas on social media*	9 (14%)	3 (4%)
Academic pressures		
Academic pressures overall***	24 (38%)	11 (16%)
Current exams, impending exams or exam results at time of death***	16 (25%)	4 (6%)
Medical history		
Physical health condition	24 (38%)	23 (34%)
Alcohol use seen as excessive*	12 (19%)	22 (33%)
Illicit drug use	14 (22%)	24 (36%)

p<0.01 marked by ***; p<0.05 marked by **; p<0.1 marked by *, see footnote to table 2 for explanation of statistical significance.

WHAT WE FOUND

Table 5: Clinical antecedents and contact with services in under 18s and 18-19 year olds

	Under 18 (n=63)	18-19 (n=67)
Self-harm and suicidal ideas		
Previous self-harm	36 (57%)	34 (51%)
Self-harm by self-poisoning (overdose)	8 (13%)	9 (13%)
Self-harm by cutting**	22 (35%)	13 (19%)
Serious recent episode of self-harm	9 (14%)	16 (24%)
Suicidal ideas at any time	36 (57%)	38 (57%)
Suicidal ideas within 1 week of death	20 (32%)	15 (22%)
Suicide note left	26 (41%)	28 (42%)
Psychiatric diagnosis		
Any diagnosis of mental illness**	19 (30%)	32 (48%)
Affective disorder (bipolar affective disorder or depression)	8 (13%)	15 (22%)
Anxiety/obsessive compulsive/post-traumatic stress disorder	5 (8%)	7 (10%)
No diagnosis of mental illness**	44 (70%)	35 (52%)
Service contact (at any time)		
Child and adolescent mental health services	24 (38%)	18 (27%)
Adult mental health services***	3 (5%)	20 (30%)
Social care or local authority services***	17 (27%)	6 (9%)
Youth justice/police	18 (29%)	21 (31%)
No service contact	29 (46%)	27 (40%)

$p<0.01$ marked by ***; $p<0.05$ marked by **; $p<0.1$ marked by *, see footnote to table 2 for explanation of statistical significance.

Under 18 year olds (continued)

In the last week before suicide, the under 18s had more often reported suicidal ideas but less often needed treatment for self-harm. Eleven (17%) had contact with one or more agencies in the week prior to death, compared to 18 (27%) 18-19 year olds.

Excessive alcohol use, illicit drug use and a diagnosis of mental illness were more common in 18-19 year olds.

WHAT THE FINDINGS TELL US ABOUT PREVENTION

Main findings

There were 145 suicides and probable suicides by children and young people in England during the 16 month study period. The suicide rate at this age is low but escalates in the late teens. The majority of deaths were in males but the male to female difference (2.4:1) was lower than in the population as a whole[2].

Almost two-thirds (63%) of suicides by children and young people were by hanging. The next most common method was jumping in front of a train or from a height—this method is usually associated with severe mental illness[14]. The relatively low figure for self-poisoning by overdose could reflect reluctance to reach a suicide verdict in the (often) ambiguous circumstances of overdose deaths.

Numerous experiences and stresses contribute to suicide—it is rarely caused by one thing[15]. We found several antecedents that are likely to have contributed to risk in the children and young people in this study. For many, longstanding family adversity seems to have been followed by difficulties in other areas of life, and complicated by mental health problems. This pattern of cumulative risk may then lead to a "final straw" event, often a broken relationship or exam stress (see figure 4).

In over a quarter (28%), an experience of bereavement was recorded—this had usually occurred more than 3 months earlier. We found 13% of suicides by children and young people were preceded by the suicide of a family member or friend.

Over a third (36%) of the children and young people who died had a physical health condition, usually long-term. The most common conditions were acne and asthma—both could lead to withdrawal from social activities[16,17]. Although acne is common in young people[18], in these cases it had been severe enough to lead to medical attention.

We found that academic pressures, especially related to exams, were common antecedents. Although this study cannot demonstrate cause and effect, almost a third (29%) of those in education were facing exams or exam results at the time of death and 4 died on the day of an exam or the following day.

WHAT THIS STUDY TELLS US

- The study tells us about the stresses young people may be facing when they take their lives.
- The findings are based on what people thought was relevant in an official investigation—the "relevant antecedents".
- The antecedents are events and circumstances that may have contributed to risk in people under 20. In the next phase of the study we will look at people under 25.
- Studying a whole country (England) gives us a complete picture of suicide in this age group. In the next phase of the study we will also report on Northern Ireland, Scotland, and Wales.
- The study allows us to highlight the range of supports that may be needed by children and young people. Specific service recommendations will follow in the next phase of the study.
- The study tells us how often the children and young people who died were in contact with services that could have helped them.

WHAT THE FINDINGS TELL US ABOUT PREVENTION

Bullying was reported in 22% (a similar proportion as found in a thematic review of child suicide deaths in Wales[6]) although this was mostly historical, i.e. more than 3 months earlier, rather than current. This was usually face-to-face bullying. Online bullying was less common but more often recent, and was usually accompanied by face-to-face bullying.

Social isolation or withdrawal was an antecedent in 25% of young people, including 15% who were reported as being recently socially withdrawn.

Suicide-related internet use was an antecedent in 23% of deaths. This could be searching for information about methods, posting suicidal ideas or hopelessness on social media, or online bullying. Twelve percent had searched for information about suicide method though most suicides were by well-known methods.

The majority (54%) had indicated their risk through previous self-harm, most often self-cutting, a method that is sometimes seen in practice as of low risk. Around a quarter (27%) had expressed suicidal ideas in the week before they died.

Around half (57%) were known to services. This was most often mental health services (41%), where the most common diagnosis was depression.

Most of the antecedents of suicide identified in this study—exam pressures, abuse, bullying, bereavement, physical health conditions, and self-harm—were more common in females. Illicit drug use was more common in males. Males were less likely to be known to services.

There were also differences in antecedents in those under 18 or 18-19 years old. Abuse, academic pressures and bullying were more common in those under 18, while excessive alcohol use, illicit drug use and serious self-harm were more common in 18-19 year olds.

WHAT THIS STUDY CAN'T TELL US

- The study can't tell us the exact number of suicides by children and young people as coroners apply a high standard of evidence to the suicide verdict and some will have received another verdict such as accidental death[12].
- We have not compared young people who died with others who did not die. Therefore we cannot be certain of risk factors and we cannot establish cause and effect.
- We may have under-estimated the true figure for some antecedents, especially in sensitive areas such as abuse.
- On the other hand, families and investigations may "search after meaning" following a suicide, highlighting factors they see as most relevant. This may over-estimate figures for some antecedents (e.g. exam pressures, bullying).
- Although antecedents such as exam stress or acne seemed relevant to these particular deaths, they are common in young people and cannot be used to predict suicide risk.
- These findings are from England and may not apply to other UK countries.

WHAT THE FINDINGS TELL US ABOUT PREVENTION

Table 6: Ten common themes in suicide by children and young people

Mental illness, substance misuse, and domestic violence in family members.	Academic pressures, especially related to exams.
Physical, emotional or sexual abuse, and neglect.	Social isolation or withdrawal.
Bereavement and experience of suicide in family or a friend.	Physical health conditions that are longstanding or have social impact e.g. acne and asthma.
Bullying, both face to face and online.	Excessive use of alcohol and illicit drug use.
Suicide-related internet use.	Mental ill health, self-harm and suicidal ideas.

Implications of our findings

Suicide rates rise sharply in the late teens and numerous factors contribute to this. Preventing future deaths by suicide depends on society-wide awareness of potential risks, as well as actions by particular services.

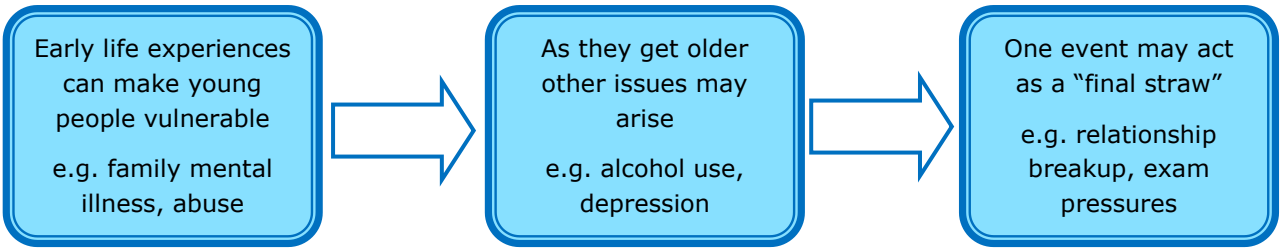
Common themes in suicide by children and young people are listed in table 6.

Many children and young people who die by suicide have not expressed recent suicidal ideas. Suicidal ideas are important when present but their absence can not be assumed to show lack of risk.

Agencies that work with young people, especially in health, social care and education, as well as families and young people themselves, can contribute to suicide prevention by recognising the pattern of cumulative risks and "final straw" stresses, e.g. relationship problems or exams, that leads to suicide (see figure 4).

Improved services for self-harm and access to CAMHS are crucial to addressing suicide risk but the antecedents identified in this study make clear the vital role of schools, primary care, social services, and youth justice.

Figure 4: A model of cumulative risk



APPENDIX

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ACKNOWLEDGEMENTS

The National Confidential Inquiry into Suicide and Homicide by People with Mental Illness would like to acknowledge the assistance it has received in the collection of data for this report. We would like to thank coroners and their staff, Child Death Overview Panels and their respective Local Safeguarding Children's Boards, Medical Directors and mental health services staff, the Independent Police Complaints Commission and the Prisons and Probation Ombudsman for the provision of data. We are grateful to our reference group members for offering advice on data items. Responsibility for the analysis and interpretation of the data provided from all sources rests with NCISH and not with the original data provider.

ETHICAL APPROVAL

Approvals were sought and received from the University of Manchester Research Governance and Ethics (12/02/2015); National Research Ethics Service (NRES) Committee North West (13/04/2015); Health Research Authority Confidential Advisory Group (HRA-CAG) (06/05/2015); and Research Management and Governance approvals from individual NHS Trusts.

DEFINITIONS

Variable	Definition
Family problems	Recent arguments, reported difficult relationships with family members, and problems affecting the stability of the family environment such as domestic violence, or mental illness.
Relationship problems	Recent arguments with a current or ex-partner, being in an on/off relationship, or reported difficulties within the relationship. Relationship breakup was recorded as a separate antecedent.
A history of abuse	Physical, sexual and/or emotional abuse.
Social isolation	No or few friends.
Recent social withdrawal	Recently (within 3 months prior to death) demonstrated behaviour such as isolating themselves in their bedroom.
Academic pressures	Difficulties with school work, (perceived) failure to meet own, teacher or parental expectations, current exams, impending exams or exam results, other non-exam academic related stresses (i.e. struggling with assignments, unhappy with course), and any other student-related problem.

APPENDIX

DEFINITIONS (CONTINUED)

Variable	Definition
Physical health conditions	Recorded from medical evidence heard during the coroner's inquest or from other sources of data available, e.g. a child death investigation.
Excessive alcohol use	Alcohol use was recorded as an antecedent in the official reports we used in different ways, e.g. at a level of misuse, persistent heavy drinking, or binge drinking, but with a common theme of excessive use.
Serious recent episode of self-harm	The last episode of self-harm prior to death required medical treatment by either a GP or in hospital. Recorded from medical evidence heard during the coroner's inquest, an NHS Serious Incident report or NCISH data.
Presence of a mental disorder and medication	Recorded from medical evidence heard during the coroner's inquest (i.e. from a GP or consultant psychiatrist), an NHS Serious Incident report, or NCISH data.
Contact with mental health services (previous or current)	Contact with child and adolescent and/or mental health services, including drug and alcohol services.
Contact with social care or local authority services (previous or current)	Contact with child protection services, secure local authority care, or social services or being a previous or current "looked after" child.
Youth justice or police contact (previous or current)	Contact with a Youth Offending team, with the police either as an offender or a victim of crime, or with the probation service.