

## Self-harm in high risk groups: recent evidence from the Multicentre Study of Self-harm in England

**Caroline Clements**

The Manchester Self-Harm Project

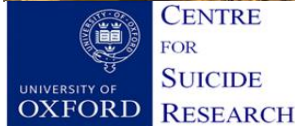
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Multicentre Study Website: [psych.ox.ac.uk/research/csr/ahoj](http://psych.ox.ac.uk/research/csr/ahoj)



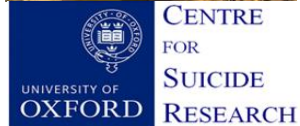
## Acknowledgements

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We thank past and present research colleagues in each centre, as well as members of the general hospital and liaison psychiatry services (child and adult) for assistance with data collection.






## What is self-harm?



Self-poisoning or self-injury irrespective of apparent motivation or medical seriousness



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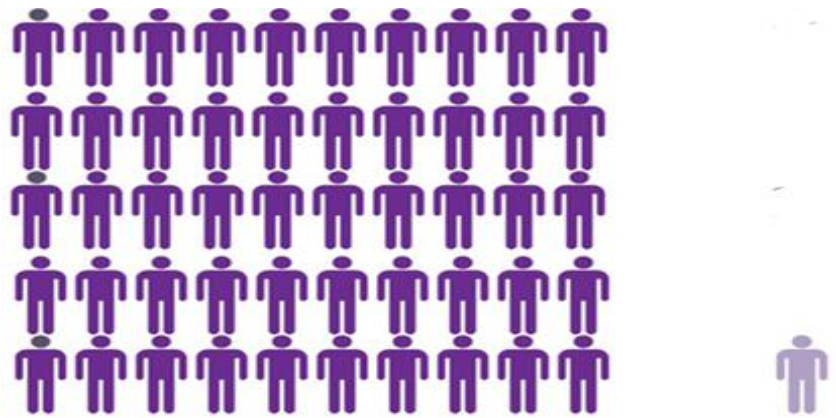


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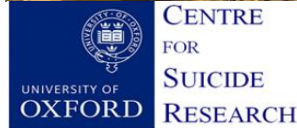
## Why is self-harm important in suicide prevention?

**There is a strong link between self-harm and suicide.**

People who have presented to hospital following self-harm are 50+ times more likely to die by suicide than general population.



(Hawton et al, 2015)



## Why is self-harm important in suicide prevention?

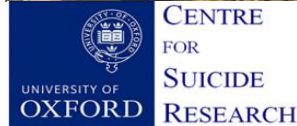
### National Suicide Prevention Strategy for England: Fourth revision



HM Government

### **Preventing suicide in England: Fourth progress report of the cross- government outcomes strategy to save lives**

Published January 2019



## Why is self-harm important in suicide prevention?

### National Suicide Prevention Strategy for England: Fourth revision

Preventing suicide in England: Fourth progress report

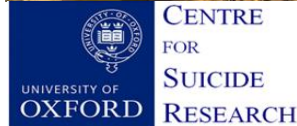
#### 1. Reducing the risk of suicide in high-risk groups

1.1 The following high-risk groups were identified in the [National Strategy](#):

- young and middle-aged men;
- people in the care of mental health services, including inpatients;
- people in contact with the criminal justice system;
- specific occupational groups, such as doctors, nurses, veterinary workers, farmers and agricultural workers; and
- people with a history of self-harm.



- People with a history of self-harm



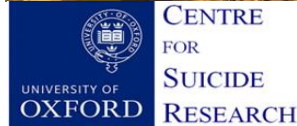
## What is the Multicentre Study of Self-Harm in England?

The Multicentre Study is an ongoing collaboration between 3 high quality self-harm monitoring projects based in Oxford, Manchester and Derby.

Each site collects data on all self-harm presentations made to local emergency departments

By combining data we create a larger more representative database





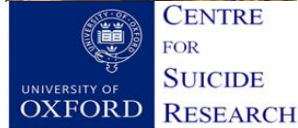
## What is the Multicentre Study of Self-Harm in England?

We collect:

- Basic data on all presentations e.g. age, gender, details of self-harm method
- Detailed information on people who receive a specialist assessment by psychiatric staff (or emergency department staff in Manchester) e.g. previous self-harm, psychiatric history, problems that precipitated self-harm, and what follow-up care referrals were made.

We also follow up each individual on the database by data linkage to mortality information through NHS Digital.



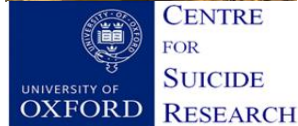


What do we know about self-harm  
from Multicentre Study work

6 Questions about self-harm

**Audience participation!!!**





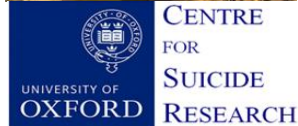
## To join the live polling online

On your phone or laptop please go to

[www.menti.com](http://www.menti.com)

And enter the code the presenters give  
you!

(Please only respond to one question at a time!)



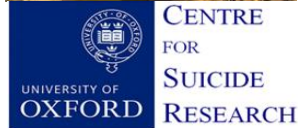
## Question 1

How many presentations are there to hospital emergency departments each year following self-harm (in England)?

95,000

210,000

Code for online polling for questions 1 to 3:



## Question 1

How many presentations are there to hospital emergency departments each year following self-harm (in England)?

**220,000**  
episodes

**150,000**  
people



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## Question 2

# Do rates of self-harm and rates of suicide follow similar trends over time ?



com TEEN SUICIDE RATES CURRENTLY ON THE RISE  
TWO-THIRDS OF GIRLS HAVE SUICIDAL THOUGHTS OR ACTIONS

INDEPENDENT

NEWS POLITICS VOICES SPORT CULTURE VIDEO INDY LIFE INDYBEST LONG READS INDY100 VOUCHERS PREMIUM 20 PLEDGES

News > UK > Home News

### Suicides rise to 16-year high across UK

Increase largely driven by suicides among boys and men, while self-inflicted deaths among females under



### Suicides rates in UK increase to highest level since 2002

Rise of 11.8% includes a 19-year high in rate of deaths among young people aged 10 to 24



  
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## Question 2

Do rates of self-harm and rates of suicide follow similar trends over time ?

Yes

No

Code for online polling for questions 1 to 3:



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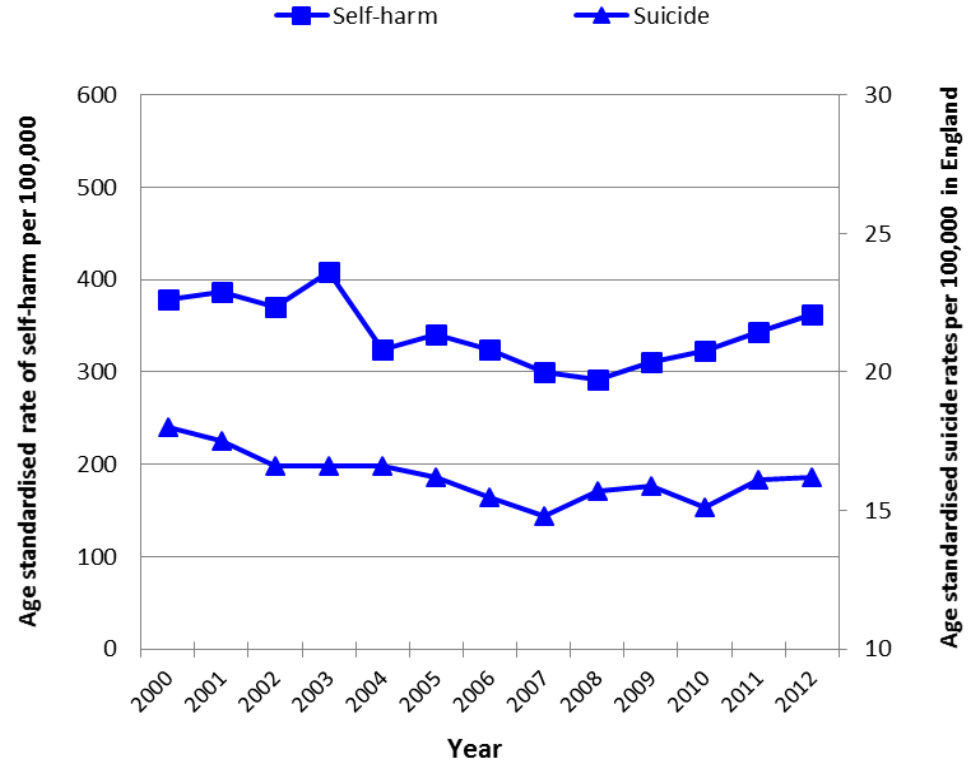


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## Question 2

### Do rates of self-harm and rates of suicide follow similar trends over time ?

Men





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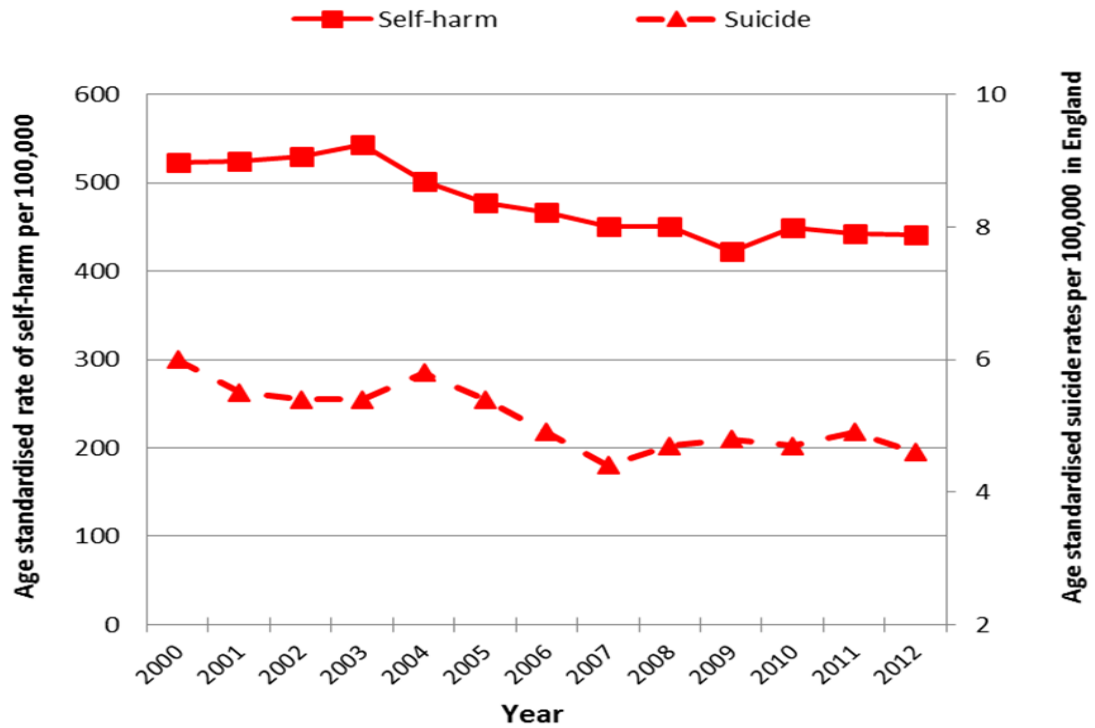


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## Question 2


### Do rates of self-harm and rates of suicide follow similar trends over time ?

Women







  
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## Question 3

Do people who self-harm die younger than  
people who do not self-harm?

Yes

No

Code for online polling for questions 1 to 3:



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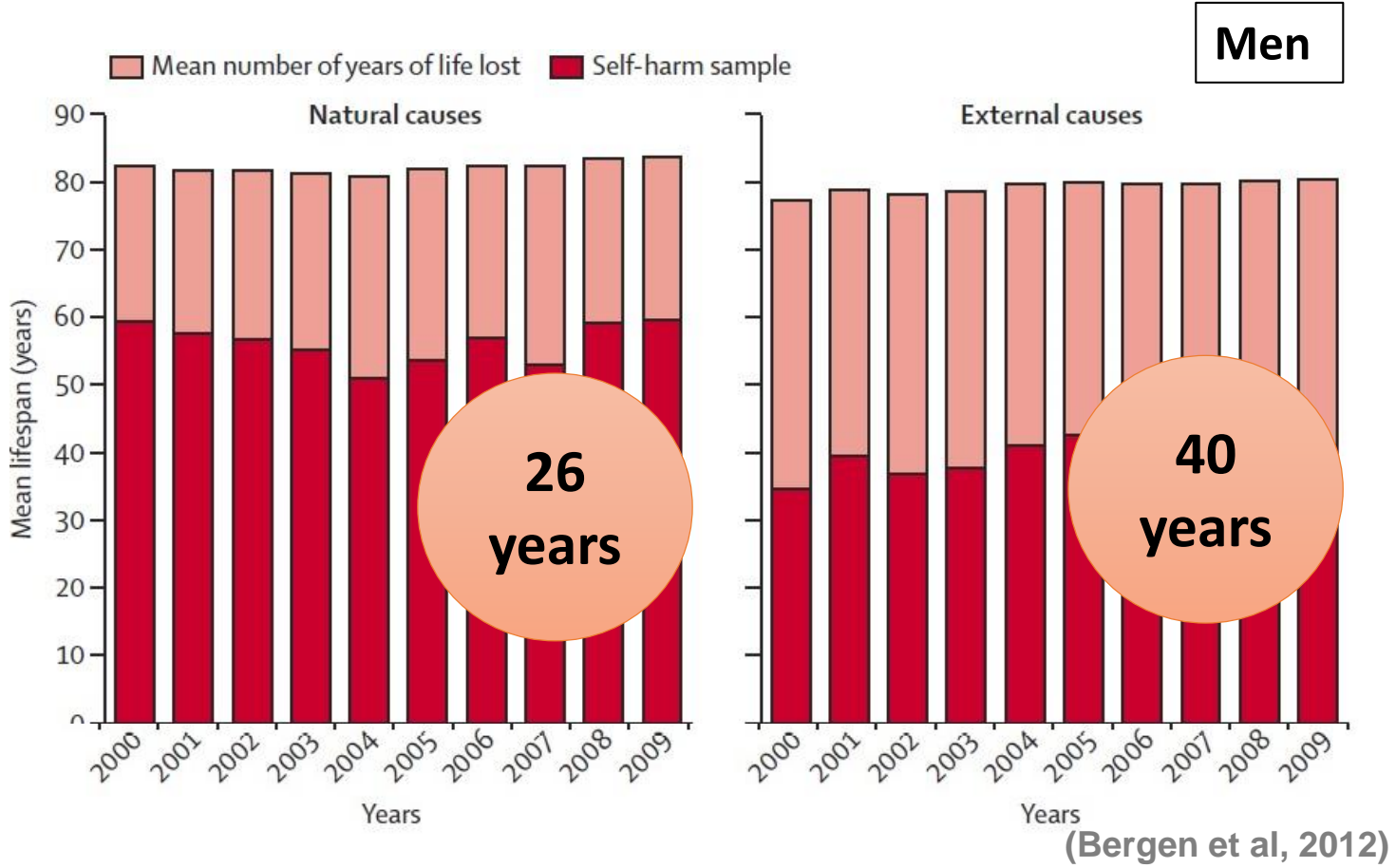
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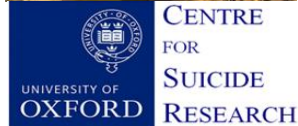


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## Question 3

### Do people who self-harm die younger than people who do not self-harm?





## Question 4

Are people who attend hospital following self-poisoning more likely to go on to die by suicide than people who present having self-injured?

Yes

No

Code for online polling for questions 4 to 6:

(Geulayov et al, 2019)



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## Question 4

**Are people who attend hospital following self-poisoning more likely to go on to die by suicide than people who present having self-injured?**

	Number of presentations; number of suicides	Crude OR (95% CI)	p value	Adjusted OR (95% CI)*	p value
<b>Self-harm method at hospital presentation (n=90 614)</b>					
Self-poisoning alone	68 169; 491	1 (ref)	..	1 (ref)	..
Self-injury alone	18 506; 163	1.39 (1.12-1.71)	0.003	1.36 (1.09-1.70)	0.007
Self-poisoning and self-injury	3939; 49	2.01 (1.41-2.86)	<0.0001	2.06 (1.42-2.99)	<0.0001

- Relative to hospital presentations after self-poisoning alone, suicide risk was higher after a hospital presentation for self-injury
- Also presentations involving both self-injury and self-poisoning were associated with higher suicide risk



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## Question 4

### Are people who attend hospital following self-poisoning more likely to go on to die by suicide than people who present having self-injured?

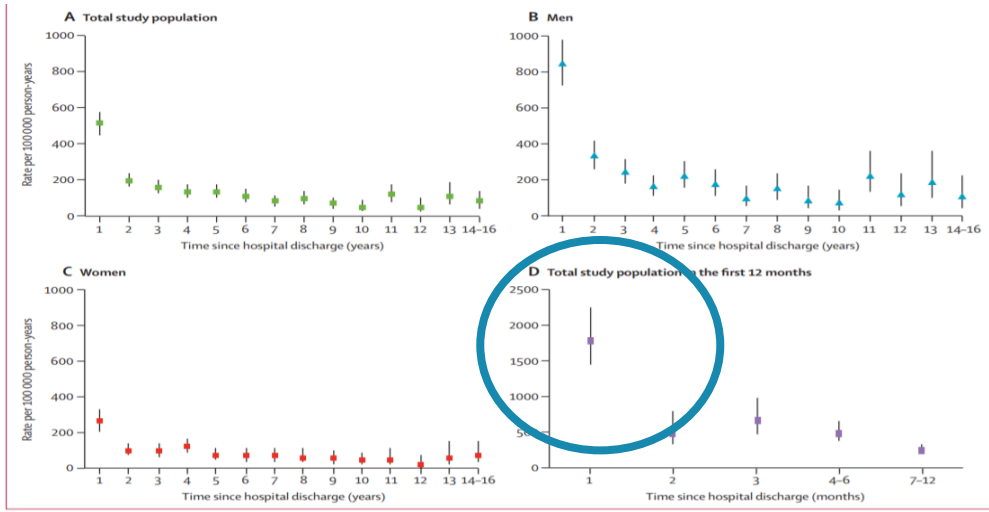



Figure 2: Incidence of death by suicide by time of follow-up since first hospital presentation for non-fatal self-harm. Error bars are 95% CIs.

- Suicide risk was highest close to the self-harm presentation
- Method switching was also common between self-harm and suicide (self-poisoning to hanging/asphyxiation)

(Geulayov et al, 2019)



  
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## Question 4

### Are people who attend hospital following self-poisoning more likely to go on to die by suicide than people who present having self-injured?

Characteristic	Subjects Who Died by Suicide (N=60)		Hazard Ratio	95% CI
	N	%		
Cutting as method of self-harm				
No (N=7,148)	50	0.7	1.00	0.92-3.57
Yes (N=811)	10	1.2	1.81	

(Cooper et al, 2005)



  
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## Question 5

What % of individuals attending hospital with self-harm frequently repeat?  
*(defined as 15 or more episodes over four years)*

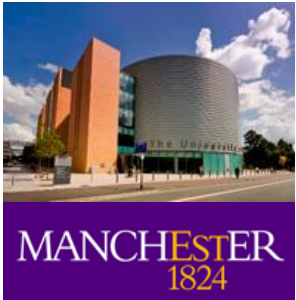
More than 5%

Less than 5%

(Ness et al., 2015)



  
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## Question 5

What % of individuals attending hospital with self-harm frequently repeat?  
*(defined as 15 or more episodes over four years)*

More  
than 5%

Less than  
5%

Code for online polling for questions 4 to 6:

(Ness et al., 2015)





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## Question 5

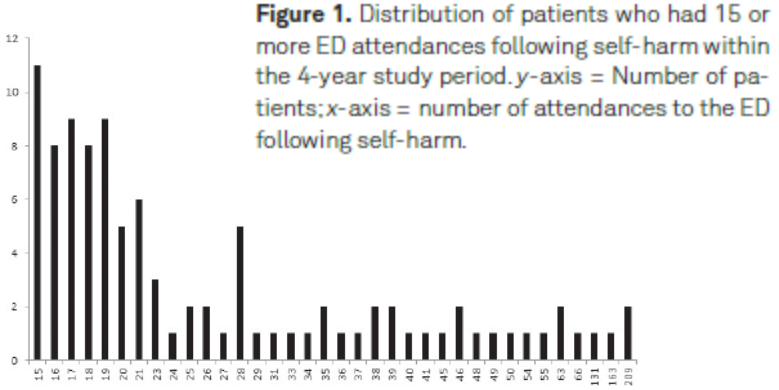
### What % of individuals attending hospital with self-harm frequently repeat? *(defined as 15 or more episodes over four years)*

**0.6% of people**

**10% of all attendances**

**Table 1.** Emergency department attendances following self-harm episodes within the 4-year study period, grouped by number per patient

Total number of episodes	Number of patients N (%)
1	12,075 (73.7)
2	2,324 (14.2)
3	829 (5.1)
4	394 (2.4)
5	225 (1.4)
6	136 (0.8)
7	91 (0.6)
8	46 (0.3)
9	51 (0.3)
10	36 (0.2)
11	28 (0.2)
12	26 (0.2)
13	10 (0.1)
14	16 (0.1)
15 or more	98 (0.6)



**Figure 1.** Distribution of patients who had 15 or more ED attendances following self-harm within the 4-year study period. y-axis = Number of patients; x-axis = number of attendances to the ED following self-harm.

(Ness et al, 2016)



  
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## Question 6

Does receiving a psychosocial assessment after presenting to hospital following self-harm significantly reduce the likelihood of a repeat episode?

Yes

No

Code for online polling for questions 4 to 6:



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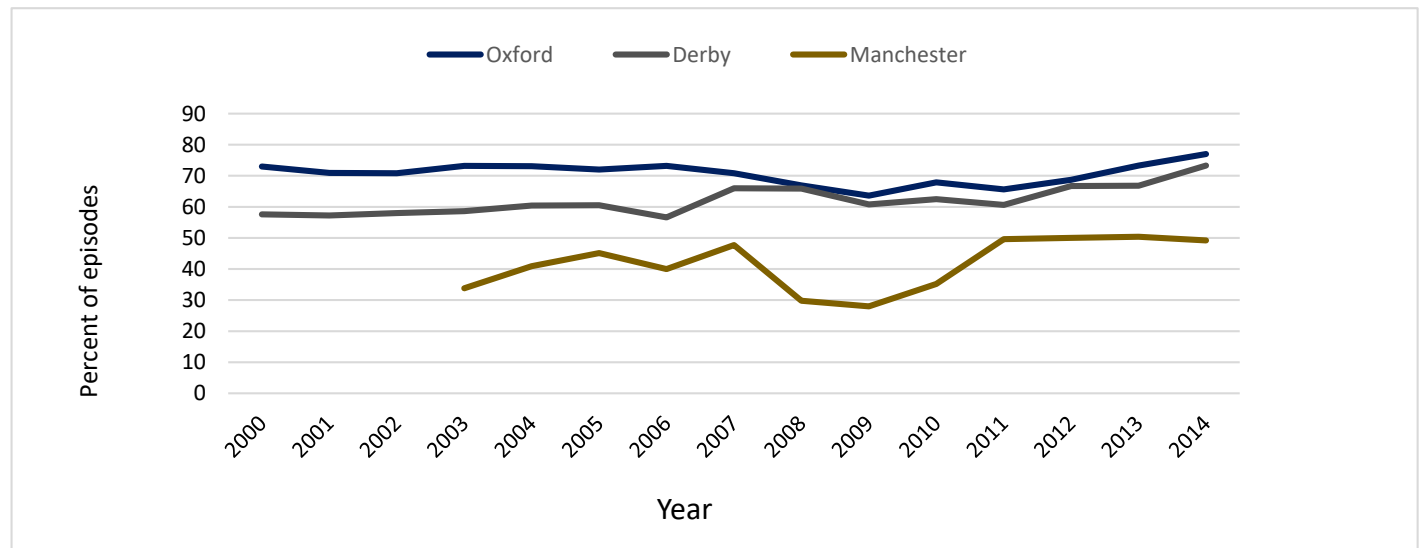


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## Question 6

### Does receiving a psychosocial assessment after presenting to hospital following self-harm significantly reduce the likelihood of a repeat episode?

- 57% lower risk of repetition – even for those with history of self-harm
- Recommended by NICE (2011)




(Kapur et al, 2015)



## Self-harm in high risk groups

1. People in midlife
2. Children and young people



  
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One more question...

What % of self-harm presentations are made by people in midlife (45-59 years)?

15%

25%





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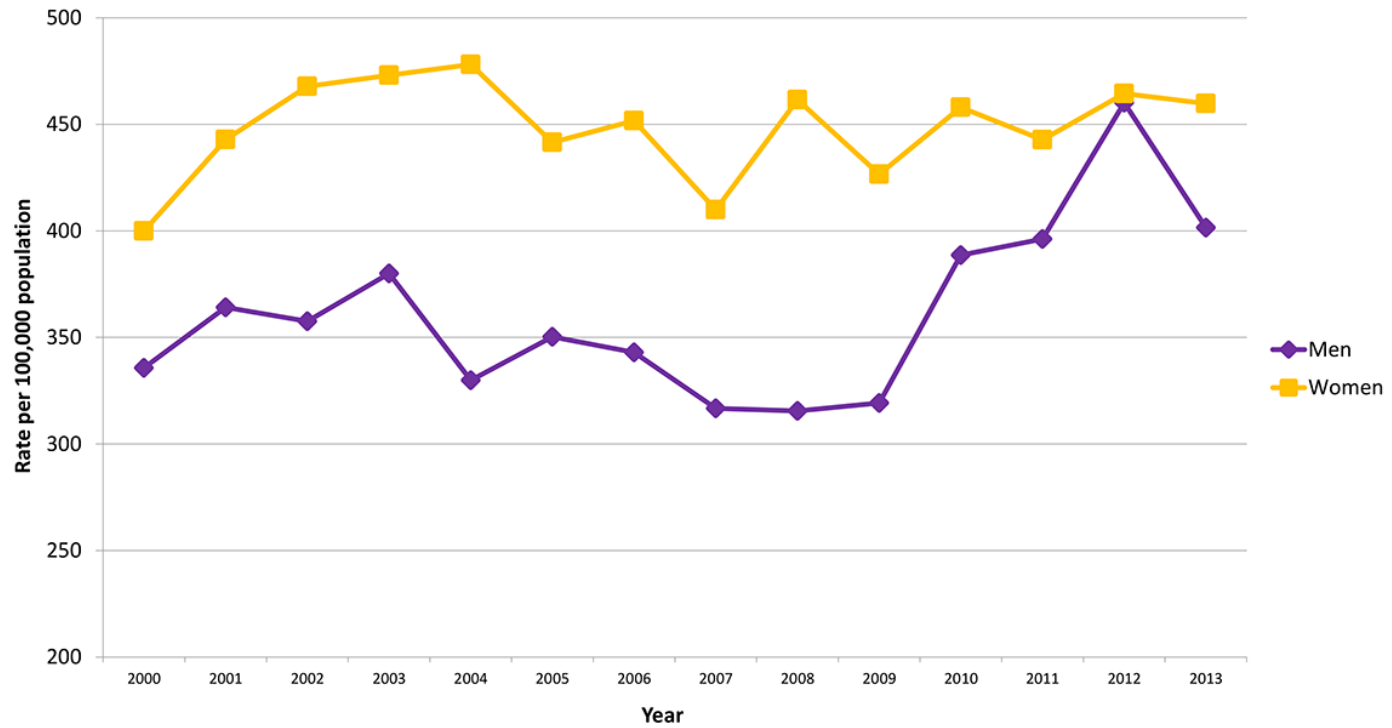


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- 26% of all self-harm presentations are made by people in midlife



(Clements et al, 2019)



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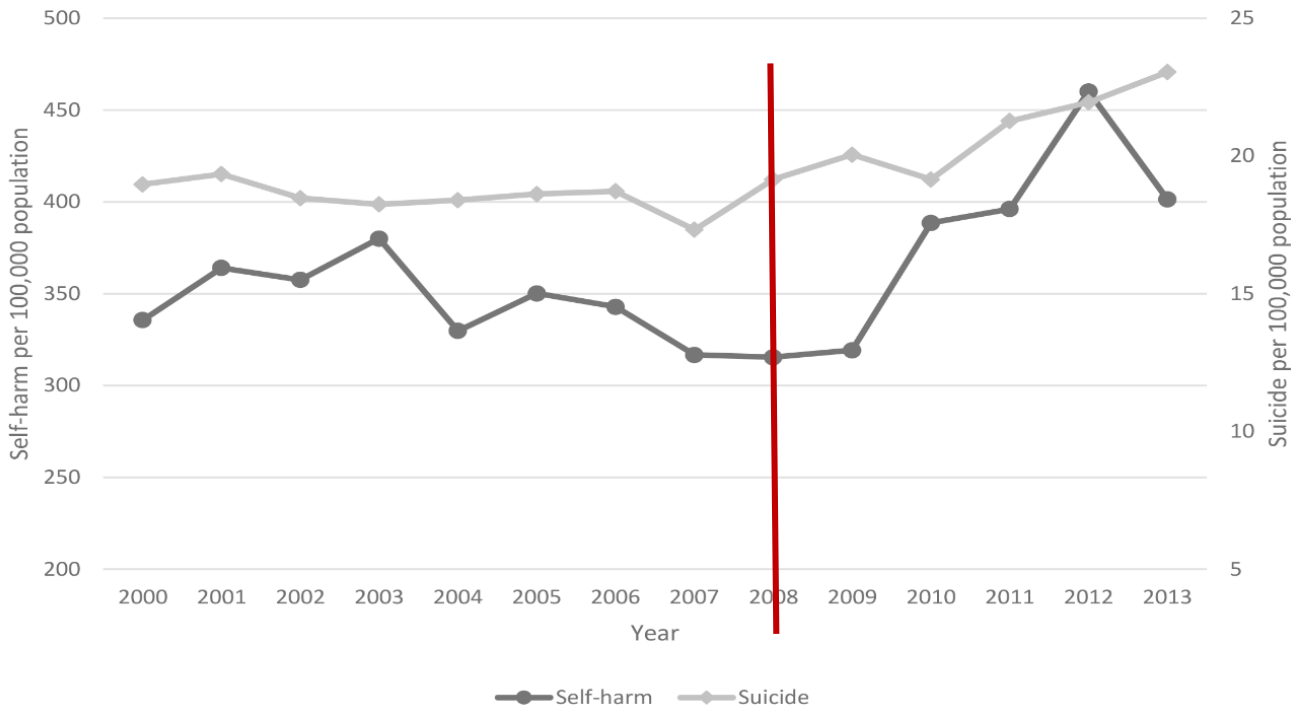
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- Self-harm rate and suicide rate are associated in men in midlife – with and increase in both seen after 2008.

a) Self-harm and suicide rates for men in midlife



(Clements et al, 2019)



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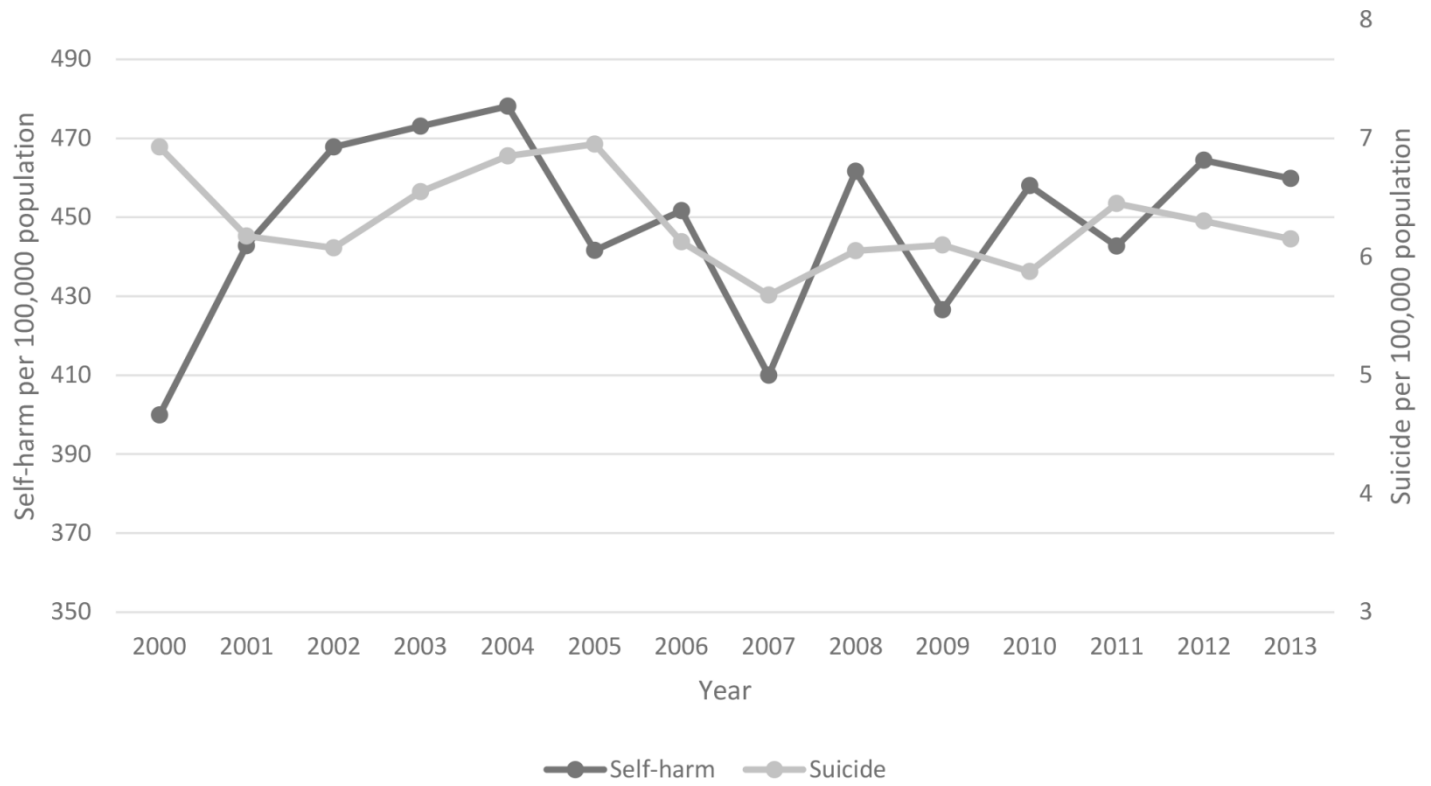
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- Self-harm rate and suicide rate were not associated in women in midlife.

b) Self-harm and suicide rates for women in midlife



(Clements et al, 2019)





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## Self-harm by people in midlife

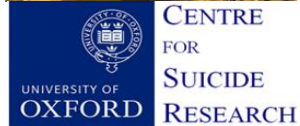
Alcohol use, and socioeconomic factors were more common in men, while mental ill health was more common in women

Variable	Men n=5,886	Women n=6,715	Odds Ratio (95%CI)
Unemployed	1,492 (39)	1,366 (31)	1.42 (1.29-1.55)
Any previous self-harm	2,006 (54)	2,525 (58)	0.85 (0.78-0.93)
Current psychiatric treatment	1,777 (46)	2,365 (52)	0.78 (0.72-0.85)
Alcohol consumed at time of self-harm	2,534 (66)	2,741 (62)	1.22 (1.11-1.33)
Problems with employment/study	864 (22)	624 (14)	1.78 (1.59-1.99)
Problems with finances	833 (21)	795 (17)	1.28 (1.14-1.42)
Problems with housing	681 (17)	570 (12)	1.47 (1.30-1.66)
Problems with alcohol use	1,078 (34)	930 (25)	1.53 (1.38-1.70)
Problems with mental-health	1,008 (25)	1,289 (28)	0.88 (0.80-0.97)

Socioeconomic factors and indicators of poor mental health have become more common over time

25% repeated within 12 months

2.8% men and 1.2% women has died by suicide by the end of follow-up.



## Self-harm in high risk groups

1. People in midlife

2. Children and young people



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## We looked at children who self-harm in the community, present to hospital for self-harm, and die by suicide

**Incidence 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): a retrospective study**

*Galit Geulayov, Deborah Casey, Keltie C McDonald, Pauline Foster, Kirsty Pritchard, Claudia Wells, Caroline Clements, Navneet Kapur, Jennifer Ness, Keith Waters, Keith Hawton*

**Summary**  
**Background** Little is known about the relative incidence of fatal and non-fatal self-harm in young people. We estimated the incidence of suicide, hospital-presenting non-fatal self-harm, and community-occurring non-fatal self-harm in adolescents in England.

**Methods** We used national mortality statistics (Jan 1, 2011, to Dec 31, 2013), hospital monitoring data for five hospitals derived from the Multicentre Study of Self-Harm in England (Jan 1, 2011, to Dec 31, 2013), and data from a schools survey (2015) to estimate the incidence of fatal and non-fatal self-harm per 100 000 person-years in adolescents aged 12–17 years in England. We described these incidences in terms of an iceberg model of self-harm.

**Findings** During 2011–13, 171 adolescents aged 12–17 years died by suicide in England (119 [70%] male and 133 [78%] aged 15–17 years) and 1320 adolescents presented to the study hospitals following non-fatal self-harm (1028 [78%] female and 977 [74%] aged 15–17 years). In 2015, 322 (6%) of 5506 adolescents surveyed reported self-harm in the past year in the community (250 [78%] female and 164 [51%] aged 15–17 years). In 12–14 year olds, for every boy who died by suicide, 109 attended hospital following self-harm and 3067 reported self-harm in the community, whereas for every girl who died by suicide, 1255 attended hospital for self-harm and 21995 reported self-harm in the community. In 15–17 year olds, for every male suicide, 120 males presented to hospital with self-harm and 838 self-harmed in the community; whereas for every female suicide, 919 females presented to hospital for self-harm and 6406 self-harmed in the community. Hanging or asphyxiation was the most common method of suicide (125 [73%] of 171), self-poisoning was the main reason for presenting to hospital after self-harm (849 [71%] of 1195), and self-cutting was the main method of self-harm used in the community (286 [89%] of 322).

**Interpretation** Ratios of fatal to non-fatal rates of self-harm differed between males and females and between adolescents aged 12–14 years and 15–17 years, with a particularly large number of females reporting self-harm in the community. Our findings emphasise the need for well resourced community and hospital-based mental health services for adolescents, with greater investment in school-based prevention.

**Funding** UK Department of Health.

*Journal:* **Lancet Psychiatry** 2018  
*DOI:* [http://dx.doi.org/10.1016/S2215-0366\(17\)30478-9](http://dx.doi.org/10.1016/S2215-0366(17)30478-9)  
*Published Online:* December 12, 2017  
*See Comment page 100*

**Centre for Suicide Research, Department of Psychiatry, University of Oxford, Warneford Hospital, Oxford, UK (G Geulayov PhD, D Casey BSc, K C McDonald MSc, Prof K Hawton (MedSci) Foster and Brown Research, Gencenter, UK (P Foster MPhil); Gloucestershire County Council, Gloucester, UK (K Pritchard PGCE); Office for National Statistics, UK (C Wells MMath); Centre for Suicide Prevention, Manchester Academic Health Sciences Centre, University of Manchester, Manchester, UK (C Clements MEd, Prof N Kapur FRCPsych); Greater Manchester Mental Health NHS Foundation Trust, Manchester, UK (Prof N Kapur); and Centre for Self-harm and Suicide Prevention Research, Derbyshire Healthcare NHS**

(Geulayov, et al, 2017)

## Iceberg models of suicide: hospital self-harm: community self-harm



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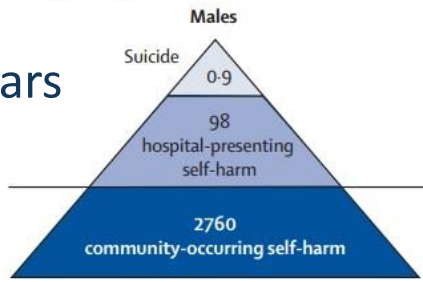
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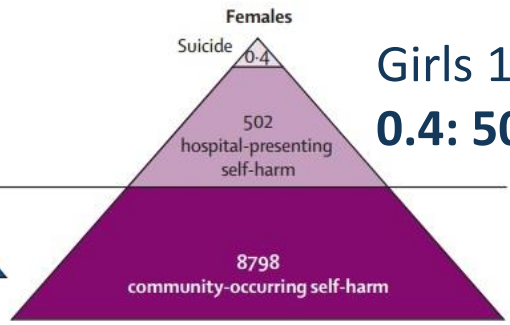
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A Age 12-14 years

Boys 12-14 years  
**0.9: 98: 2760**

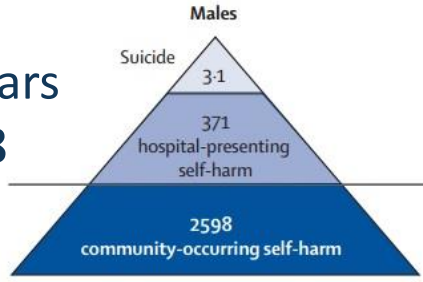


Girls 12-14 years  
**0.4: 502: 8798**

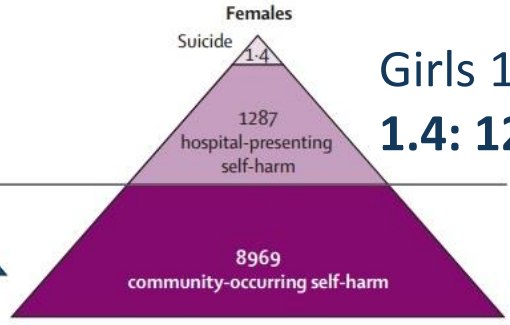


B Age 15-17 years

Boys 15-17 years  
**3.1: 371: 2598**



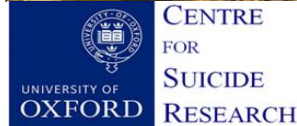
Girls 15-17 years  
**1.4: 1287: 8969**

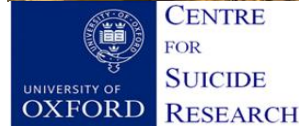


(Geulayov, et al, 2017)

## Mortality after self-harm in Children and Young people

- Followed up n= 9173, 10 to 18 year-olds who had presented to the emergency departments of the study hospitals (2000-2013).
- Deaths identified through the ONS via linkage with data from NHS Digital.





## Mortality after self-harm in Children and Young people

By the end of the follow-up period n=124 (1%) had died.

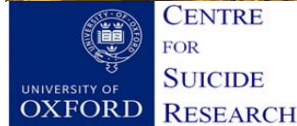
- 55 (44%) were due to suicide
- 27 (22%) were due to accidental causes
- 42 (34%) due to other causes.

Most suicide deaths involved self-injury (n=45, 82%).

There was often a method switch from self-harm to suicide, especially from self-poisoning to hanging or asphyxiation.

## Mortality after self-harm in Children and Young people

- The incidence of suicide in the 12 months after self-harm was over 30 times the rate expected in the general population of 10-18 year-olds in England (SMR 31.0, 95% CI 18.2-30.9).
- The majority of the suicides ( $n=42$ , 77%) occurred after age 18 years and the incidence rate remained similar over more than 10 years follow-up.
- Increased suicide risk was associated with male gender, being an older teenager, use of self-injury (especially hanging/asphyxiation) for self-harm and repeating self-harm.
- Accidental poisoning deaths involving substance misuse were especially frequent in males.





## Study Outputs and Impact

- ~40 peer reviewed journal articles; Annual DHSC reports; Conferences and Training
- Local and National practices, policies and guidance e.g. Suicide Prevention Strategies, NICE guidance
- Public Health England 2014 “number one indicator for self-harm”





## Thank you for your participation

Multicentre Study Website:

[www.psych.ox.ac.uk/research/csr/ahoj](http://www.psych.ox.ac.uk/research/csr/ahoj)

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