

**Relative incidence rates of suicide, hospital-presenting non-fatal self-harm and community occurring non-fatal self-harm in adolescents in England: the “Iceberg Model” of self-harm**

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## **ABSTRACT**

**Background:** Little is known about the relative incidence of fatal and non-fatal self-harm in young people.

**Methods:** We estimated the incidence of suicide, hospital-presenting and community-occurring non-fatal self-harm in 12-17 year-olds in England and described these in terms of an iceberg model of self-harm. We used national mortality statistics, hospital monitoring data from five hospitals and schools surveys to estimate the incidence rates of fatal and non-fatal self-harm per 100,000 person-years.

**Findings:** During 2011-2013, 171 12-17 year-olds died by suicide in England (70% males; 78% 15-17 year-olds) and 1,320 adolescents presented to the study hospitals following non-fatal self-harm (78% females; 74% 15-17 year-olds). In 2015, 322 (5.9%) of 5,506 adolescents surveyed reported past-year self-harm in the community (78% females; 51% 15-17 year-olds). The estimated rates of self-harm indicated that in 12-14 year-olds, for every male suicide, 109 males attended hospital following self-harm and 3,067 self-harmed in the community, while for every female suicide 1,255 attended hospital for self-harm and 21,995 self-harmed in the community. In 15-17 year-olds, for each male suicide 120 males presented to hospital with self-harm and 838 self-harmed in the community, while for every female suicide, 919 females presented to hospital for self-harm and 6,406 self-harmed in the community. Hanging/asphyxiation was the most common method of suicide, self-poisoning the main reason for presenting to hospital after self-harm and self-cutting the main method in the community.

**Interpretation:** There were differences in the ratios of fatal to non-fatal rates of self-harm between males and females and between 12-14 year-olds and 15-17 year-olds, with a particularly large number of females self-harming in the community. The findings emphasize the need for well-resourced community and hospital-based mental health services for adolescents, with greater investment in school-based prevention.

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## INTRODUCTION

Suicide and non-fatal self-harm in adolescents are major public health concerns. Self-harm is common in adolescents, particularly in females and from age 12 years onwards,<sup>1,2</sup> while suicide is a leading cause of death among adolescents and young people.<sup>3</sup>

Furthermore, self-harm is the strongest risk factor for suicide in young people.<sup>1</sup>

A recent report<sup>4</sup> indicated that in 2014-2015, 316 10-19 year-olds had died by suicide in England and Wales. Information on the incidence of non-fatal hospital-presenting self-harm in England is limited, especially in adolescents. However, reports from the Multicentre Study of Self-harm in England (2000-2007) showed that the annual rates of hospital-presenting self-harm were 67 and 466 per 100,000 in males and females aged 10-14 years, respectively, and 302 and 1,423 per 100,000 in males and females aged 15-18 years, respectively.<sup>5,6</sup> Data on non-fatal self-harm in adolescents in the community are also limited. Previous studies, including two school-based surveys and a birth cohort in England involving 13-18 year-olds adolescents, showed that 6.9%-11.0% of the respondents had reported an act of self-harm in the year before the study.<sup>7-9</sup>

The incidence and prevalence of self-harm in adolescents can be conceptualised in terms of an iceberg model<sup>10,11</sup> with three levels; 1) fatal self-harm (i.e. suicide), which is an overt but uncommon behaviour; 2) self-harm that results in presentation to clinical services, especially general hospitals, which is also overt, but common; and 3) self-harm that occurs in the community, this being very common but largely hidden. The iceberg model is useful for clinicians, researchers and policy makers as it conveys the hierarchical yet dynamic nature of self-harm. Establishing the relative incidence of self-harm at these three levels is important for understanding the extent of the problem and for identifying the challenges for prevention and intervention.

The overall aim of this study was to describe the extent of fatal and non-fatal self-harm in adolescents in England in terms of the three levels of the iceberg model, together with the methods of self-harm predominantly used at each level of the iceberg.



## **METHODS**

We analysed mortality statistics, hospital monitoring data and schools survey data.

### ***Suicides***

Information about deaths by suicide in England was obtained from the Office for National Statistics (ONS) by year of registration, single year of age and gender. All deaths with a coroner's verdict of suicide (ICD-10 codes X60-X84) or undetermined intent (ICD-10 codes Y10-Y34) registered between 1/1/2011 and 31/12/2013 were included. These are henceforth referred to as suicides, as per national policy.<sup>12-14</sup> Mid-year population estimates for England were provided by ONS by gender, calendar year and single year of age<sup>15</sup> (For information about methodology and data quality of ONS mid-year population estimates see ONS Quality and Methodology Information.<sup>16</sup>)

### ***Hospital-presenting self-harm***

Information on hospital-presenting self-harm was derived from the Multicentre Study of Self-Harm in England. This involves data collection on all presentations following self-harm to the emergency department in five general hospitals in Manchester (three hospitals), Derby (one hospital), and Oxford (one hospital).<sup>17,18</sup> Demographic and clinical data, including method of self-harm, are collected through completion of psychosocial assessments by liaison psychiatry services in the general hospital (also by emergency department staff in Manchester). People who present to hospital but do not receive a psychosocial assessment are identified through scrutiny of emergency department electronic databases by trained staff, who extract more limited data from case records.

Self-harm is defined as any act of intentional self-poisoning or self-injury regardless of the degree of suicidal intent or other motivation.<sup>19</sup> We included the first presentation by each individual per year between 1/1/2011 and 31/12/2013. We included adolescents who resided in the catchment area of the City of Manchester, Derby Unitary area, or Oxford extended area (Oxford City and an additional 64 statistical wards from which at least 90%

of emergency hospital admissions are to the general hospital in Oxford). Mid-year population estimates for England were obtained from ONS by gender, calendar year, single year of age and local authority.<sup>15</sup>

### ***Community recorded self-harm***

Information about self-harm in the community was obtained from a web-based survey conducted within the County of Gloucestershire as part of the Emotional Health and Well-Being Survey, 2015 (EHWB 2015).<sup>20</sup> All secondary state schools and other educational settings including 6<sup>th</sup> forms, free schools, special schools (for pupils with special educational needs), alternative learning centres (PRU's), and senior independent schools in the county of Gloucestershire were invited to take part (43 schools) and 29 schools (67%) opted in. All pupils in year 8, 10, 12 in participating schools were invited to complete the survey: 5,584 eligible pupils, of whom 5,520 were in the study age range (12-17 years); 50.7% were females.

The survey included a detailed questionnaire about self-harm (see supplementary Table S1). Pupils who reported past-year self-harm (items 1b and 1d) had their free-text (item 1e) descriptions of the method(s) of self-harm (if they gave a response) independently reviewed by two researchers (GG and KM) to determine whether they met the study criteria,<sup>9</sup> as developed for the Child and Adolescent Self-harm in Europe (CASE) study.<sup>21</sup> The criteria are available on request. Differences in classification were reconciled through discussion with a senior investigator (KH).

The proportion of pupils eligible for free school meals was used as a proxy measure of deprivation and compared with national figures to assess the extent to which the sample was representative of 12-17 year-olds in England.

Finally, we obtained information on lifetime prevalence of self-harm in the school survey in 2014 – the closest year available to 2011-2013 on which we based our calculation of

rates of suicide and hospital presenting non-fatal self-harm, and compared it with the figure from the 2015 survey to assess stability of the findings.

### ***Analysis***

Rates of suicide, hospital-presenting and community-occurring non-fatal self-harm were calculated per 100,000 person-years using the Poisson distribution with exact 95% CIs. Analyses were run by gender and age group (12-14 and 15-17 years). We used Poisson regression models to compare rates of self-harm between males and females and between 12-14 year-olds and 15-17 year-olds. Negative binomial regression models were used if there was evidence for over-dispersion as indicated by the Pearson goodness-of-fit test.

Suicide rates were calculated from the number of suicides and mid-year population estimates for the equivalent period in England. Rates of hospital-presenting self-harm were calculated from the number of individuals presenting to the participating hospitals who resided in the defined catchment areas (see above) and the mid-year population estimates for these areas. For each individual we used the first presentation to hospital for self-harm within each year (2011, 2012, and 2013). Rates of community-occurring self-harm were calculated from the number of pupils reporting past-year self-harm (with a valid method described) and the population of students who participated in the survey.

We calculated the proportion of individuals using different methods of self-harm: self-poisoning, self-injury (cutting/stabbing, hanging/asphyxiation, and all other self-injury methods), within the different levels of the iceberg model. We also assessed the overlap between hospital-presenting and community recorded self-harm and characterized these individuals in terms of gender, age, and self-harm method.

Analyses were performed using Stata version 14.1.<sup>22</sup>

### ***Ethical and other approval***

*Office for National Statistics.* Approval from ONS was obtained in the format of a Microdata Agreement. ONS provided anonymized data at the individual level.

*Multicentre Study of Self-harm in England.* The monitoring systems in Oxford and Derby have approval from National Health Research Ethics Committees to collect data on self-harm. Self-harm monitoring in Manchester is part of a local clinical audit system ratified by the local Research Ethics Committee. All three monitoring systems are fully compliant with the Data Protection Act (1998) and have approval under Section 251 of the NHS Act (2006) to collect patient-identifiable information without patient consent.

*School survey.* The leaders of the EHWB survey (PF and KP) obtained approval for the survey from participating schools. Pupils were able to opt out. Data for the study were obtained in an anonymized format. No further ethical approval was sought for using the school-based survey data for the present analysis following advice from the University of Oxford's Clinical Trials and Research Governance team that use of anonymized secondary data not originating in the NHS does not require ethical approval.<sup>23</sup>

### **Role of funding source**

The Multicentre Study of Self-harm in England is funded by the Department of Health. It had no involvement in the design, collection, analysis, or interpretation of the data, or in the writing of the report or the decision to submit the paper for publication.

## RESULTS

The number of adolescents who self-harmed and the corresponding populations at risk, and the annual incidence rates of suicides, hospital-presenting and community-occurring non-fatal self-harm are shown in Table 1. During 2011-2013 there were 171 registered suicides in 12-17 year-olds in England: 119 males and 52 females; i.e. 57 suicides per year (40 males and 17 females).

During the same period, 1,320 12-17 year-olds presented to the five general hospitals in the Multicentre Study of Self-harm in England following self-harm: 292 males and 1,028 females; i.e. 440 persons a year (~97 males and ~343 females).

Of the 5,520 pupils aged 12-17 years who entered the schools survey in 2015, 14 were excluded as their gender was not recorded, resulting 5,506 adolescents being included. Overall, 660 (12%) reported past-year self-harm, 433 (66%) of whom provided a description of the method used. The data of 322 (250 females and 72 males) pupils (5.9% of the total participants) who described a method of self-harm that met the study criteria were used for the analyses.

Figures 1a and 1b show the incidence rates for suicides, hospital-presenting and community-occurring self-harm according to the different compartments of the iceberg model. The suicide rate in 12-17 year-olds was 1.5 per 100,000 person-years, while the rates of hospital-presenting and community-recorded self-harm were 556 and 5,848 per 100,000 person-years, respectively. In 12-14 year-olds, male suicide rate was more than double that of females [incidence rate ratio (IRR) 2.07, 95% CI 1.04 to 4.09,  $p=0.038$ ], while the rate of non-fatal self-harm was markedly greater in females than in males (hospital-presenting self-harm: IRR 5.12, 95% CI 2.51 to 10.42,  $p<0.0001$ ; community-recorded self-harm: IRR 3.19, 95% CI 2.19 to 4.64,  $p<0.0001$ ).

In 15-17 year-olds, the suicide rate in males was over twice the rate in females (IRR 2.20, 95% CI 1.28 to 3.79,  $p=0.004$ ). The rate of non-fatal self-harm was 3.5 times greater in

females than in males (hospital-presenting self-harm: IRR 3.47, 95% CI 2.99 to 4.02,  $p < 0.0001$ ; community-recorded self-harm: IRR 3.45, 95% CI 2.39 to 4.99,  $p < 0.0001$ ). Rates of community-recorded self-harm in 15-17 year-olds were similar to those of 12-14 year-olds in both males and females (IRR 0.94, 95% CI 0.59 to 1.49,  $p = 0.80$ ; IRR, 1.02 95% CI 0.80 to 1.31,  $p = 0.88$ , respectively), while suicide rates were over three-fold higher in 15-17 year-olds relative to 12-14 year-olds for both males (IRR 3.40, 95% CI 1.85 to 6.23,  $p < 0.0001$ ) and females (IRR 3.19, 95% CI 1.67 to 6.08,  $p < 0.0001$ ). However, rates of hospital-presenting non-fatal self-harm were 2.6 times higher in 15-17 year-olds than in 12-14 year-olds in females (IRR 2.57, 95% CI 2.24 to 2.94,  $p < 0.0001$ ) and 3.8 times greater in males (IRR 3.80, 95% CI 2.46 to 5.86,  $p < 0.0001$ ).

Based on the estimated rates of fatal and non-fatal self-harm (Table 1, Figure 1a and 1b), in 12-14 year-olds, for each male suicide approximately 100 males presented to hospital following self-harm and approximately 3,000 self-harmed in the community. For each female suicide, approximately 1,200 females presented to hospital following self-harm and 22,000 reported self-harm in the community.

In adolescents aged 15-17 years, for each male suicide, approximately 120 males presented to the hospital following self-harm and around 800 reported self-harm in the community, while in females, for each suicide, 900 presented to hospital with self-harm and 6,400 self-harmed in the community.

The most common method of suicide was hanging/asphyxiation (Figure 2). Most adolescents presenting to hospital following self-harm did so after self-poisoning. A significant proportion also presented after self-cutting. The vast majority of pupils who reported self-harm in the community had used self-cutting.

Nine percent ( $N=28$ ) of the schools survey participants who reported self-harm presented to hospital for self-harm; 4% of 12-14 year-olds and 13% of 15-17 year-olds. The vast majority of those presenting to hospital were females (96%), aged 15-17 years (79%) and had self-poisoned (78%).

To take account of this overlap between community-recorded and hospital presenting self-harm, we also calculated rates of self-harm in pupils who had not presented to hospital as a result of their self-harm (n=294). Rates were 2,760 and 8,369 per 100,000 person-years in 12-14 year-old males and females, respectively, and 2,528 and 7,486 per 100,000 person-years in 15-17 years-old males and females, respectively.

Based on information provided by 26 of the 29 participating schools, 8% of the pupils in year 8 and year 10 were eligible for free school meals (free school meals are not available in year 12) relative to 14% of pupils in state-funded secondary schools in England in 2015.<sup>24</sup>

## DISCUSSION

We estimated the relative rates of fatal and non-fatal self-harm of adolescents in England and described these in terms of the three levels of the iceberg model of self-harm.<sup>11,25</sup> The results highlight differences in the ratios of fatal to non-fatal self-harm in males and females, with suicide rates being greater in males compared to females and rates of self-harm being greater in females. There were also marked differences in the patterns of non-fatal self-harm between younger and older adolescents, but very small differences in rates of self-harm in the community between the two age groups in both males and females. There were marked differences in methods of self-harm at different levels of the iceberg, with hanging/asphyxiation being the primary method used for suicide, self-poisoning the most frequent self-harm method in adolescents presenting to hospital, and self-cutting the main self-harm method in the community.

Extrapolation from the estimated rates of fatal and non-fatal self-harm in the present study to the population of England suggests that each year approximately 21,000 12-17 year-olds present to hospital following self-harm and 200,000 self-harm in the community and do not present to hospital. The latter figure does not take account of pupils who reported self-harm in the community and also presented to hospital for self-harm. However, this could also be a considerable under-estimate, as discussed below.

In a study involving 15-17 year-olds in Ireland, McMahon et al.<sup>11</sup> reported suicide rates of 16.5 and 2.7 per 100,000 in males and females, respectively, a ratio of six males to one female, relative to the ratio of 2:1 in our study. However, the authors reported lower rates of hospital-presenting self-harm. The difference was especially marked for females, with a threefold higher rate in our study. As noted by the Irish authors, the Multicentre Study of Self-harm in England is focused primarily on urban populations, in which self-harm rates are known to be somewhat higher than in rural areas,<sup>26</sup> while the Irish study was based on predominantly rural populations.<sup>11</sup> Differences between rural and urban populations in terms of their access to hospitals, this being more limited in rural settings, may have also

have contributed to the difference in rates. Furthermore, in Ireland most people attending emergency departments (including young people) are charged for their visit, which may discourage attendance. Nevertheless, community incidence rates of self-harm in the Irish study were remarkably similar to those in our study. Interestingly, a large study of 15-16 year-olds in schools in Oxfordshire, Northamptonshire and Birmingham during 2000-2001 identified somewhat higher community rates than in the present study, of 3,184 and 11,062 per 100,000 in males and females, respectively,<sup>9</sup> possibly because the focus of that study was on schools in urban areas and differences in socioeconomic deprivation<sup>27</sup> between the study areas. Furthermore, in the present study, 9% of pupils presented to hospital following an episode of self-harm, compared with 6% in the Irish study<sup>11</sup> and 13% in the earlier survey in England.<sup>9</sup>

### ***Strengths and weaknesses***

While this study is the first to estimate the relative incidence of self-harm at different levels of the iceberg model in adolescents in England, it has limitations. Despite the inclusion of the ICD-10 codes of death due to undetermined intent, there may have been considerable under-identification of suicides by coroners, especially for deaths involving self-poisoning, where potential suicides are often assigned a verdict of accidental death.<sup>28,29</sup> Also, pupils in the schools survey may have under-reported self-harm due to embarrassment and stigma that may be associated with mental health problems, although the survey was completed anonymously. Furthermore, in the schools survey we only included individuals who described a method of self-harm meeting our criteria, so our estimates of rates of past-year self-harm in the community are conservative. Nevertheless, the findings from this study are in keeping with findings from earlier studies, including a survey in England<sup>9</sup> and an Irish study,<sup>30</sup> all of which used a similar methodology (past year self-harm: 6%, 6.9%, 5.7%, respectively).

The estimated rates of hospital-based and community-occurring non-fatal self-harm should be treated with caution given the fact that they were based on specific

geographical areas. Information about hospital-presenting self-harm was based on three centres and may not be representative of England as a whole, although these centres have socioeconomically diverse populations. Furthermore, the Multicentre Study of Self-harm in England includes primarily urban populations, in which rates of self-harm are usually higher than in rural populations.<sup>26</sup> Also, the sample used to estimate the community level of self-harm may have been of higher socioeconomic status than the general population of adolescents in England; socioeconomic position is inversely associated with self-harm.<sup>27</sup> The proportion of pupils eligible for free school meals (8%) was lower in the schools survey than the equivalent proportion in England (14%). Furthermore, based on the Index of Multiple Deprivation, the county of Gloucestershire is of average or above average socioeconomic position relative to the rest of the country. Our estimated school-based incidence rates of self-harm may therefore underestimate the true incidence of non-fatal self-harm in the community, although findings from other similar studies<sup>9,11</sup> are consistent with ours. Furthermore, the majority of school students who reported past-year self-harm and presented to hospital used self-poisoning (78%), a figure consistent with that from the Multicentre of Self-harm in England (71%). Finally, estimates of community-occurring rates of self-harm were based on data from 2015, while suicides and hospital-presenting self-harm rates were based on data from 2011 to 2013.

### ***Implications***

The study findings highlight the population burden of fatal and non-fatal self-harm in adolescents and underline the need for preventive and therapeutic measures at different levels of the iceberg. Suicide is relatively rare in adolescents but is always a possibility, especially in those who self-harm.<sup>31</sup> It has devastating effects on family,<sup>32,33</sup> friends, fellow students and school staff, and communities. This indicates the need for effective suicide prevention initiatives for this age group and for appropriate and accessible support for those who are coping with the death of a young person by suicide.

The extent of hospital-presenting self-harm highlights the need for easily-accessible community mental health services for young people and well-resourced hospital-based services which can provide a comprehensive psychosocial assessment,<sup>34</sup> followed where appropriate by referral to further care, preferably including psychosocial treatment.<sup>35,36</sup>

Self-harm in adolescents in the community is very common, especially in females. Several school-based programs addressing prevention of self-harm in adolescence have been developed and evaluated in recent years including Saving and Empowering Young Lives in Europe (SEYLE),<sup>37</sup> and the Good Behaviour Game (GBG)<sup>38,39</sup> with some evidence of beneficial effects. A further approach involves school-based screening,<sup>40</sup> although such interventions have not generally been adopted. Interventions might also be provided through online and mobile telephone applications, although currently there is limited evidence on their effectiveness in adolescents.<sup>41-43</sup> In addition, self-harm by adolescents often has major impacts on families, including stress, anxiety, and financial difficulties.<sup>44,45</sup> Therefore, family members themselves often need support.<sup>45</sup>

Overall, the findings support recent calls for improved community-based mental health services for young people,<sup>46</sup> along with well-resourced hospital services and the implementation of school-based evidence-based prevention programs.

## **Contributors**

KH, and GG were responsible for study conception, design and for the interpretation of results. GG and DC were responsible for the analysis and KM made a substantial contribution to the analysis. KH, NK, KW DC, CC, JN, PF, KP and CW acquired the data. GG drafted the manuscript, which all the authors critically revised for intellectual content. All authors approved the final manuscript and are accountable for all aspects of this work. KH supervised the study and is the guarantor.

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KH and NK declare grants from NIHR. NK also declares funding from the Health Quality Improvement Partnership and that he chairs the NICE self-harm and NICE depression groups. All other authors declare no conflicts of interest.

I *Prof. Keith Hawton* the Corresponding Author of this article confirm that I had full access to all the data in the study and had final responsibility for the decision to submit for publication.

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## **Research in context**

### **Evidence before this study**

In adolescents, non-fatal self-harm is an extremely common reason for hospital presentation and also occurs frequently in the community without coming to clinical attention. Suicide is a leading cause of death in adolescents and is often preceded by self-harm. However, little is known about the relative sizes of the populations of adolescents involved in these three levels of self-harm, despite the major implications such information may have for prevention and clinical management. We searched PubMed up to June 2017 with the following search terms: suicide, self-harm, self-injury, self-poisoning, suicide attempt, attempted suicide, iceberg, relative, incidence, rates, adolescents, adolescence, and young. We did not apply any language restrictions. Although numerous studies have addressed the incidence rates of each type of self-harm (suicides, hospital presenting and community recorded self-harm) only one study has to our knowledge addressed the relative incidence of all three forms of self-harm. McMahon et al. (2014) estimated the relative incidence of fatal and non-fatal self-harm in older adolescents (15-17 years) in Ireland and described these in terms of the three levels of an iceberg model. Their study showed that for every adolescent who died by suicide, 34 adolescents presented to the hospital for non-fatal self-harm and 555 adolescents reported self-harm in the community. The differences between incidence rates of fatal and non-fatal self-harm were particularly marked in females.

### **Added value of this study**

Using national data on suicides, together with data from three centres on hospital presenting self-harm and from a large-scale schools' survey on self-harm in the community, we describe the relative incidence rates of fatal and non-fatal self-harm in adolescents aged 12-17 year-olds in England. Estimated rates of fatal and non-fatal self-harm show that for every adolescent suicide, there are approximately 370 adolescents who present to hospital for self-harm and 3900 adolescents who report self-harm in the community. Consistent with previous research, our study showed considerably higher incidence rate of both hospital-presenting and community-occurring non-fatal self-harm (which mostly does not come to the attention of clinical services) in females. It also showed marked differences in methods of self-harm between the three levels of the iceberg model, with hanging/asphyxiation being the most common method of suicide, self-poisoning the main method used in hospital-presenting self-harm and self-cutting the most common method of self-harm in the community.

### **Implications of all the available evidence**

Taken together, our and previous findings show the extent of fatal and non-fatal self-harm in adolescents, highlighting the sizable problem of community occurring self-harm, especially in females, but also the fact that most self-harm, especially in young adolescents, does not come to the attention of clinical services. These data emphasize the need for preventive measures at the community level, especially through school-based programmes, and for well-developed treatment services to meet the needs of those presenting to clinical services due to self-harm.

Table 1: The number, incidence rates per 100,000 person-years and 95% CI of suicides (2011-2013), hospital-presenting non-fatal self-harm (2011-2013) and community-recorded non-fatal self-harm (2015), by gender and age group

<b>Age</b>	<b>n</b>	<b>Person- years</b>	<b>Rate per 100,000 person- years</b>	<b>Lower CI</b>	<b>Upper CI</b>
<b>Suicide (2011-2013)</b>					
<b>Males</b>					
12-14-year-olds	26	2,842,872	0.92	0.60	1.34
15-17-year-olds	93	2,990,610	3.11	2.51	3.81
<b>Females</b>					
12-14-year-olds	12	2,709,592	0.44	0.23	0.77
15-17-year-olds	40	2,830,359	1.41	1.01	1.92
<b>All</b>					
12-17-year-olds	171	11,373,433	1.50	1.29	1.75
<b>Hospital presenting non-fatal self-harm (2011-2013)</b>					
<b>Males</b>					
12-14-year-olds	59	60,362	97.74	74.41	126.08
15-17-year-olds	233	62,787	371.10	324.97	421.93
<b>Females</b>					
12-14-year-olds	284	56,623	501.56	444.92	563.42
15-17-year-olds	744	57,793	1,287.35	1,196.50	1,383.28
<b>All</b>					
12-17-year-olds	1,320	237,565	555.64	526.06	586.44
<b>Community recorded non-fatal self-harm (2015)</b>					

<b>Age</b>	<b>n</b>	<b>Person- years</b>	<b>Rate per 100,000 person- years</b>	<b>Lower CI</b>	<b>Upper CI</b>
<b><i>Males</i></b>					
12-14-year-olds	35	1,268	2,760.25	1,922.62	3838.84
15-17-year-olds	37	1,424	2,598.31	1,829.45	3581.43
<b><i>Females</i></b>					
12-14-year-olds	123	1,398	8,798.28	7,312.23	10,497.60
15-17-year-olds	127	1,416	8,968.93	7,476.99	10,671.32
<b><i>All</i></b>					
12-17-year-olds	322	5,506	5,848.17	5,226.77	6,523.11

Figures 1a and 1b: Incidence rates and rate ratios of fatal and non-fatal self-harm per 100,000 person-years by age group and gender.

Figure 2: Methods of suicide, hospital-presenting non-fatal self-harm and community-occurring non-fatal self-harm: % of the total number of individuals at each form of self-harm

## References

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