NATIONAL SELF-HARM REGISTRY IRELAND

ANNUAL REPORT 2016

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N S R F

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Coláiste na hOllscoile Corcaigh

Foreword

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The National Self-Harm Registry Ireland (NSHRI) was established over fifteen years ago at the request of the Department of Health and Children, by the National Suicide Research Foundation (NSRF) working in collaboration with the School of Public Health, University College Cork. It is funded by the Health Service Executive's National Office for Suicide Prevention. It is the world's first national registry of cases of intentional self-harm presenting to hospital emergency departments.

The Registry provides a unique opportunity to determine and monitor the incidence and repetition of self-harm presentations to hospital emergency departments in Ireland with the aim of identifying high-incidence groups and informing services, practitioners and policy makers concerned with the prevention of suicidal behaviour. From a public health perspective, the Registry fulfils a major objective in providing real-time data on trends and high risk groups for self-harm in Ireland.

Although the 2016 self-harm rates show a slight increase from 2015, there seems to be a stabilisation in the rate of self-harm in recent years. It should be noted however that the 2016 self-harm rate is still 10% higher than the rate in 2007, the year before the economic recession.

The findings from the Registry continue to highlight groups at risk for self-harm and suicide. In 2016, there was a significant increase in self-harm among women aged 25-29 years and a further narrowing of the gender difference, from 37% in 2004-2005 to 24% in 2016.

We continue to see an increase in methods of self-harm with higher lethality among both men and

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women including those in the younger age groups. Overall, there has been a 72% increase in the use of highly lethal methods between 2007 and 2016. Such high-risk suicidal behaviour is associated with increased levels of suicidal intent, and these patients often require more intensive interventions.

Since 2007, the number of self-harm presentations among homeless people has increased by 55%. An increased evidence base for appropriate interventions for this vulnerable population are necessary.

Information from the Registry informed core actions included in the Irish National Strategy to Reduce Suicide in Ireland, *Connecting for Life*, 2015-2020, and regular updates on self-harm rates are provided to Suicide Resource Officers. Many of the findings from this year's report link closely to all seven strategic goals. Where appropriate, we have highlighted these links. During the implementation of the actions of *Connecting for Life*, the Registry data will guide the implementation and evaluation of actions, both at the level of the population and health services whereby the Registry forms a key component of the Strategy's Outcomes Framework to monitor progress and to examine the impact of implemented actions over the next five years.

In order to improve early identification of contagion and clustering of self-harm and suicide, the NSRF and the School of Public Health, UCC, are currently developing a Suicide and Self-Harm Observatory (SSHO), which will facilitate timely responding and provision of support to people affected.

The findings from the Registry have informed a five-year research programme conducted by the NSRF and the School of Public Health, UCC, funded by the Health Research Board. This research will identify specific risk factors associated with increased risk of repeated self-harm among self-harm patients with a history of frequent self-harm and those who engage in highly lethal acts of self-harm.

Following the publication of the WHO Practice Manual for Establishing and Maintaining Surveillance Systems for Suicide Attempts and Self-Harm in 2016, the NSRF has fulfilled an increasing number of requests to guide countries in developing a regional or national surveillance system for self-harm, based on the template of the Irish Registry, in European, Eastern Mediterranean, Asian and African countries.

We would like to acknowledge the on-going commitment and dedication of the Data Registration Officers in ensuring the high quality operation of the Registry. We would also like to commend the hospital staff for their diligence and dedication in meeting the needs of individuals who present to hospital as a result of self-harm.

Professor Ivan J Perry
Professor Ella Arensman

Executive Summary

This is the fifteenth annual report from the National Self-Harm Registry Ireland. It is based on data collected on persons presenting to hospital emergency departments (EDs) following self-harm in 2016 in the Republic of Ireland. The Registry had near complete coverage of the country's hospitals for the period 2002-2005 and, since 2006, all general hospital and paediatric hospital EDs in the Republic of Ireland have contributed data to the Registry.

From a public health perspective, the Registry fulfils a major objective in providing real-time data on trends and high risk groups for self-harm in Ireland. Information from the Registry informed core actions included in the Irish National Strategy to Reduce Suicide in Ireland, *Connecting for Life*, 2015-2020. During the implementation of the actions of *Connecting for Life*, the Registry data will guide the implementation and evaluation of actions, both at the level of the population and health services whereby the Registry forms a key component of the strategy's outcomes framework to monitor progress and to examine the impact of implemented actions arising from the strategy.

In 2015, the Registry was recognised by the World Health Organisation (WHO) as a template for self-harm surveillance for countries at global level. In this regard, the NSRF worked closely with WHO to produce a Practice Manual for Establishing and Maintaining Surveillance Systems for Suicide Attempts and Self-Harm. The NSRF continues to support other countries in implementing national self-harm surveillance systems.

Main findings

In 2016, the Registry recorded 11,485 presentations to hospital due to self-harm nationally, involving 8,909 individuals. Taking the population into account, the age-standardised rate of individuals presenting to hospital following self-harm in 2016 was 206 per 100,000. Between 2011 and 2013 there were successive decreases in the self-harm rate. An essentially unchanged rate in 2016 indicates a further stabilisation of the rate of self-harm in Ireland since 2013. However, the rate in 2016 was still 10% higher than in 2007, the year before the economic recession.

In 2016, the national male rate of self-harm was 184 per 100,000, 1% lower than in 2015. The female rate of self-harm in 2016 was 229 per 100,000, 3% higher than 2015. Since 2007, the male rate has increased significantly, by 14%, whereas the female rate is still 7% higher than in 2007.

In 2016, the only significant change in the rate of hospital-treated self-harm by age was among women aged 25-29 years, where the rate increased by 17% from 289 to 339 per 100,000.

Rates of self-harm for other age groups remained similar to 2015 figures. As in previous years, the female rate was higher than the male rate but the gender difference has narrowed from 37% in 2004-2005 to 24% in 2016. The peak rate for women was in the 15-19 years age group at 763 per 100,000, whereas the peak rate among men was in 20-24 year-olds at 516 per 100,000. These rates imply that one in every 131 girls in the age group 15-19 and one in every 194 men in the age group 20-24 presented to hospital in 2016 as a consequence of self-harm.

Regional variation

There was variation in the rate of self-harm by region. The male rate varied from 104 per 100,000 for Roscommon to 402 per 100,000 for Cork City. The lowest female rate was recorded for Monaghan (152 per 100,000) with the highest rate recorded for Limerick City residents at 493 per 100,000. Relative to the national rate, a high rate of self-harm was recorded for male and female city residents and for men living in Donegal, Carlow, Tipperary South and Sligo and for women living in Leitrim, Carlow, Offaly and South Dublin. In 2016, high rates for both men and women were seen in Cork City, where the male rate was 2.2 times higher than the national average and the female rate was 56% higher. In Limerick City the female rate was approximately twice as high as the national average while the male rate was 68% higher.

Compared to 2015, significant increases in the male rate of self-harm were observed in Monaghan (+99%), Galway County (+50%), Westmeath (+42%), Donegal (+32%) and Louth (+29%), while significant increases in the female rate of self-harm were observed in Leitrim (+95%), Roscommon (+75%), Offaly (+57%), Waterford County (+41%), Louth (+37%) and Cork City (+23%). Significant decreases in the male rate of self-harm were observed in Roscommon (-36%) and Dublin City (-18%). There were no significant decreases in the female rate of self-harm.

There were 527 presentations made by residents of homeless hostels and people of no fixed abode in 2016, accounting for approximately 5% of all presentations recorded by the Registry. Since 2007, the number of presentations by those with no fixed abode has increased by 55%.

Repetition of self-harm

The proportion of acts accounted for by repetition in 2016 (22.4%) was similar to the years 2003-2009 (range: 20.5-23.1%) and 2013-2015 (range: 20.5-23.1%). Of the 8,909 self-harm patients treated in 2016, 1,330 (14.9%) made at least one repeat presentation to hospital during the calendar year. Therefore, repetition continues to pose a major challenge to hospital staff and family members involved. The person-based rate of repetition was similar in men and women (14.8% vs. 15.0%). Repetition varied significantly by age. Approximately 13% of self-harm patients aged less than 19 years re-presented with self-harm in 2016. The proportion who repeated was highest, at 18%, for 25-54 year-olds.

In 2016, at least five self-harm presentations were made by 143 individuals. These represented just 2% of all self-harm patients, but accounted for 10% of all self-harm presentations recorded. As in previous years, self-cutting was associated with an increased level of repetition. Almost one in five (19.1%) of those who used cutting as their main method of self-harm in their index act made at least one subsequent self-harm presentation in the calendar year. Risk of repetition was greatest in the days and weeks following a self-harm presentation to hospital and the risk increased markedly with each subsequent presentation.

Rates of repetition varied significantly by LHO area. Dublin North Central, Dublin North and Dun Laoghaire had the highest rates of repetition (23.1%, 18.7% and 18.7%, respectively). The lowest rates of repetition were seen in Cavan/ Monaghan, Louth and Roscommon (11.7%, 11.6% and 10.8%, respectively).

For the first time we illustrate the rate of repetition by hospital compared to the national rate using a funnel plot. For the majority of hospitals, the rate of repetition was similar to the national average (14.9%). A few large hospitals lie above the upper limit of the expected range indicating that their repetition rate is higher than the national rate. This may be a consequence of the profile of self-harm patients presenting to these hospitals or other factors and warrant examination using data over a longer time period.

Methods of self-harm

Intentional drug overdose was the most common method of self-harm, involved in 67% of all acts registered in 2016. Minor tranquillisers, paracetamol-containing medicines and anti-depressants/mood stabilisers were involved in 35%, 30% and 19% of drug overdose acts, respectively.

Attempted hanging was involved in 7% of all self-harm presentations (11% for men and 4% for women). At 765, the number of presentations involving attempted hanging was 3% lower than 2015 (-2% for men and -5% for women). However, between 2007 and 2016, the proportion of self-harm presentations involving hanging increased by 72%.

Cutting was the only other common method of self-harm, involved in 27% of all episodes. Cutting was more common in men (28%) than in women (26%). The number of self-harm presentations involving cutting increased among women by 8% in 2016. In 98% of all cases involving self-cutting, the treatment received was recorded. One quarter (25%) received steristrips or steribonds, 53% did not require any treatment, 19% required sutures while 3% were referred for plastic surgery. Men who cut themselves more often required intensive medical treatment, which reflects greater severity of self-cutting in males versus females.

Alcohol was involved in just under one third of all cases (31%). Alcohol was significantly more often involved in male episodes of self-harm than female episodes (34% versus 29%, respectively). Alcohol may be one of the factors underlying the pattern of presentations with self-harm by time of day and day of week. Presentations peaked in the hours around midnight and almost one-third of all presentations occurred on Sundays and Mondays.

Clinical management of self-harm

In 2016, 71% (n=7,706) of patients were assessed by a member of the mental health team in the hospital. Assessment was most common following attempted hanging (80%) and attempted drowning (79%). Overall, 81% of those not admitted to the presenting hospital received a psychiatric assessment prior to discharge. However, only 11% of patients who left before recommendation/against medical advice received an assessment.

Overall, in 13% of 2016 cases, the patient left the ED before a next care recommendation could be made. Following their treatment in the ED, inpatient admission was the next stage of care recommended for 32% of cases (general or psychiatric admission). Most commonly, 55% of cases were discharged following treatment in the ED. Next care varied significantly by HSE hospital group. The observed variation in recommended next care is likely to be due to variation in the availability of resources and services but it also suggests that assessment and management procedures with respect to self-harm patients are likely to be variable and inconsistent across the country.

In 2016, three-quarters (76%) of patients discharged from the presenting ED were provided with a referral. In 34% of episodes, an out-patient appointment was recommended as a next care step for the patient. Recommendations to attend their GP for a follow-up appointment were given to 18% of discharged patients. Of those not admitted to the presenting hospital, 11% were transferred to another hospital for treatment. Other services (e.g. psychological services, community-based mental health teams and addiction services) were recommended in 13% of episodes.

Recommendations

The 2016 Registry outcomes underline an on-going need for prevention and intervention programmes to be implemented at national level. Increased and continued support should be provided for evidence-informed and best practice prevention and mental health promotion programmes in line with relevant strategic goals and actions in *Connecting for Life*. The recommendations and activities arising from the 2016 report findings are outlined here under the strategic goals of *Connecting for Life*. A number of the recommendations are consistent with those proposed in recent years and a number of key outcomes indicate ongoing priorities.

Assessment of self-harm

The Registry consistently provides evidence for different types of self-harm patients presenting to EDs, such as those engaging in highly lethal acts of self-harm with high risk of subsequent suicide and those using methods with low lethality but who may be at risk of non-fatal repetition. While it is strongly recommended that all self-harm patients presenting to the ED should receive a comprehensive risk and psychosocial-psychiatric assessment, recommended treatment should be tailored according to the patient's needs and risk of subsequent suicidal behaviour.[1] This links in directly with **Goal 4** of *Connecting for Life*.

GOAL 4:
To enhance accessibility, consistency and care pathways of services for people vulnerable to suicidal behaviour.

General population awareness

Considering that in 2016 the rate of self-harm is still 10% higher than in 2007, there is need for continued implementation and evaluation of programmes to increase awareness of mental health issues among the general population – in particular those who are unemployed and those experiencing financial difficulties. This is particularly true for young and middle aged men in Ireland, who showed a significant increase in both self-harm and suicide during the economic recession. There is growing evidence for the effectiveness of multi-level community based self-harm and suicide prevention programmes. This links in with **Goals 1** and **2** of *Connecting for Life*, specifically:

GOAL 1:
To improve the nation's understanding of and attitudes to suicidal behaviour, mental health and wellbeing.

GOAL 2:
To support local communities' capacity to prevent and respond to suicidal behaviour.

Access to medication

In line with previous years, drug overdose was the most common method of self-harm recorded by the Registry. Minor tranquilisers were involved in approximately one-third of all overdoses. The Registry recorded an increase in the number of self-harm presentations involving drug overdose in 2016. In particular, there were increases in overdoses involving paracetamol-containing medication as well as Tricyclic Antidepressants. There was no change in the number of overdose acts involving street drugs (involving substances such as cannabis, ecstasy and heroin), following an increase of 18% in 2015. Considering that since the start of the Registry in 2003, minor tranquillisers have been the most frequently used type of drug involved in intentional overdoses, reducing access to minor tranquillisers and other frequently used drugs should be an ongoing priority in line with **Goal 6** of *Connecting for Life*. Considering the on-going high rate of self-harm involving paracetamol, it would be important to review the legislation to reduce access to paracetamol, which was implemented in Ireland in 2001.

GOAL 6:
To reduce and restrict access to means of suicidal behaviour.

[1] National Institute for Health and Care Excellence (2004). *Self-harm: The short-term physical and psychological management and secondary prevention of self-harm in primary and secondary care.* London: NICE.

High-risk groups

Despite a small decrease in self-harm acts involving attempted hanging in 2016, the proportion of presentations involving highly-lethal methods has steadily increased in recent years. In line with previous research, more innovative and intensified efforts should be made to reduce self-harm and suicide by hanging. This highlights the importance of suicide risk assessment combined with psychiatric and psychosocial assessment considering the high risk of subsequent suicide, linking in with **Goal 6** of the *Connecting for Life* strategy:

In 2016, a total of 527 presentations were made by people of no fixed abode or residents of homeless hostels. While representing a small proportion of overall presentations, the homeless are a particularly vulnerable population, at high risk of repetition and mortality from all causes.[2] Further work to explore the specific challenges of treating self-harm among the homeless is required, and targeted interventions for such a population are necessary, as addressed by **Goal 3** of the *Connecting for Life* strategy:

Goal 3:
To target approaches to reduce suicidal behaviour and improve mental health among priority groups.

Alcohol and self-harm

In line with previous years, misuse or abuse of alcohol is one of the factors associated with the higher rate of self-harm presentations on Sundays, Mondays and public holidays, around the hours of midnight. Recent publications from the Registry data have highlighted the role of alcohol in self-harm.[3-4] Persons who present to hospital following self-harm involving alcohol are more likely to leave the ED without being seen. Such complex presentations indicate the need for active consultation and collaboration between the mental health services and addiction treatment services for patients who present will dual diagnoses. In addition, alcohol involvement has been shown to be strongly associated with self-harm presentations out-of-hours, at weekends and on public holidays. These findings underline the need for continued efforts to enhance health service capacity at specific times and to intensify national strategies to increase awareness of the risks involved in the use and misuse of alcohol. This is supported by *Connecting for Life*'s **Goal 3**.

Reducing rates of repetition

The current report shows ongoing evidence that self-cutting is the method most strongly associated with high-risk of repeated self-harm following a presentation to an ED.[5] There is need for continued efforts to prioritise national implementation of evidence-based treatments shown to reduce risk of repetition, such as cognitive behavioural and dialectical behavioural interventions.[6] This represents further evidence supporting the need to prioritise the implementation of the *Connecting for Life* **Goal 4** as mentioned above.

Standardising next care

In line with previous years, there was considerable variation in the next care recommended to self-harm patients, and the proportion of patients who left hospital before a recommendation. Variations in the referral pathway for patients were recorded across hospital groups. It is recommended that the guidelines for the assessment and management of self-harm patients presenting to hospital be implemented nationally as a matter of priority. This links in with **Goal 5** of *Connecting for Life*:

Goal 5:
To ensure safe and high-quality services for people vulnerable to suicide.

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[2] Haw, C., et al. (2006). Deliberate self-harm patients of no fixed abode: A study of characteristics and subsequent deaths in patients presenting to a general hospital. *Social Psychiatry and Psychiatric Epidemiology*. 41: 918-25.

[3] Griffin, E., et al. (2017). The paradox of public holidays: Hospital-treated self-harm and associated factors. *Journal of Affective Disorders*. 218: 30-4.

[4] Griffin, E., et al. (2017). The involvement of alcohol in hospital-treated self-harm and associated factors: Findings from two national registries. *Journal of Public Health*. 1-7.

[5] Arensman, E., et al. (2013). Factors associated with self-cutting as a method of self-harm: Findings from the Irish National Registry of Deliberate Self-Harm. *European Journal of Public Health*. 24(2): 292-7.

[6] Hawton, K., et al. (2016). Psychosocial interventions following self-harm in adults: A systematic review and meta-analysis. *Lancet Psychiatry*. 3(8): 740-50.

2016 statistics at a glance

Presentations
11,485

Persons
8,909

Rate in 2016
10% higher than 2007

RATES:

206
per 100,000

1 in every 485
had a self-harm act

Male: 20-24 year-olds
(516 per 100,000)
1 in every 194

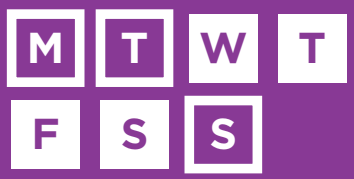
Female: 15-19 year-olds
(763 per 100,000)
1 in every 131

PEAK RATES WERE AMONG YOUNG PEOPLE

TIME:

Peak time

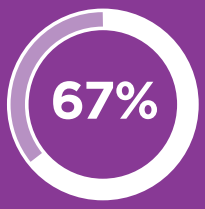
Almost **half** of presentations were made between 7pm-3am



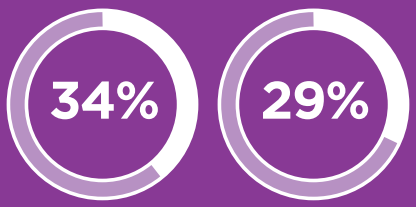
Monday, Tuesday and **Sunday** had the highest number of self-harm presentations

METHOD:

2 in every 3
involved **overdose**



1 in every 3
involved **alcohol**



Men **Women**

One-quarter
involved **self-cutting**

TREATMENT:

71%
received an assessment in the ED

76% received a follow-up recommendation after discharge

13%
left the ED without being seen

GEOGRAPHY:

291
per 100,000

155
per 100,000

Urban **Rural**

Higher incidence of self-harm in urban areas

Recent publications from the Registry (2016-2017)

In 2016/2017, two publications from the Registry have highlighted the role of alcohol in hospital-treated self-harm. The first examined the association between alcohol and patterns of self-harm on public holidays. The second, in collaboration with the Northern Ireland Self-Harm Registry, explored factors associated with alcohol being present in self-harm presentations. A third paper explored the patterns of repeat self-harm among young people.

The paradox of public holidays: Hospital-treated self-harm and associated factors

Griffin, E, Dillon, CB, O'Regan, G, Corcoran, P, Perry, IJ, Arensman, E. (2017). Journal of Affective Disorders (218) 30-34.

Recent research on the patterns of self-harm around public holidays is lacking. This study used national data to examine the patterns of hospital-treated self-harm during public holidays, and to examine associated factors.

A total of 104,371 presentations of self-harm were recorded between 2007 and 2015. The mean number of self-harm presentations was 32 on public holidays. St. Patrick's Day had the highest number of presentations compared to all other public holidays, with a daily mean of 44 presentations. Across all years, self-harm presentations during public holidays had a 24% increased risk of involving alcohol consumption compared to all other days and this effect was most pronounced during the Christmas period (Figure 1). Presentations on public holidays were more likely to attend out of normal working hours. An increase in male presentations involving self-cutting was observed on public holidays and there was an over-representation of males presenting for the first time.

Public holidays are associated with an elevated number of self-harm presentations to hospital, with presentations to hospital involving alcohol significantly increased on these days. Hospital resources should be targeted to address increases during public holidays and out-of-hours. Involvement of alcohol may delay delivery of care to these patients in emergency settings.

Risk of repeated self-harm and associated factors in children, adolescents and young adults

Bennardi, M, McMahon, E, Corcoran, P, Griffin, E, Arensman, E. (2017). BMC Psychiatry, 16: 421.

Background: Repeated self-harm represents the single strongest risk factor for suicide. To date no study with full national coverage has examined the pattern of hospital repeated presentations due to self-harm among young people.

Methods: Data on consecutive self-harm presentations were obtained from the National Self-Harm Registry Ireland. Characteristics of individuals aged 10–29 years who presented with self-harm to emergency departments in Ireland (2007–2014) were analysed.

Results: The total sample comprised 28,700 individuals involving 42,642 presentations. Intentional drug overdose was the most prevalent method (57.9%). Repetition of self-harm occurred in 19.2% of individuals during the first year following a first presentation. Overall, the risk of repeated self-harm was similar between males and females. However, in the 20–24- year-old age group males were at higher risk than females. Those who used self-cutting were at higher risk for repetition, particularly among females. Repeated self-harm risk increased significantly with the number of previous self-harm episodes. Time between second and third presentation increased compared to time between first and second presentation among low frequency repeaters. The same time period decreased among high frequency repeaters.

Conclusion: Young people with the highest risk for repeated self-harm were 15–19-year-old females and 20–24-year-old males. Self-cutting was the method associated with the highest risk of self-harm repetition. Time between first self-harm presentations represents an indicator of subsequent repetition. To prevent risk of repeated self-harm in young people, all individuals presenting at emergency departments due to self-harm should be provided with a risk assessment including psychosocial characteristics, history of self-harm and time between first presentations.

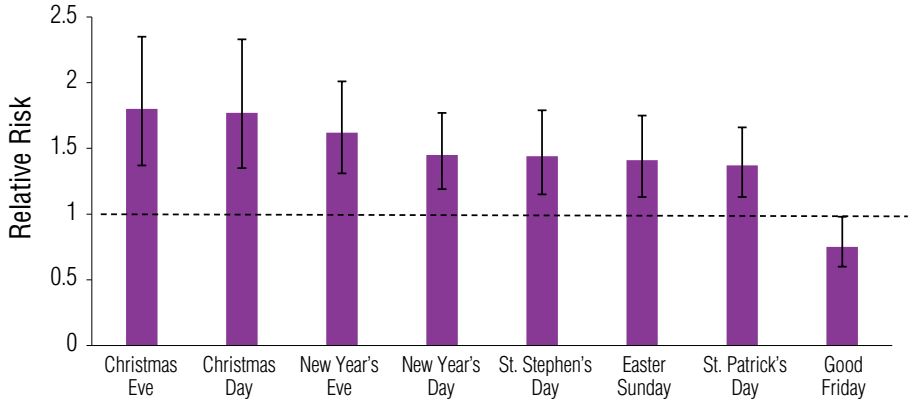


Fig 1. Association between alcohol and self-harm presentations on public holidays.

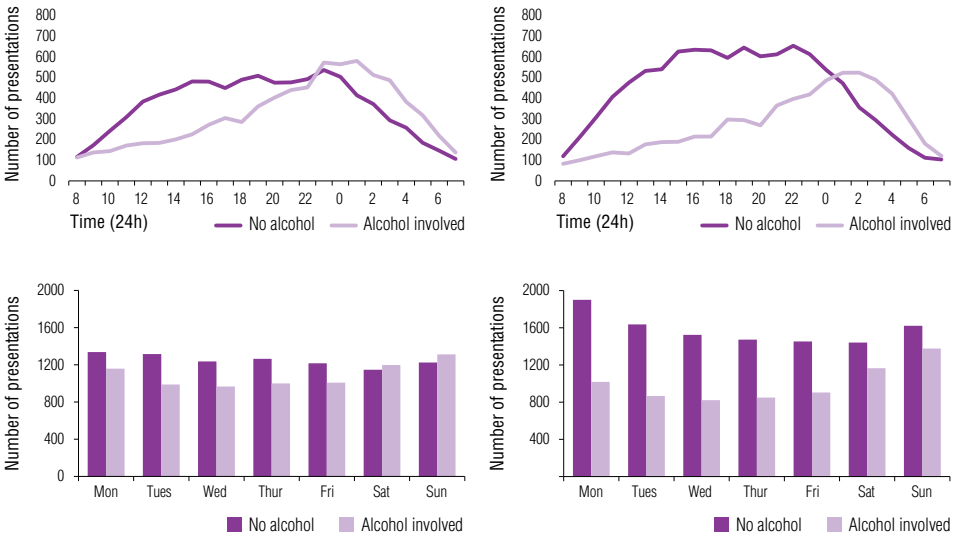


Fig 2. Alcohol involvement by time and day of attendance for males (left) and females (right).

The involvement of alcohol in hospital-treated self-harm and associated factors: Findings from two national registries

Griffin, E, Arensman, E, Perry, IJ, Bonner, B, O'Hagan, D, Daly, C, Corcoran, P. (2017). Journal of Public Health, 1-7.

Alcohol is often involved in hospital-treated self-harm. Therefore it is important to establish the role of alcohol in self-harm as well as to identify associated factors, in order to best inform service provision.

Data on self-harm presentations to hospital emergency departments in Ireland and Northern Ireland from April 2012 to December 2013 were analysed. We calculated the prevalence of alcohol consumption in self-harm. Using Poisson regression models, we identified the factors associated with having consumed alcohol at the time of a self-harm act.

Alcohol was present in 43% of all self-harm acts, and more common in Northern Ireland (50% versus 37%). The factors associated with alcohol being involved were being male, aged between 25 and 64 years, and having engaged in a drug overdose or attempted drowning.

Presentations made out-of-hours were more likely to have alcohol present and this was more pronounced for females (Figure 2). Patients who had consumed alcohol were also more likely to leave without having been seen by a clinician.

This study has highlighted the prevalence of alcohol in self-harm presentations, and has identified factors associated with presentations involving alcohol. Appropriate out-of-hours services in emergency departments for self-harm presentations could reduce the proportion of presentations leaving without being seen by a clinician and facilitate improved outcomes for patients.

Impact of the Registry

Contribution of the Registry to implementation and evaluation of self-harm intervention and prevention programmes in Ireland and internationally

Information from the Registry has guided further research as well as the development and implementation of recommendations and specific interventions, including:

1. Data from the Registry forms a key component of the outcomes framework for the *Connecting for Life, 2015-2010* Strategy, in order to monitor progress and to examine the impact of implemented actions. In particular, Registry data has been used to inform local *Connecting for Life* action plans.

2. The findings from the Registry have informed a five-year research programme conducted by the NSRF and the School of Public Health, UCC. This study will identify specific risk factors associated with increased risk of repeated self-harm among self-harm patients with frequent self-harm and those who engage in highly lethal acts of self-harm.

3. In relation to Goal 5 of *Connecting for Life*, the NSRF and the National Office for Suicide Prevention are collaborating with the Irish Prison Service to improve surveillance and monitoring of self-harm in Irish prisons (commencing in 2017).

4. On-going work is being undertaken by the NSRF to link the Registry data with suicide mortality data obtained through the Suicide Support and Information System in Cork and the Central Statistics Office data. The NSRF and the School of Public Health, UCC are currently establishing a Suicide and Self-Harm Observatory, with the aim to obtain real-time data on self-harm and suicide.

5. The main benefits of the Registry are to detect trends and patterns of suicidal behaviour in Ireland. In addition, we have collaborated with the Public Health Agency, Northern Ireland, to develop a series of publications which provide insight into suicidal behaviour on the island of Ireland.

6. Following the publication of the WHO Practice Manual for Establishing and Maintaining Surveillance Systems for Suicide Attempts and Self-Harm, which is based on the template of the Registry, the NSRF is providing self-harm surveillance workshops with the WHO in a growing number of countries.

Methods

Background

The National Suicide Research Foundation was founded in January 1995 by the late Dr Michael J Kelleher and in 2016 operated under the Medical Directorship of Dr Margaret Kelleher, the Research Directorship of Professor Ella Arensman and Professor Ivan J Perry as Director of the National Self-Harm Registry Ireland. Ms Eileen Williamson is the Executive Director.

Funding statement

The National Self-Harm Registry Ireland is a national system of population monitoring for the occurrence of hospital-treated self-harm. It was established, at the request of the Department of Health and Children, by the National Suicide Research Foundation and is funded by the Health Service Executive's National Office for Suicide Prevention. This report has been commissioned by the National Office for Suicide Prevention.

Definition and terminology

The Registry uses the following as its definition of self-harm: 'an act with non-fatal outcome in which an individual deliberately initiates a non-habitual behaviour, that without intervention from others will cause self-harm, or deliberately ingests a substance in excess of the prescribed or generally recognised therapeutic dosage, and which is aimed at realising changes that the person desires via the actual or expected physical consequences'. This definition was developed by the WHO/Euro Multicentre Study Working Group and was associated with the term 'parasuicide'. Internationally, the term parasuicide has been superseded by the term 'deliberate self-harm' and consequently, the Registry has adopted the term 'self-harm'. The definition includes acts involving varying levels of suicidal intent and various underlying motives such as loss of control, cry for help or self-punishment.

Inclusion criteria

- All methods of self-harm are included i.e., drug overdoses, alcohol overdoses, lacerations, attempted drownings, attempted hangings, gunshot wounds, etc. where it is clear that the self-harm was intentionally inflicted.
- All individuals who are alive on admission to hospital following a self-harm act are included.

Exclusion criteria

The following cases are NOT considered to be self-harm:

- Accidental overdoses e.g., an individual who takes additional medication in the case of illness, without any intention to self-harm.
- Alcohol overdoses alone where the intention was not to self-harm.
- Accidental overdoses of street drugs i.e., drugs used for recreational purposes, without the intention to self-harm.
- Individuals who are dead on arrival at hospital as a result of suicide.

Quality control

The validity of the Registry findings is dependent on the standardised application of the case-definition and inclusion/exclusion criteria. The Registry has undertaken a cross-checking exercise in which pairs of data registration officers independently collected data from two hospitals for the same consecutive series of attendances to the emergency department. Results indicated that there is a very high level of agreement between the data registration officers. Furthermore, the data are continuously checked for consistency and accuracy.

Data recording

Since 2006, the Registry has recorded its data onto encrypted laptop computers and transferred the data electronically to the offices of the National Suicide Research Foundation. Data for all self-harm presentations made in 2016 were recorded using this electronic system.

Data items

A minimal dataset has been developed to determine the extent of self-harm, the circumstances relating to both the act and the individual and to examine trends by area. While the data items below will enable the system to avoid duplicate recording and to recognise repeat acts of self-harm by the same individual, they ensure that it is impossible to identify an individual on the basis of the data recorded.

Initials

Initial letters from an individual self-harm patient's name are recorded in an encrypted form by the Registry data entry system for the purposes of avoiding duplication, ensuring that repeat episodes are recognised and calculating incidence rates based on persons rather than events.

Gender

Male or female gender is recorded when known.

Date of birth

Date of birth is recorded in an encoded format to further protect the identity of the individual. As well as being used to identify repeat self-harm presentations by the same individual, date of birth is used to calculate age.

Area of residence

Patient addresses are coded to the appropriate electoral division and small area code where applicable.

Date and hour of attendance at hospital

Brought to hospital by ambulance

Method(s) of self-harm

The method(s) of self-harm are recorded according to the Tenth Revision of the WHO's International Classification of Diseases codes for intentional injury (X60-X84). The main methods are overdose of drugs and medicaments (X60-X64), self-poisonings by alcohol (X65), poisonings which involve the ingestion of chemicals, noxious substances, gases and vapours (X66-X69) and self-harm by hanging (X70), by drowning (X71) and by sharp object (X78). Some individuals may use a combination of methods e.g., overdose of medications and self-cutting. In this report, results generally relate to the 'main method' of self-harm. In keeping with standards recommended by the WHO/Euro Study on Suicidal Behaviour, this is taken as the most lethal method employed. For acts involving self-cutting, the treatment received was recorded when known.

Drugs taken

Where applicable, the name and quantity of the drugs taken are recorded.

Medical card status

Whether the individual presenting has a medical card or not is recorded.

Mental health assessment

Whether the individual presenting had a review or assessment by the psychiatric team in the presenting hospital emergency department is recorded.

Recommended next care

Recommended next care following treatment in the hospital emergency department is recorded.

Confidentiality

Confidentiality is strictly maintained. The National Suicide Research Foundation is registered with the Data Protection Agency and complies with the Irish Data Protection Act of 1988 and the Irish Data Protection (Amendment) Act of 2003. Only anonymised data are released in aggregate form in reports. The names and addresses of patients are not recorded.

Ethical approval

Ethical approval has been granted by the National Research Ethics Committee of the Faculty of Public Health Medicine. The Registry has also received ethical approval from the relevant hospitals and Health Service Executive (HSE) ethics committees.

Registry coverage

In 2016, self-harm data were collected from each HSE region in the Republic of Ireland (pop: 4,673,800): the HSE Dublin/ Mid-Leinster Region (pop: 1,378,331),

HSE Dublin/ North East Region (pop: 1,046,369), HSE South Region (pop: 1,185,100), and HSE West Region (pop: 1,064,000).

There was complete coverage of all acute hospitals in the Republic of Ireland.

There was complete coverage of all acute hospitals in the Ireland East Hospital Group – Mater Misercordiae University Hospital, Midland Regional Hospital, Mullingar, Our Lady's Hospital Navan, St. Columcille's Hospital, Loughlinstown, St. Luke's Hospital, Kilkenny, St. Michael's Hospital, Dun Laoghaire, Wexford General Hospital and another hospital whose ethics committee stipulated that it should not be named in Registry reports.

There was complete coverage of all acute hospitals in the Dublin Midlands Hospital Group – Midland Regional Hospital, Portlaoise, Midland Regional Hospital, Tullamore, Naas General Hospital, St. James's Hospital and Adelaide and Meath Hospital Tallaght Hospital (adults).

There was complete coverage of all acute hospitals in the RCSI Hospital Group – Beaumont Hospital, Cavan General Hospital, Connolly Hospital, Blanchardstown and Our Lady of Lourdes Hospital, Drogheda.

There was complete coverage of all acute hospitals in the South/ South West Hospital Group – Bantry General Hospital, Cork University Hospital, University Hospital, Kerry, Mallow General Hospital, Mercy University Hospital, Cork, South Tipperary General Hospital and University Hospital, Waterford.

There was complete coverage of all acute hospitals in the University of Limerick Hospital Group – Ennis Hospital, Nenagh Hospital, St. John's Hospital, Limerick and University Hospital, Limerick.

There was complete coverage of all acute hospitals in the Saolta University Health Care Group – Galway University Hospital, Letterkenny General Hospital, Mayo General Hospital, Portiuncula Hospital, Ballinasloe and Sligo Regional Hospital.

There was complete coverage of all hospitals in the Children's Hospital Group – Children's University Hospital at Temple Street, National Children's Hospital at Tallaght Hospital and Our Lady's Children's Hospital, Crumlin.

In total, self-harm data were collected for the full calendar year of 2016 for all 36 acute hospitals that operated in Ireland during this year. As mentioned previously, since 2006 the Registry has had complete coverage of all acute hospitals in Ireland.

In 2013, a number of hospital emergency departments were re-designated as Model 2 status hospitals as part of the HSE's *Securing the Future of Smaller Hospitals* framework, with some of these hospitals closing their emergency department and others operating on reduced hours. The hospitals which continue to have emergency departments on reduced hours include: Bantry General Hospital, Ennis Hospital, Mallow General Hospital, Nenagh Hospital, St. Columcille's Hospital, Loughlinstown and St. John's Hospital, Limerick. Data from these hospitals continue to be recorded by the Registry for 2016.

Population data

For 2016, the Central Statistics Office population estimates were utilised. These estimates provide age-sex-specific population data for the country and its constituent regional authority areas. Proportional differences between the 2016 regional authority population estimates and the equivalent National Census 2011 figures were calculated and applied to the National Census 2011 population figures for Irish cities, counties and HSE region figures in order to derive population estimates for 2016. For urban and rural district populations and HSE Local Health Office areas, National Census 2011 population data were utilised.

Calculation of rates

Self-harm rates were calculated based on the number of persons resident in the relevant area who engaged in self-harm irrespective of whether they were treated in that area or elsewhere. Crude and age-specific rates per 100,000 population were calculated by dividing the number of persons who engaged in self-harm (n) by the relevant population figure (p) and multiplying the result by 100,000, i.e. (n/p) * 100,000.

European age-standardised rates (EASRs) are the incidence rates that would be observed if the population under study had the same age composition as a theoretical European population. Adjusting for the age composition of the population under study ensures that differences observed by gender or by area are due to differences in the incidence of self-harm rather than differences in the composition of the populations. EASRs were calculated as follows: for each five-year age group, the number of persons who engaged in self-harm was divided by the population at risk and then multiplied by the number in the European standard population. The EASR is the sum of these age-specific figures.

A note on small numbers

Calculated rates that are based on less than 20 events may be an unreliable measure of the underlying rate. In addition, self-harm events may not be independent of one another, although these assumptions are used in the calculation of confidence intervals, in the absence of any clear knowledge of the relationship between these events.

The Registry recorded eight cases of self-harm for which patient initials, gender or date of birth were unknown. These eight cases have been excluded from the findings reported here. In addition, a small number of self-harm patients presented to hospital more than once on the same calendar day. This happened for a variety of reasons including being transferred to another hospital, absconding and returning, etc. These patients were considered as receiving one episode of care and were recorded once in the finalised Registry database for 2016.

A note on confidence intervals

Confidence intervals provide us with a margin of error within which underlying rates may be presumed to fall on the basis of observed data. Confidence intervals assume that the event rate (n/p) is small and that the events are independent of one another. A 95% confidence interval for the number of events (n), is $n +/- 2\sqrt{n}$. For example, if 25 self-harm presentations are observed in a specific region in one year, then the 95% confidence interval will be $25 +/- 2\sqrt{25}$ or 15 to 35. Thus, the 95% confidence interval around a rate ranges from $(n - 2\sqrt{n}) / p$ to $(n + 2\sqrt{n}) / p$, where p is the population at risk. If the rate is expressed per 100,000 population, then these quantities must be multiplied by 100,000.

A 95% confidence interval may be calculated to establish whether the two rates differ statistically significantly. The difference between the rates is calculated. The 95% confidence interval for this rate difference (rd) ranges from $rd - 2\sqrt{(n_1 / p_1^2 + n_2 / p_2^2)}$ to $rd + 2\sqrt{(n_1 / p_1^2 + n_2 / p_2^2)}$. If the rates were expressed per 100,000 population, then $2\sqrt{(n_1 / p_1^2 + n_2 / p_2^2)}$ must be multiplied by 100,000 before being added to and subtracted from the rate difference. If zero is outside of the range of the 95% confidence interval, then the difference between the rates is statistically significant.

Mapping of self-harm data

Rates of self-harm by gender and repetition rates according to Local Health Office (LHO) are illustrated in the report using maps. QGIS, version 2.14, was used to generate the maps (www.qgis.org).

Acknowledgements

The following is the team of people who collected the data that formed the basis of this Annual Report. Their efforts are greatly appreciated.

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SECTION I:

Hospital Presentations

Hospital-treated self-harm in the Republic of Ireland

For the period from 1 January to 31 December 2016, the Registry recorded 11,485 self-harm presentations to hospital that were made by 8,909 individuals. Thus, the number of self-harm presentations and the number of persons involved were similar to those recorded in 2015. Table 1 summarises the changes in the number of presentations and persons since the Registry reached near national coverage in 2002.

	PRESENTATIONS		PERSONS	
YEAR	Number	% difference	Number	% difference
2002	10,537	-	8,421	-
2003	11,204	+6%	8,805	+5%
2004	11,092	-1%	8,610	-2%
2005	10,789	-3%	8,594	-<1%
2006	10,688	-1%	8,218	-4%
2007	11,084	+4%	8,598	+5%
2008	11,700	+6%	9,218	+7%
2009	11,966	+2%	9,493	+3%
2010	12,337	+3%	9,887	+4%
2011	12,216	-1%	9,834	-<1%
2012	12,010	-2%	9,483	-4%
2013	11,061	-8%	8,772	-8%
2014	11,126	+<1%	8,708	-<1%
2015	11,189	+1%	8,791	+1%
2016	11,485	+3%	8,909	+1%

Table 1: Number of self-harm presentations and persons who presented in the Republic of Ireland in 2002-2016 (2002-2005 figures extrapolated to adjust for hospitals not contributing data).

The age-standardised rate of individuals presenting to hospital in the Republic of Ireland following self-harm in 2016 was 206 (95% Confidence Interval (CI): 202 to 210) per 100,000. There was a slight increase on the rate of 204 (95% CI: 199 to 208) per 100,000 from 2015, although it wasn't significant. In recent years there were successive decreases in the self-harm rate between 2011 and 2013, and an essentially unchanged rate between 2013 and 2014. The incidence of self-harm in Ireland is examined in detail in Section II of this report.

The numbers of self-harm episodes treated in the Republic of Ireland by HSE region, hospital group, age and gender are given in Appendix 1. Of the recorded presentations in 2016, 44% were made by men and 56% were made by women. Self-harm episodes were generally confined to the younger age groups. Just under half of all presentations (48%) were by people under 30 years of age and 86% of presentations were by people aged less than 50 years.

In most age groups the number of self-harm acts by women exceeded the number by men. This was most pronounced in the 10-14 year age group where there were three times as many female presentations. The number of self-harm presentations made by men was slightly higher than the number made by women (5%) in the 30-34 year age group.

In line with 2015, 527 (4.6%) self-harm presentations were by residents of homeless hostels and people of no fixed abode and 46 (0.4%) were made by hospital inpatients.

Self-harm by HSE Hospital Group

Based on provisional figures acquired from the HSE Business Intelligence Unit, self-harm accounted for 0.89% of total attendances to general emergency departments in the country. This percentage of attendances accounted for by self-harm varied by HSE hospital group from 0.23% in the Children's, 0.80% in the Saolta University, 0.80% in the University of Limerick, 0.97% in the Ireland East, 0.98% in the RCSI, 1.00% in the South/ South West, and 1.11% in the Dublin Midlands hospital groups.

The proportion of self-harm presentations treated in each hospital group in 2016 ranged from 2% in the Children's, 6% in the University of Limerick, to 14% in the Saolta University, 15% in the RCSI, 19% in the Dublin Midlands, 20% in the South/ South West and 23% in the Ireland East hospital group.

The gender balance of recorded episodes in 2016 (at 44% men to 56% women) varied by hospital group (Figure 1). Self-harm presentations by women outnumbered those by men in all of the seven hospital groups.

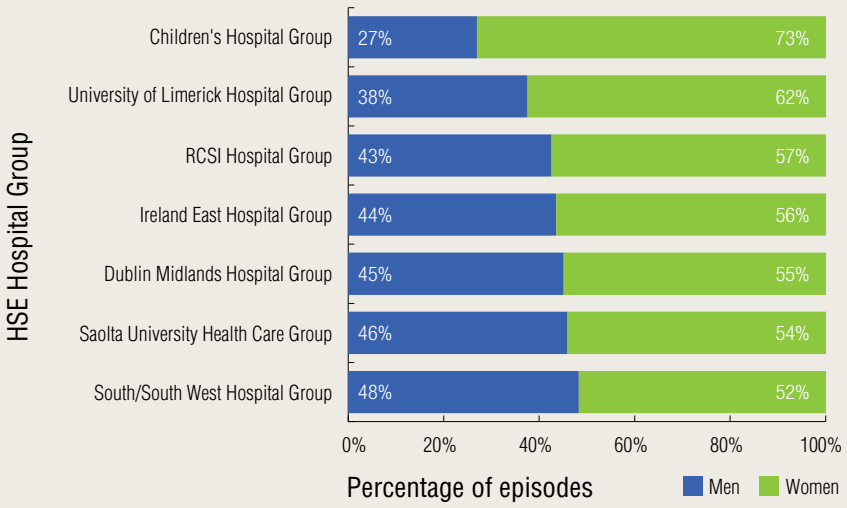


Figure 1: Gender balance of self-harm presentations by HSE hospital group.

Annual change in self-harm presentations to hospital

While the national number of self-harm presentations to hospital in 2016 was similar to that in 2015, there were some relatively large changes in the number of presentations at the level of the individual hospitals (Figures 2a and 2b). Overall, 18 general hospitals saw an increase in self-harm presentations between 2015 and 2016, while 12 general hospitals saw a decrease during the same period. There was no change in self-harm presentations at 3 hospitals. Overall, the most pronounced changes were in small hospitals, where three hospitals saw decreases of 23% or more. This change in self-harm presentations is thought to reflect the re-designation in 2013 of a number of hospitals as Model 2 status hospitals, with emergency departments closing or working on reduced hours.[1]

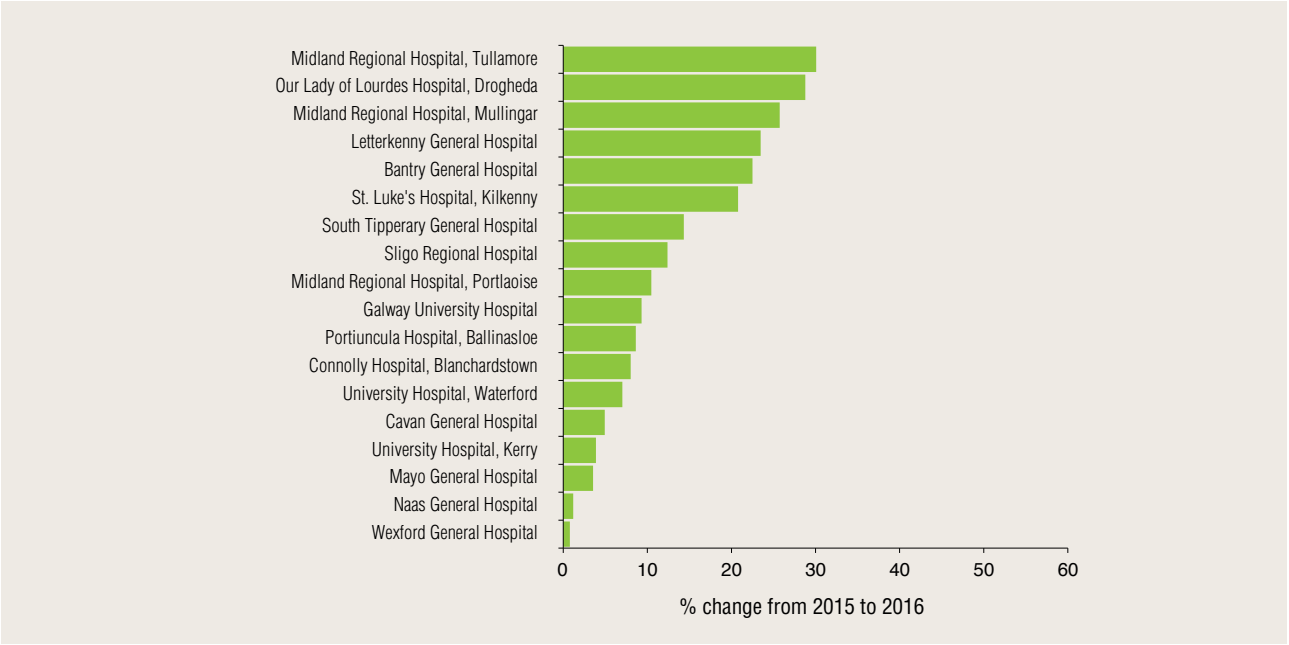


Figure 2a: Hospitals receiving more self-harm presentations in 2016.

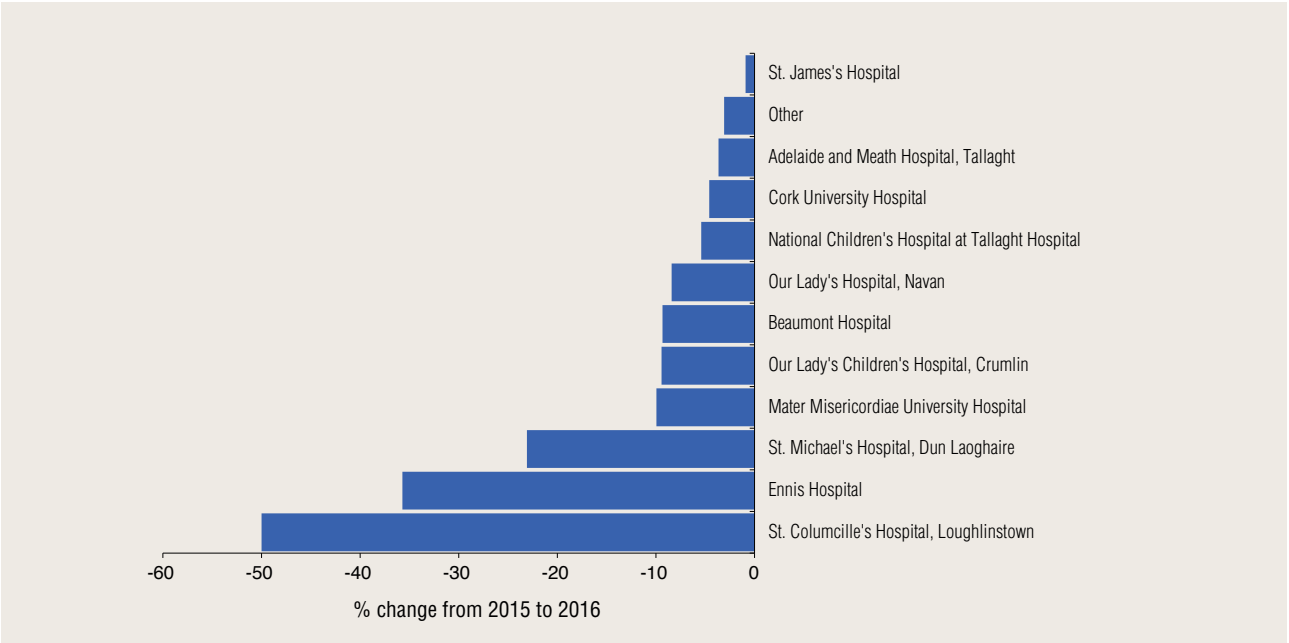


Figure 2b: Hospitals receiving fewer self-harm presentations in 2016.[2]

[1] It should be noted that in small hospitals, large percentage changes are based on relatively small numbers.

[2] Figure 2b excludes two hospitals where the decrease was based on very small numbers (n<5).

Episodes by time of occurrence

Variation by month

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Men	443	428	414	416	459	426	474	390	454	397	379	390	5070
Women	576	538	537	491	604	534	556	539	507	550	504	479	6415
Total	1019	966	951	907	1063	960	1030	929	961	947	883	869	11485

Table 2: Number of self-harm presentations in 2016 by month for men and women.

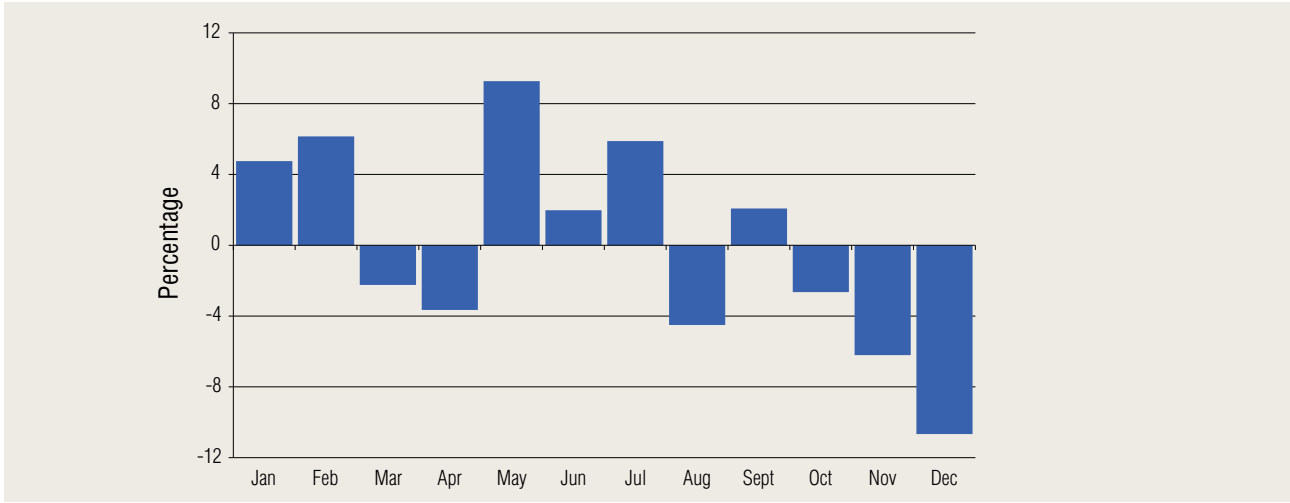


Figure 3: Percentage difference between the observed and expected number of self-harm presentations by month in 2016.

The monthly average number of self-harm presentations to hospitals in 2016 was 957. Figure 3 illustrates the percentage difference between observed and expected number of presentations, accounting for the number of days in each calendar month. In 2016, there were more self-harm presentations than might be expected across a number of months. In particular, February, May and July recorded 6%, 9% and 6% more presentations than might be expected. The end of year fall in presentations was similar to previous years. August received 5% fewer presentations than might be expected. Between October and December fewer presentations than might be expected were recorded (-3%, -6% and -11%, respectively).

Variation by day

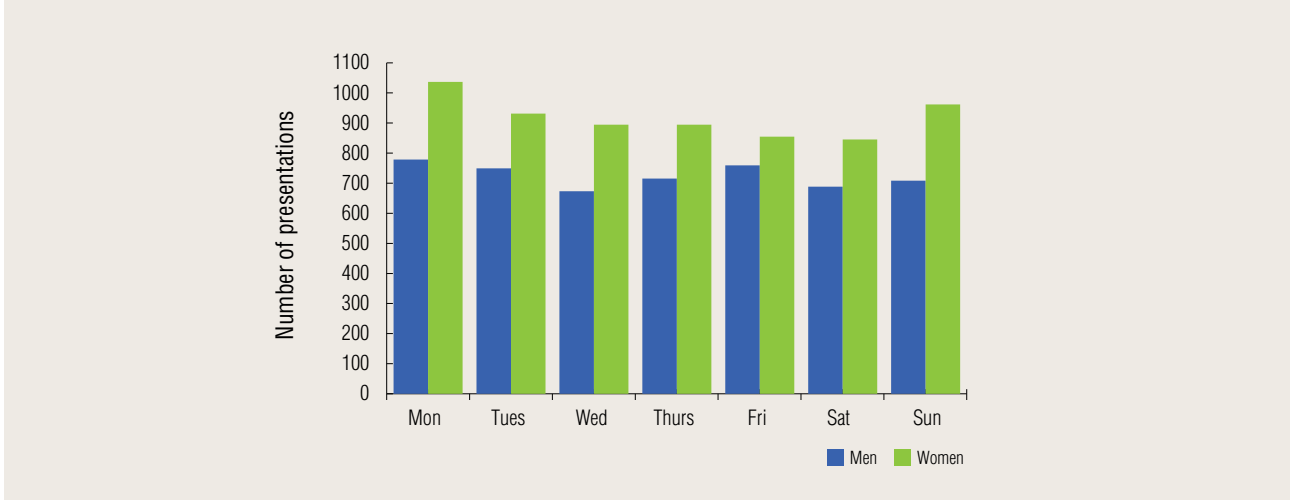


Figure 4: Number of presentations by weekday, 2016.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total
Men	778	749	673	715	759	688	708	5070
	(15.3%)	(14.8%)	(13.3%)	(14.1%)	(15.0%)	(13.6%)	(14.0%)	(100%)
Women	1036	931	894	894	854	845	961	6415
	(16.1%)	(14.5%)	(13.9%)	(13.9%)	(13.3%)	(13.2%)	(15.0%)	(100%)
Total	1814	1680	1567	1609	1613	1533	1669	11485
	(15.8%)	(14.6%)	(13.6%)	(14.0%)	(14.0%)	(13.3%)	(14.5%)	(100%)

Note: On average, each day would be expected to account for 14.3% of presentations.
Table 3: Self-harm presentations in 2016 by weekday.

As in previous years, the number of self-harm presentations was highest on Mondays, Tuesdays and Sundays. These days accounted for 45% of all presentations. Numbers fell after Tuesday before rising again on Sunday. This pattern in the number of presentations by day of the week was more pronounced for women than men.

During 2016, there was an average of 31 self-harm presentations to hospital each day. There was just one day (January 1st, New Year's Day) in 2016 on which 50 or more self-harm presentations were made (n=56). The association between increased self-harm presentations and public holidays has been a consistent pattern over many years, although this was not strongly reflected in 2016 patterns.

Variation by hour

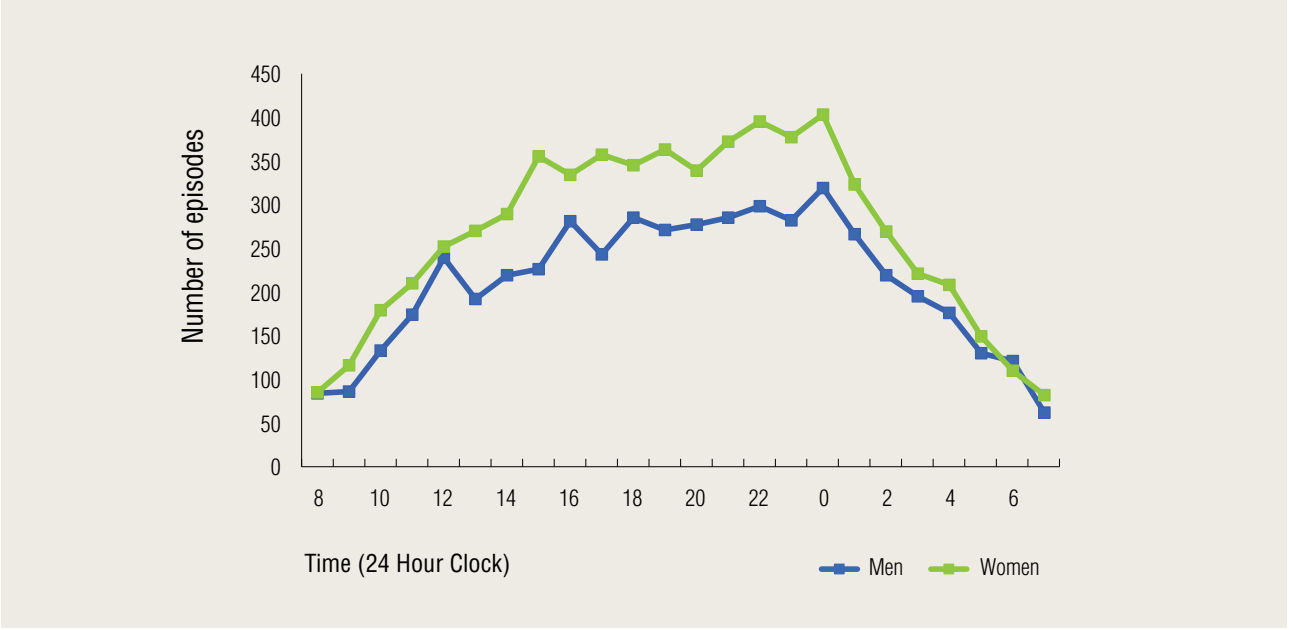


Figure 5: Number of presentations by time of attendance.

As in previous years, there was a striking pattern in the number of self-harm presentations seen over the course of the day. The numbers for both men and women gradually increased during the day. The peak for both men and women was midnight. Almost half (44%) of the total number of presentations were made during the eight-hour period 7pm-3am. This is in contrast with the quietest eight-hour period of the day, from 5am-1pm, which accounted for just 19% of all presentations.

Approximately half (51%) were brought to hospital by ambulance and a further 3% were brought by other emergency services such as An Garda Siochana. The proportion brought by ambulance or other emergency services varied over the course of the day from 43% for presentations between noon and 4pm to 65% for those who presented between midnight and 8am.

Method of self-harm

	Overdose	Alcohol	Poisoning	Hanging	Drowning	Cutting	Other	Total
Men	3011	1733	112	533	208	1424	402	5070
	(59.4%)	(34.2%)	(2.2%)	(10.5%)	(4.1%)	(28.1%)	(7.9%)	(100%)
Women	4635	1839	102	232	137	1646	304	6415
	(72.3%)	(28.7%)	(1.6%)	(3.6%)	(2.1%)	(25.7%)	(4.7%)	(100%)
Total	7646	3572	214	765	345	3070	706	11485
	(66.6%)	(31.1%)	(1.9%)	(6.7%)	(3%)	(26.7%)	(6.1%)	(100%)

Table 4: Methods of self-harm involved in presentations to hospital in 2016.

Approximately (67%) of all self-harm presentations involved an overdose of medication. Drug overdose was more commonly used as a method of self-harm by women than by men. It was involved in 59% of male and 72% of female episodes. The number of self-harm presentations involving drug overdose increased by 7% among women in 2016. Alcohol was involved in 31% of all cases. Alcohol was significantly more often involved in male episodes of self-harm than female episodes (34% and 29%, respectively).

Cutting was the only other common method of self-harm, involved in 27% of all episodes. Cutting was more common in men (28%) than in women (26%). The number of self-harm presentations involving cutting increased among women by 8% in 2016. In 98% of all cases involving self-cutting, the treatment received was recorded. One quarter (25%) received steristrips or steribonds, 53% did not require any treatment, 19% required sutures while 3% were referred for plastic surgery. Men who cut themselves more often required intensive treatment. Respectively, 21% received sutures and 4% were referred for plastic surgery compared to 16% and 2% of women who cut themselves.

Attempted hanging was involved in 7% of all self-harm presentations (11% for men and 4% for women). At 765, the number of presentations involving attempted hanging was 3% lower than 2015 (-2% for men and -5% for women). Overall, the number of self-harm presentations involving hanging increased between 2007 and 2016 from 444 to 765. While rare as a method of self-harm, the number of presentations involving attempted drowning decreased by 19% among women in 2016 (from 170 to 137).

The greater involvement of drug overdose as a female method of self-harm is illustrated in Figure 6. Drug overdose also accounted for a higher proportion of self-harm presentations in the older age groups, in particular for women, whereas self-cutting was less common. Self-cutting was most common among young people – in 23% of presentations by girls under 15 years and 25% of presentations by men aged under 25 years.

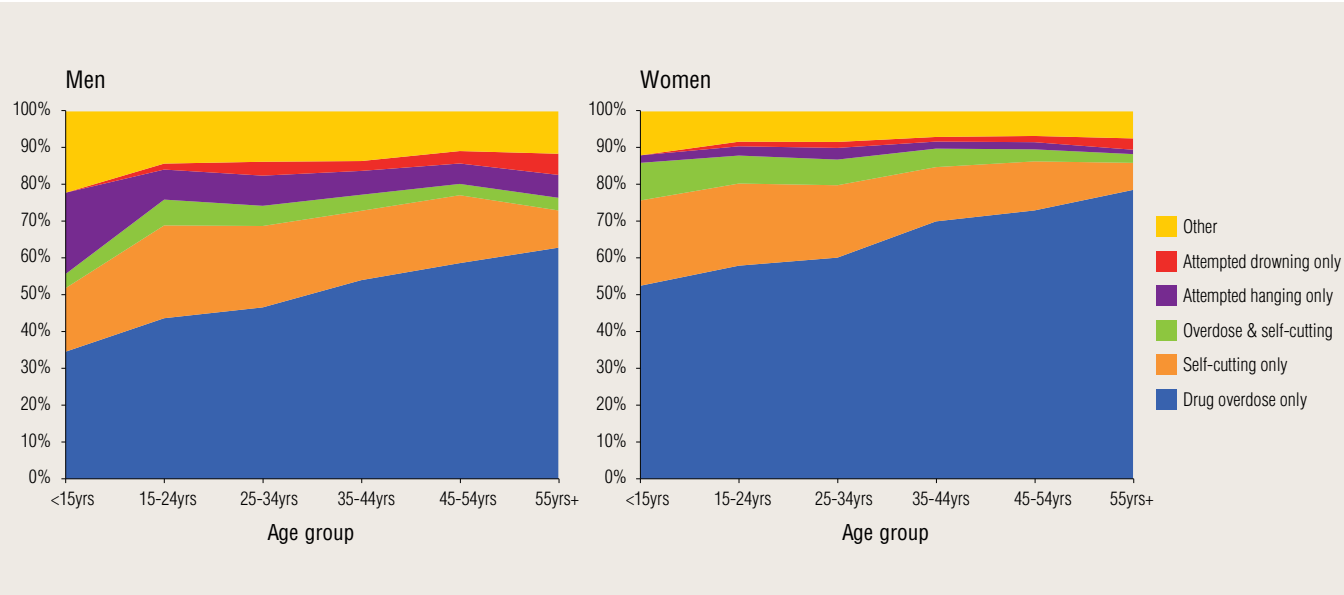


Figure 6: Method of self-harm used by gender and age group, 2016.

Drugs used in overdose

The total number of tablets taken was known in 69% of all cases of drug overdose. On average, 29 tablets were taken in the episodes of self-harm that involved drug overdose. Three-quarters of drug overdose acts involved less than 36 tablets, half involved a minimum of 20 tablets and one quarter involved less than 12 tablets. On average, the number of tablets taken in overdose acts was higher in men than women (mean: 32 vs. 27). Figure 7 illustrates the pattern of the number of tablets taken in drug overdose episodes for both genders. Half (53%) of female episodes and 46% of male episodes of overdose involved 10-29 tablets.

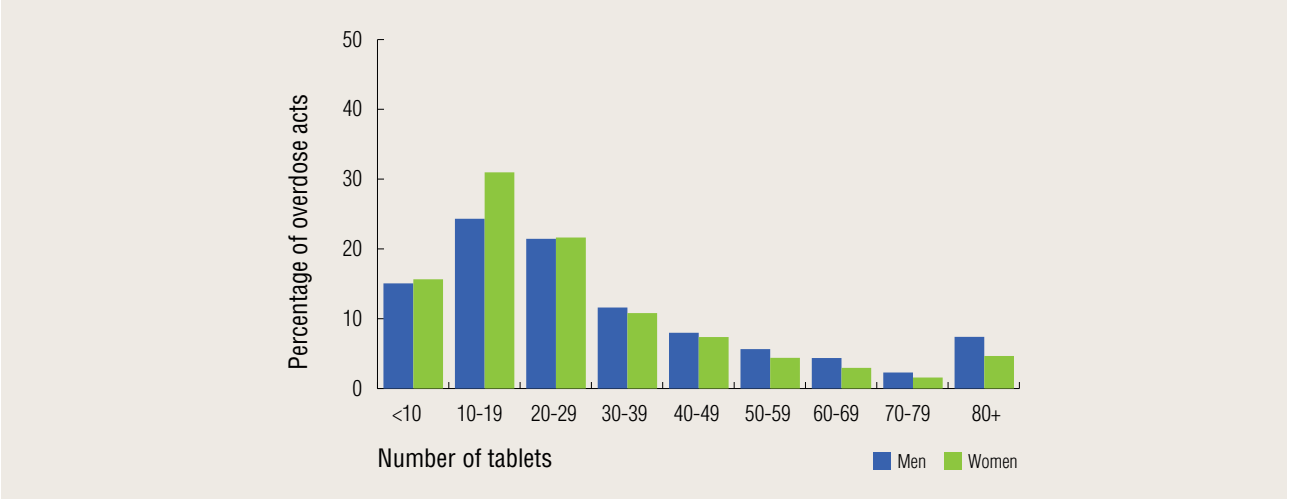
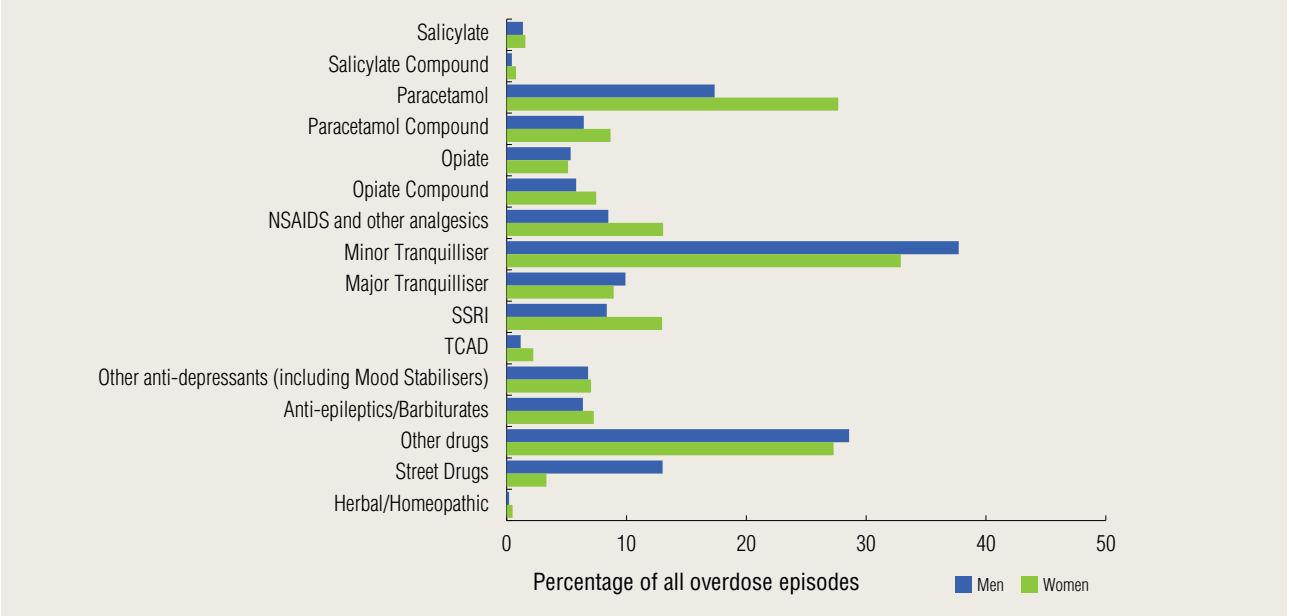


Figure 7: The pattern of the number of tablets taken in male and female acts of drug overdose.



Note: Some drugs (e.g. compounds containing paracetamol and an opiate) are counted in two categories.
Figure 8: The variation in the type of drugs used.

Figure 8 illustrates the frequency with which the most common types of drugs were used in overdose. Approximately one-third (35%) of all overdoses involved a minor tranquilliser and such a drug was used significantly more often by men than by women (38% vs. 33%, respectively). A major tranquilliser was involved in 9% of overdoses. In total, 47% of all female overdose acts and 32% of all male overdose acts involved an analgesic drug. Paracetamol was the most common analgesic drug taken, involved in some form in 30% of drug overdose acts. Paracetamol-containing medication was used significantly more often by women (35%) than by men (23%). One in five (19%) overdose acts involved an anti-depressant/

mood stabiliser. The group of anti-depressant drugs known as Selective Serotonin Reuptake Inhibitors (SSRIs) were present in 11% of overdose cases. Street drugs were involved in 13% of male and 3% of female overdose acts. 'Other prescribed drugs' were taken in approximately one quarter (28%) of all overdoses which reflects the wide range of drugs taken deliberately in acts of drug overdose.

The number of self-harm presentations to hospital involving drug overdose in 2016 (n=7,646) was higher than the number recorded in 2015 (n=7,319). There was some fluctuation in the number of presentations involving each of the drug types described here. Most notably, there was an increase in the number of self-harm presentations involving Tricyclic Antidepressants (TCADs) (+14%) and 'other prescribed drugs' (+13%). Further increases were observed in the use of paracetamol (+8%) and paracetamol compound (+6%) medications. Decreases were observed in presentations involving SSRIs (-5%), minor tranquillisers (-4%) and NSAIDs (-3%).

In 2016, there was no change in the number of self-harm presentations to hospital involving street drugs (n=547). This figure is higher than that recorded in 2008 (n=462).

Recommended next care

Overall, in 13% of 2016 cases, the patient left the emergency department before a next care recommendation could be made. Following their treatment in the emergency department, inpatient admission was the next stage of care recommended for 32% of cases, irrespective of whether general or psychiatric admission was intended and whether the patient refused or not. Of all self-harm cases, 24% resulted in admission to a ward of the treating hospital whereas 8% were admitted for psychiatric inpatient treatment from the emergency department. It may not always be recorded in the emergency department that a patient has been directly admitted to psychiatric inpatient care. Therefore, direct psychiatric admission figures provided here may be underestimates. In addition, some of the patients admitted to a general hospital ward will subsequently be admitted as psychiatric inpatients. In 1% of cases, the patient refused to allow him/herself to be admitted whether for general or psychiatric care. Most commonly, 55% of cases were discharged following treatment in the emergency department.

	Overdose (n=7646)	Alcohol (n=3572)	Poisoning (n=214)	Hanging (n=765)	Drowning (n=345)	Cutting (n=3070)	Other (n=706)	All (n=11485)
General admission	30.0%	23.1%	26.6%	16.7%	11.0%	13.0%	15.6%	24.1%
Psychiatric admission	5.9%	5.0%	10.3%	17.9%	15.7%	8.1%	11.9%	7.6%
Patient would not allow admission	0.8%	1.0%	0.9%	0.9%	0.6%	1.0%	0.6%	0.8%
Left before recommendation	12.0%	16.5%	10.3%	8.6%	14.2%	14.9%	9.3%	12.6%
Not admitted	51.4%	54.5%	51.9%	55.8%	58.6%	63.0%	62.6%	54.9%

Table 5: Recommended next care in 2016 by methods of self-harm.

Next care recommendations in 2016 were broadly similar for men and women. Men more often left the emergency department before a recommendation was made (16% vs. 10%). Women were more often admitted to a ward of the treating hospital than men (26% vs. 21%).

Recommended next care varied according to the method of self-harm (Table 5). General inpatient care was most common following cases of self-poisoning and drug overdose, less common after attempted hanging and least common after self-cutting and attempted drowning. The finding in relation to self-cutting may be a reflection of the superficial nature of the injuries sustained in some cases. Of those cases where the patient used cutting as a method of self-harm, 63% were discharged after receiving treatment in the emergency department. The greater the potential lethality of the method of self-harm involved, the higher the proportion of cases admitted for psychiatric inpatient care directly from the emergency department.

Next care varied significantly by HSE hospital group (Table 6). The proportion of self-harm patients who left before a recommendation was made varied from <1% in the Children's hospital group, to 15%

in the Ireland East and 16% in the RCSI hospital groups. Across the hospital groups, inpatient care (irrespective of type and whether patient refused) was recommended for 20% of the patients treated in the University of Limerick, 30% in the Dublin Midlands and Ireland East, 31% in the South/ South West, 32% in the RCSI, 41% in the Saolta University and 74% in the Children's hospital groups. As a corollary to this, the proportion of cases discharged following emergency treatment ranged from a low of 26% in the Children's group to a high of 70% in the University of Limerick group. The balance of general and psychiatric admissions directly after treatment in the emergency department differed significantly by hospital group. Overall, direct general admissions were more common than direct psychiatric admissions in all but the University of Limerick hospital group.

Appendix 2 details the recommended next care for self-harm patients treated at every hospital. For each hospital group, there were significant differences between the hospitals in their pattern of next care recommendations.

	Ireland East Hospital Group	Dublin Midlands Hospital Group	RCSI Hospital Group	South/ South West Hospital Group	University of Limerick Hospital Group	Saolta University Health Care Group	Children's Hospital Group	Republic of Ireland
	(n=2627)	(n=2180)	(n=1777)	(n=2277)	(n=741)	(n=1597)	(n=286)	(n=11485)
General admission	24.7%	22.3%	24.4%	23.4%	9.3%	24.3%	73.1%	24.1%
Psychiatric admission	5%	7.1%	6.5%	7.4%	10.5%	14.2%	0%	7.6%
Patient would not allow admission	0.7%	0.6%	0.6%	0.7%	0%	2.2%	0.7%	0.8%
Left before recommendation	14.6%	12.8%	16.4%	10.4%	10%	11.2%	0.7%	12.6%
Not admitted	55%	57.2%	52.2%	58.2%	70.2%	48.2%	25.5%	54.9%

Note: It may not always be recorded in the emergency department that a patient has been directly admitted to psychiatric inpatient care. Therefore, the figures for direct psychiatric admission detailed in this table may be underestimates.

Table 6: Recommended next care in 2016 by HSE hospital group.

Self-harm cases discharged from the emergency department

In 2013 the Registry began recording referrals for patients discharged from the emergency department following self-harm.

For 2016, referrals (n=6,306) following discharge included the following:

- In 34% of episodes, an out-patient appointment was recommended as a next care step for the patient.
- Recommendations to attend their GP for a follow-up appointment were given to 18% of discharged patients.
- Of those not admitted to the presenting hospital, 11% were transferred to another hospital for treatment (9% for psychiatric treatment and 2% for medical treatment).
- Other services (e.g. psychological services, community-based mental health teams and addiction services) were recommended in 13% of episodes.
- Approximately one-quarter (24%) of patients discharged from the emergency department were discharged home without a referral.

There was variation in referrals offered to self-harm patients according to HSE hospital group, with 69% and 70% of patients in the Children's and University of Limerick Groups referred for an out-patient appointment compared with 27% in the Ireland East Groups. Referrals to community-based mental health teams were highest in Saolta University Group (22%), with referrals to general practitioners highest in the Dublin Midlands Hospital Group (24%).

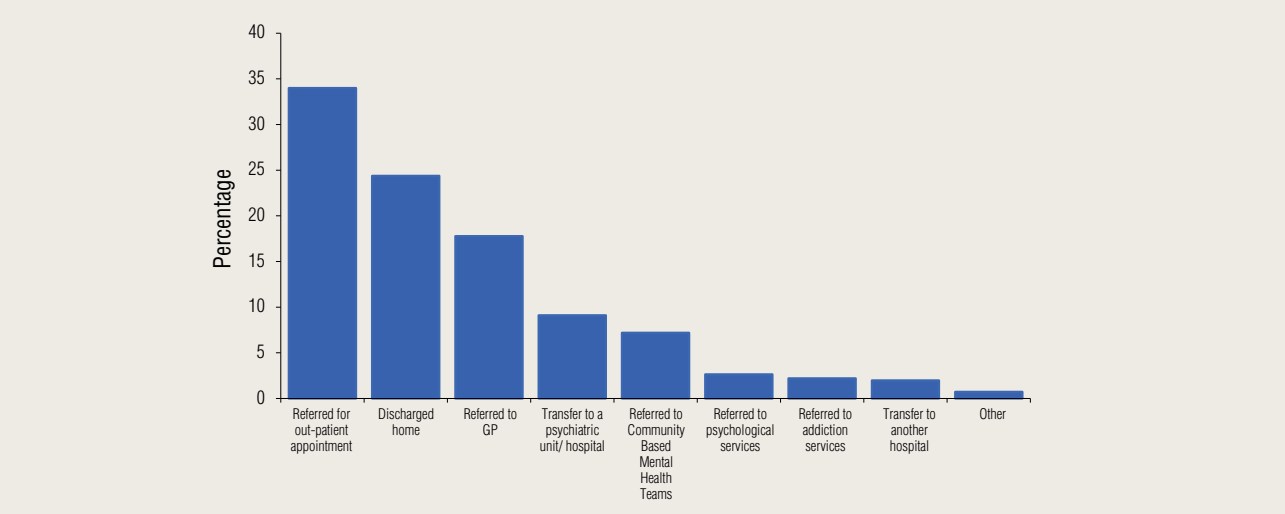


Figure 9: Referral of self-harm patients in 2016 following discharge from the emergency department.

Mental health assessment

Whether the patient had a mental health assessment in the presenting hospital was known in 94% of all cases. Of those known, 71% (n=7,706) of patients were assessed by a member of the mental health team in 2016 (73% for women, 69% for men). Assessment was most common following attempted hanging (80%) and attempted drowning (79%). Those who presented with self-cutting were less likely to receive an assessment (69%).

More than three-quarters (81%) of those not admitted to the presenting hospital received a psychiatric assessment prior to discharge. However only 11% of patients who left before recommendation/ against medical advice received an assessment.

Psychiatric assessment varied according to whether the self-harm attendance was a repeat presentation or not. Almost three-quarters (72%) of first presentations of self-harm were assessed, compared with 60% of those with 5 or more presentations in 2016.

Repetition of self-harm

There were 8,909 individuals treated for 11,485 self-harm episodes in 2016. This implies that more than one in five (2,576, 22.4%) of the presentations in 2016 were due to repeat acts, which is similar to the years 2003-2009 and 2013-2015 (range: 20.5-23.1%). Of the 8,909 self-harm patients treated in 2016, 1,330 (14.9%) made at least one repeat presentation to hospital during the calendar year. This proportion is within the range reported for the years 2003-2015 (13.8-16.4%). At least five self-harm presentations were made by 143 individuals in 2016. They accounted for just 1.6% of all self-harm patients in the year but their presentations represented 9.7% (n=1,118) of all self-harm presentations recorded.

The rate of repetition varied highly significantly with the method of self-harm involved in the self-harm act (Table 7). Of the commonly used methods of self-harm, self-cutting was associated with an increased level of repetition. Almost one in five (19.1%) who used cutting as a method of self-harm in their index act made at least one subsequent self-harm presentation in the calendar year.

	Overdose	Alcohol	Poisoning	Hanging	Drowning	Cutting	Other	All
Number of individuals treated	6064	2819	170	608	281	2139	491	8909
Number who repeated	869	398	19	77	35	409	72	1330
Percentage who repeated	14.3%	14.1%	11.2%	12.7%	12.5%	19.1%	14.7%	14.9%

Table 7: Repeat presentation after index self-harm presentation in 2016 by methods of self-harm.

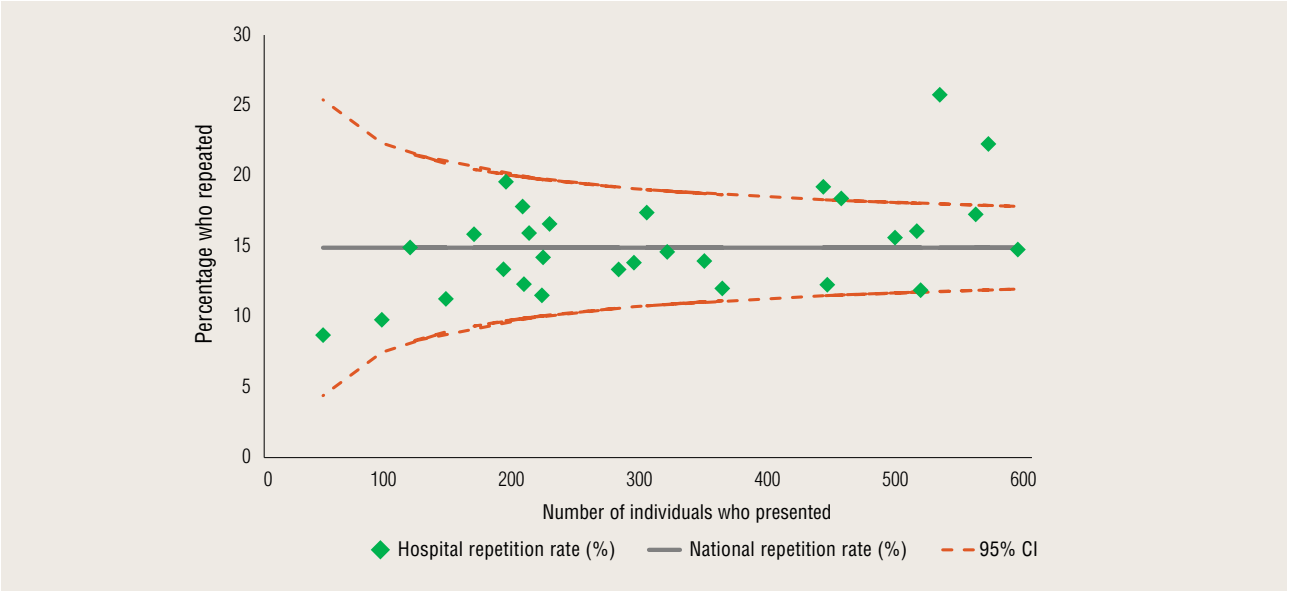
The rate of repetition was broadly similar in men and women (14.8% vs. 15.0%). Repetition varied significantly by age. Approximately 12% of self-harm patients aged less than 19 years re-presented with self-harm in 2016. The proportion who repeated was highest, at 18%, for 25-54 year-olds.

There was little variation in repetition rates when examined by HSE hospital group (Table 8). The lowest rate was among self-harm patients treated in the Children's and Saolta University Health Care Hospital groups (11.6% and 12.9% respectively), with repetition rates ranging from 15.1%-18.3% across the other groups.

		Ireland East Hospital Group	Dublin Midlands Hospital Group	RCSI Hospital Group	South/ South West Hospital Group	University of Limerick Hospital Group	Saolta University Health Care Group	Children's Hospital Group	Republic of Ireland
Number of individuals treated	Men	882	760	614	909	240	616	68	3981
	Women	1128	936	814	930	357	687	182	4928
	TOTAL	2010	1696	1428	1839	597	1303	250	8909
Number who repeated	Men	161	129	92	137	30	81	8	591
	Women	207	158	129	130	60	87	21	739
	TOTAL	368	287	221	267	90	168	29	1330
Percentage who repeated	Men	18.3%	17.0%	15.0%	15.1%	12.5%	13.1%	11.8%	14.8%
	Women	18.4%	16.9%	15.8%	14.0%	16.8%	12.7%	11.5%	15.0%
	TOTAL	18.3%	16.9%	15.5%	14.5%	15.1%	12.9%	11.6%	14.9%

Table 8: Repetition in 2016 by gender and HSE hospital group.

The national rate of repetition in 2016 was 14.9%, indicated by the horizontal line in the funnel plot (Figure 10). The green markers in the funnel plot illustrate the rate of repetition for each hospital. The dashed red lines represent the expected range of hospital repetition rates. The majority of markers lie within this range indicating that the hospital repetition rate is consistent with the national rate. A few large hospitals lie above the upper limit of the expected range indicating that their repetition rate is higher than the national rate.

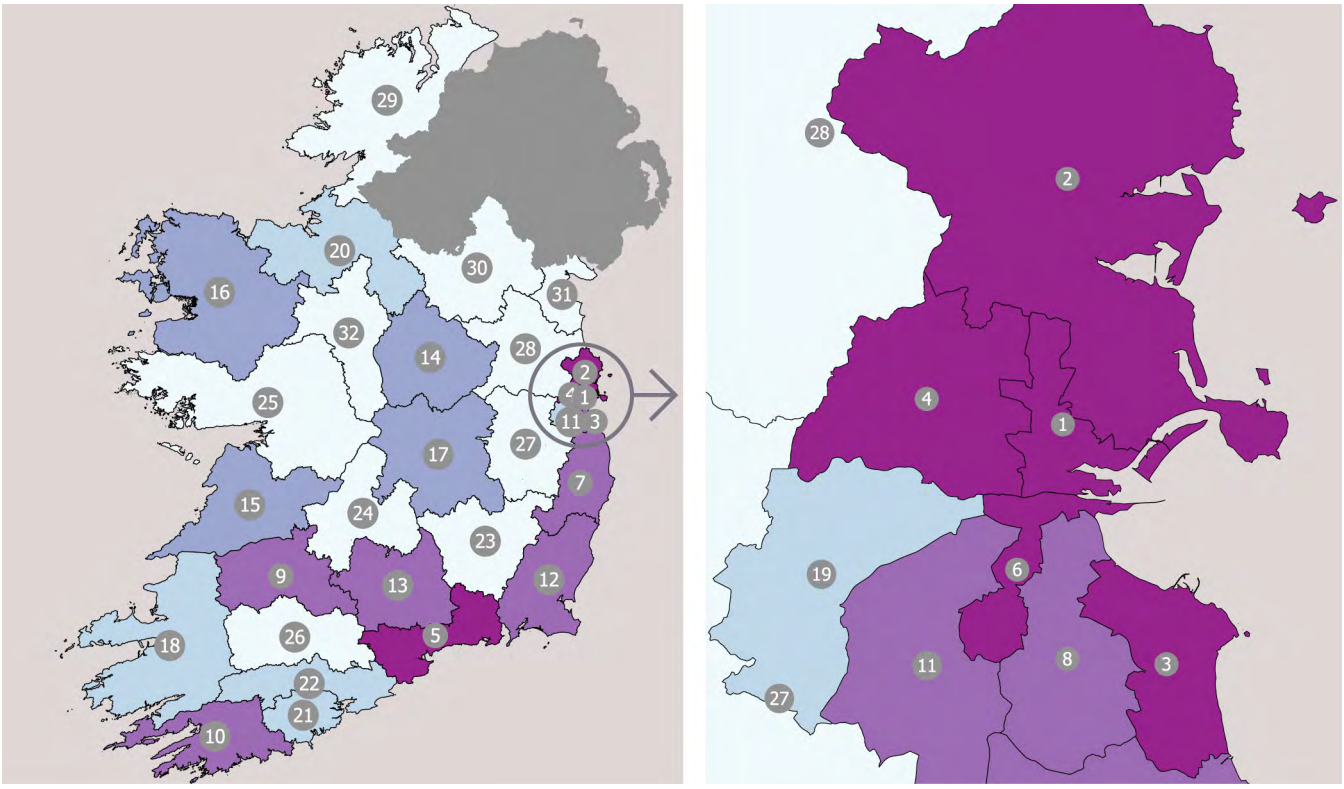


Note: Due to small numbers, data for Local Injury Units have been excluded.
Figure 10: Funnel plot of the rate of repetition according to hospital, 2016.

The country's 32 HSE Local Health Offices (LHOs) have been the central focus of all HSE primary, community and continuing care services.

For 2016, the thematic map provided illustrates the variation in the overall rate of repetition within one year by LHO area. Rates of repetition varied significantly by LHO area. Dublin North Central, Dublin North and Dun Laoghaire had the highest rates of repetition (23.1%, 18.7% and 18.7%, respectively). The lowest rates of repetition were seen in Cavan/ Monaghan, Louth and Roscommon (11.7%, 11.6% and 10.8%, respectively).

While overall the rate of repetition in one year was broadly similar for men and women (14.8% vs. 15.0%), repetition rates by gender did vary by LHO area. The largest differences in the rate of repetition between men and women were observed in LHO areas Dublin South West (21.1% vs 12.6%), Mayo (18.4% vs 11.2%) and Waterford (22.1% vs 15.4%).



Map 1: Rate of repetition (within 1 year) in the Republic of Ireland in 2016 by HSE Local Health Office area for all presentations (Numbers indicate rank from 1 for highest to 32 for lowest)

All Person Rate of Repetition

- Self-harm rate of repetition greater than 16%
- Self-harm rate of repetition between 15% and 16%
- Self-harm rate of repetition between 14% and 15%
- Self-harm rate of repetition between 13% and 14%
- Self-harm rate of repetition less than 13%

Appendix 3 details the repetition rate by hospital for male, female and all patients treated following self-harm in 2016. Caution should be taken in interpreting the repetition rates associated with LHOs and with smaller hospitals as the calculations may be based on a small number of patients.

Risk of repetition was greatest in the days and weeks following a self-harm presentation. A total of 8,786 self-harm presentations were made to hospital emergency departments in the first nine months of 2016. For 19.1% of these (n=1,675) there was a repeat self-harm presentation made within three months (91 days). This proportion varied significantly by HSE hospital group: Children's (12.0%), Saolta University (16.3%), South/ South West (16.4%), University of Limerick (17.1%), RCSI (18.8%), Dublin Midlands (21.1%) and Ireland East (22.9%).

This proportion of self-harm presentations followed by a repeat presentation within three months was higher for women (19.9%) than men (18.0%) and varied according to age. The proportion was lowest among those aged under 15 years (10.8%) and over 55 years (13.1%), compared with 17.7% among 15-24 year-olds, 23.0% among 25-44 year-olds and 15.6% among those aged 45-54 years. The proportion of self-harm presentations followed by a repeat presentation within three months also varied according to method of self-harm (12.8% following an attempted hanging, 15.5% following an attempted drowning, 17.1% following a drug overdose, 25.7% following an act of self-cutting only and 28.5% following an act involving drug overdose and self-cutting).

Variation in the proportion of self-harm presentations followed by a repeat presentation within three months was also observed based on recommended next care following the initial act. The proportion was lowest for those who were admitted to a general ward (13.7%), compared to 19.0% of those who were not admitted, 22.1% who were admitted to a psychiatric ward and 27.8% who left before a recommendation/ refused admission.

However, the factor having by far the strongest influence on likelihood of repetition was the number of self-harm presentations made to hospital. Just one in ten (11.5%) first presentations in January-September 2016 were followed by a repeat presentation in the next three months. This proportion was 33.3% following second presentations, 49.6% following third presentations, 65.1% following fourth presentations and 77.7% following fifth or subsequent presentations.

SECTION II:

Incidence Rates

For the period from 1 January to 31 December 2016, the Registry recorded 11,485 self-harm presentations to hospital that were made by 8,909 individuals. Based on these data, the Irish person-based crude and age-standardised rate of self-harm in 2016 was 191 (95% CI: 187 to 195) and 206 (95% CI: 202 to 210) per 100,000, respectively. Thus, there was a 1% increase in the age-standardised rate in 2016, which accounts for the changing age distribution of the population, from 2015 (204 per 100,000). This increase was not statistically significant.

	MEN		WOMEN		ALL	
YEAR	Rate	% difference	Rate	% difference	Rate	% difference
2002	167	-	237	-	202	-
2003	177	+7%	241	+2%	209	+4%
2004	170	-4%	233	-4%	201	-4%
2005	167	-2%	229	-1%	198	-2%
2006	160	-4%	210	-9%	184	-7%
2007	162	+2%	215	+3%	188	+2%
2008	180	+11%	223	+4%	200	+6%
2009	197	+10%	222	-<1%	209	+5%
2010	211	+7%	236	+6%	223	+7%
2011	205	-3%	226	-4%	215	-4%
2012	195	-5%	228	+1%	211	-2%
2013	182	-7%	217	-5%	199	-6%
2014	185	+2%	216	-<1%	200	+1%
2015	186	+1%	222	+3%	204	+2%
2016	184	-1%	229	+3%	206	+1%

Table 9: Person-based European age-standardised rate (EASR) of self-harm in the Republic of Ireland in 2002-2016 (extrapolated data used for 2002-2005 to adjust for non-participating hospitals).

In recent years there were successive decreases in the self-harm rate between 2011 and 2013, and an essentially unchanged rate between 2013 and 2015. The rate in 2016 was still 10% higher than in 2007, the year before the economic recession (Figure 11).

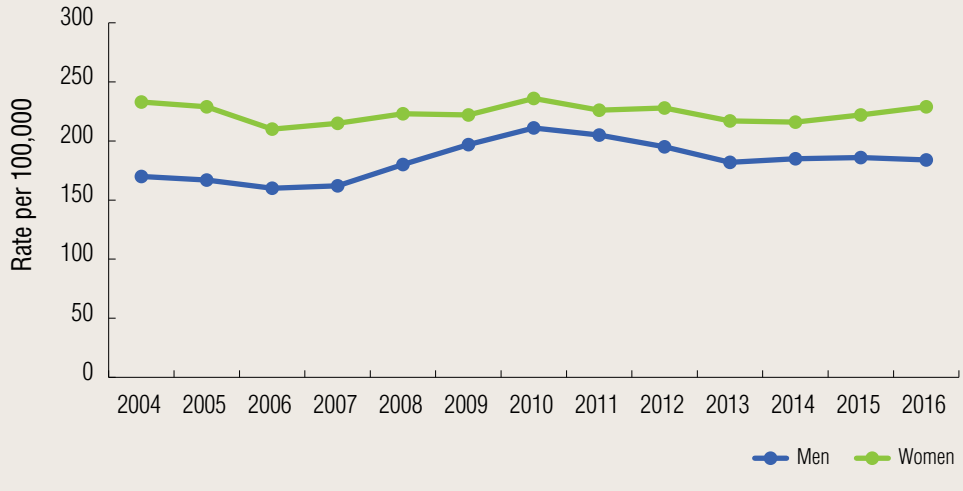


Figure 11: Person-based rate of self-harm in the Republic of Ireland by gender, 2004-2016.

Population figures and the number and rate of persons treated in hospital following self-harm in 2016 are given in Appendix 4 by age and gender for persons residing in the Republic of Ireland and for the residents of each of the four HSE regions.

Variation by gender and age

The person-based age-standardised rate of self-harm for men and women in 2016 was 184 (95% CI: 179-190) and 229 (95% CI: 223-235) per 100,000, respectively. Thus, there was a 1% decrease in the male rate of self-harm. The female rate of self-harm increased by 3%. However, these changes were not statistically significant. Taking recent years into account, the male self-harm rate in 2016 was 14% higher than in 2007 whereas the female rate was 7% higher.

The female rate of self-harm in 2016 was 24% higher than the male rate. This gender difference has been decreasing in recent years. The female rate was 37% higher in 2004-2005, 32-33% higher in 2006-2007, 24% higher in 2008, and 10-19% higher in 2009-2015.

There was a striking pattern in the incidence of self-harm when examined by age (Figure 12). The rate was highest among the young. At 763 per 100,000, the peak rate for women was among 15-19 year-olds. This rate implies that one in every 131 girls in this age group presented to hospital in 2016 as a consequence of self-harm. The peak rate for men was 516 per 100,000 among 20-24 year-olds or one in every 194 men. The incidence of self-harm gradually decreased with increasing age in men. This was the case to a lesser extent in women as their rate remained relatively stable, at about 227 per 100,000, across the 30 to 54 year age range.

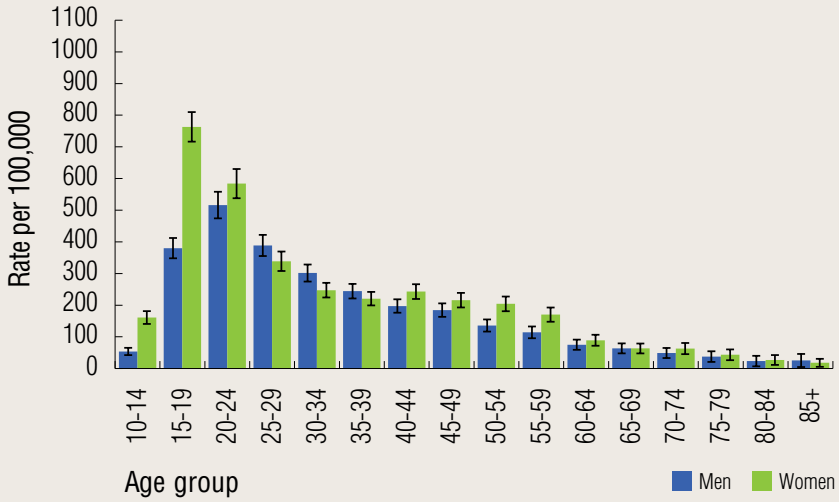
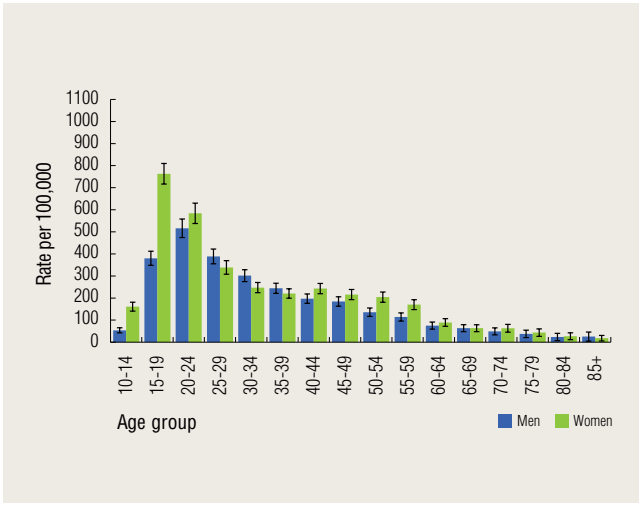


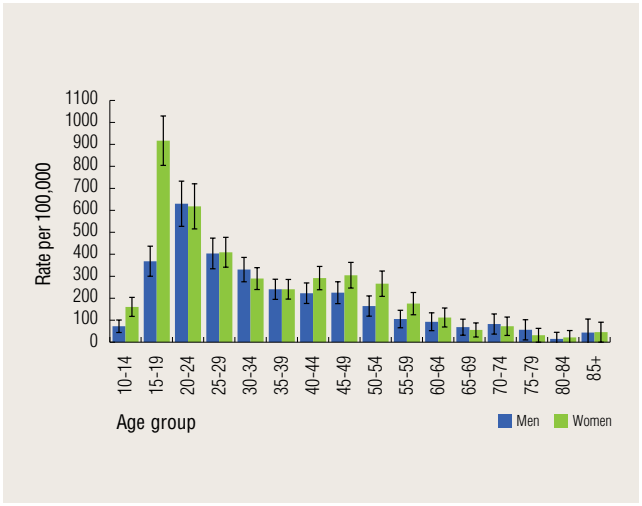
Figure 12: Person-based rate of self-harm in the Republic of Ireland in 2016 by age and gender.

Gender differences in the incidence of self-harm varied with age. The female rate was 3 times higher than the male rate in 10-14 year-olds (161 vs. 54 per 100,000) and twice as high in 15-19 year-olds (763 vs. 380 per 100,000) and 13% higher in 20-24 year-olds. The female rate of self-harm was again higher than the male rate across the 40-59 year age range. However the male rate was 15% higher than the female rate in 25-29 year-olds (389 vs. 339 per 100,000) and 22% higher in 25-29 year-olds (302 vs. 247 per 100,000). Since 2009, the Registry has recorded a significantly higher rate of self-harm in men aged 25-29 years compared to women.

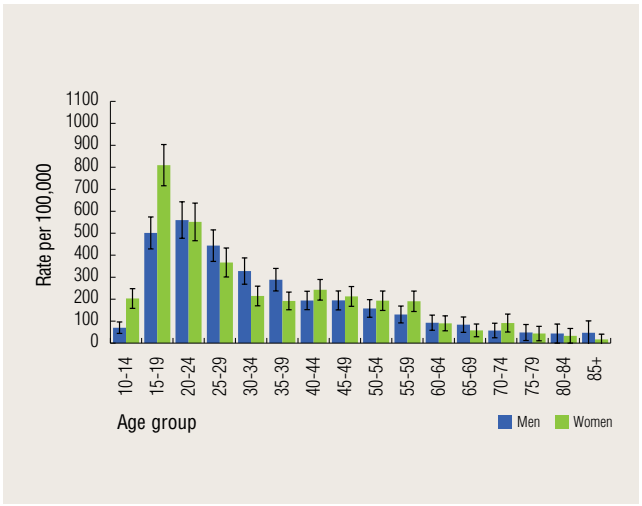
In 2016, the only significant change in the rate of hospital-treated self-harm by age were among women aged 25-29 years, where the rate increased by 17% from 289 to 339 per 100,000.



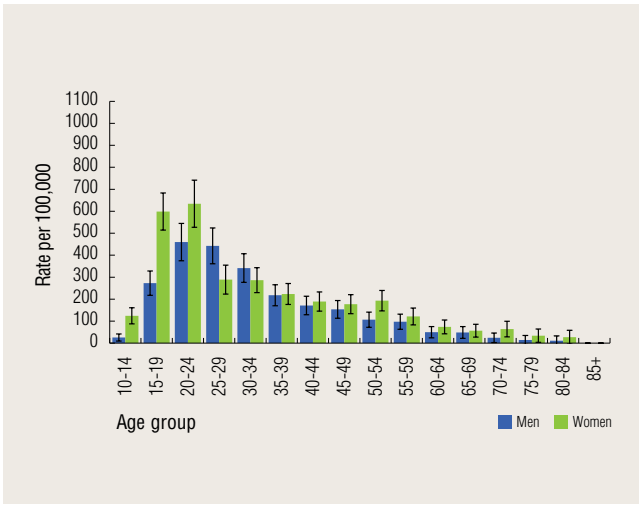
(a) HSE Dublin/Mid-Leinster



(b) HSE Dublin/North East



(c) HSE South



(d) HSE West

Figure 13: Person-based rate of self-harm in 2016 by residents of the four HSE regions by age and gender.

Figure 13 shows the incidence of self-harm by age and gender for the residents of each of the country's four HSE regions. The pattern was broadly similar to that at national level. The self-harm rate was highest among the young – among 15-24 year-olds for women and among 20-24 year-olds for men. The peak self-harm rate was among women aged 15-19 years in all regions except for HSE West where a peak among 20-24 year-old women was found. The male self-harm rate exceeded the female rate in the age group 20-24 years in HSE regions Dublin/ North East and South.

Self-harm was rare in 10-14 year-olds, particularly for boys. However, the incidence of self-harm increased rapidly over a short age range. This is illustrated in greater detail in Figure 13. In 13-21 year-olds, the female rate of self-harm was significantly higher than the male rate. The increases in the female rate in early teenage years were particularly striking. The peak rates among younger people were in 17 year-old women and 20 year-old men, with rates of 889 and 618 per 100,000, respectively (Figure 14).

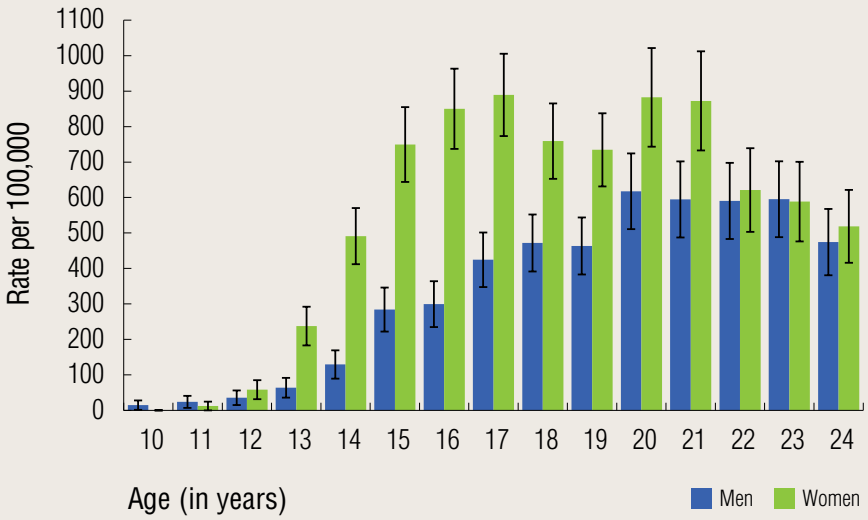


Figure 14: Person-based rate of self-harm in the Republic of Ireland in 2016 by single year of age for 10-24 year-olds.

Variation by HSE region

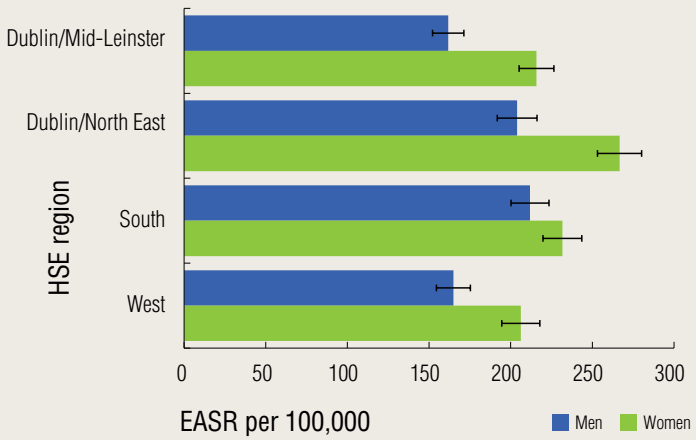


Figure 15: Person-based European age-standardised rate (EASR) of self-harm in the Republic of Ireland in 2016 by HSE region of residence and gender.

The 24% higher incidence of self-harm for women compared to men varied by HSE region. The female rate of self-harm was significantly higher than the male rate in HSE Dublin/ Mid-Leinster by 33%, HSE Dublin/ North East by 31%, HSE South by 9% and in HSE West by 25% (Figure 15).

In 2016, the incidence of self-harm was significantly higher than the national rate for men in HSE South (+15%) and for men and women in HSE Dublin/ North East (+11% and 17%, respectively). The rate was significantly lower for men and women in HSE Dublin/ Mid-Leinster (-12% and -6%, respectively) and HSE West (-11% and -10%, respectively).

The only significant change in the rate of self-harm by HSE region was observed for the female rate in HSE West, which increased by 10% (Table 11).

There were some changes in the rate of self-harm according to age and gender by HSE region in 2016. In HSE Dublin/ Mid-Leinster, the rate for women aged 70-74 years decreased by 62%. In HSE Dublin/ North East, there was a 29% increase in the rate of self-harm among women aged 25-29 years, while among women aged 65-69 years the rate fell by 55%. In HSE South, there was a decrease in the rate of self-harm among 20-24 year-old men by 19%. In HSE West, the male rate among 30-34 year-olds increased by 40%, while the rate among women aged 20-24 years increased by 14%.

	Men					Women				
HSE region	Rate	95% CI*	Rate difference**	95% CI**	% difference	Rate	95% CI*	Rate difference**	95% CI***	% difference
Dublin/Mid-Leinster	161.7	(+/-12)	-23	(+/-11)	-12.2	215.8	(+/-14)	-13	(+/-12)	-5.7
Dublin/North East	203.9	(+/-12)	20	(+/-14)	10.7	266.6	(+/-12)	38	(+/-15)	16.5
South	211.8	(+/-10)	28	(+/-13)	14.9	231.6	(+/-12)	3	(+/-13)	1.2
West	164.9	(+/-10)	-19	(+/-12)	-10.5	206.2	(+/-11)	-23	(+/-13)	-9.9
Ireland	184.3	(+/-5)				228.9	(+/-6)			

*95% Confidence Interval for the HSE region self-harm rate.
**Rate difference = HSE region rate – national rate for men and women.
***95% Confidence Interval for self-harm rate difference.
Table 10: Person-based European age-standardised rate (EASR) of self-harm in the Republic of Ireland in 2016 by HSE region of residence and gender with comparison to the national rate.

	Men					Women				
HSE region	2016	2015	Rate difference	95% CI*	% difference	2016	2015	Rate difference	95% CI*	% difference
Dublin/Mid-Leinster	161.7	166.2	-4	(+/-17)	-2.7	215.8	221.8	-6	(+/-19)	-2.7
Dublin/North East	203.9	204.7	-1	(+/-17)	-0.4	266.6	263.5	3	(+/-17)	1.2
South	211.8	222.7	-11	(+/-15)	-4.9	231.6	218.8	13	(+/-16)	5.9
West	164.9	153.6	11	(+/-14)	7.4	206.2	187.7	19	(+/-15)	9.9
Ireland	184.3	186.3	-2	(+/-8)	-1.1	228.9	222.2	7	(+/-8)	3.0

*95% Confidence Interval for self-harm rate difference.
Table 11: Person-based European age-standardised rate (EASR) of self-harm in the Republic of Ireland in 2016 and 2015 by HSE region of residence and gender.

Urban and rural district comparison by HSE region

Figure 16 illustrates the self-harm rate for residents of urban districts and rural districts in each of the four HSE regions. Nationally, the incidence of persons presenting to hospital with self-harm was 291 per 100,000 for residents of urban districts which was nearly twice (87%) the incidence rate of 155 per 100,000 among residents of rural districts. Across all HSE regions the incidence of self-harm was significantly higher in the urban district population. Compared to rural district populations, the self-harm rate was 77%, 7%, 100% and 159% higher in the urban district populations of the HSE regions of Dublin/ Mid-Leinster, Dublin/ North East, South and West, respectively.

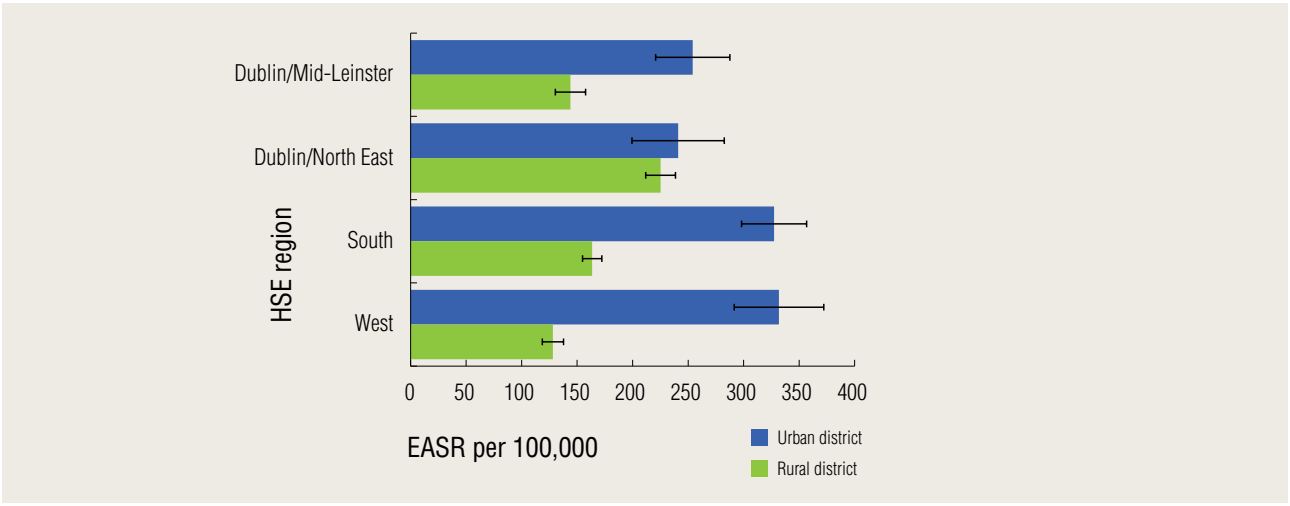
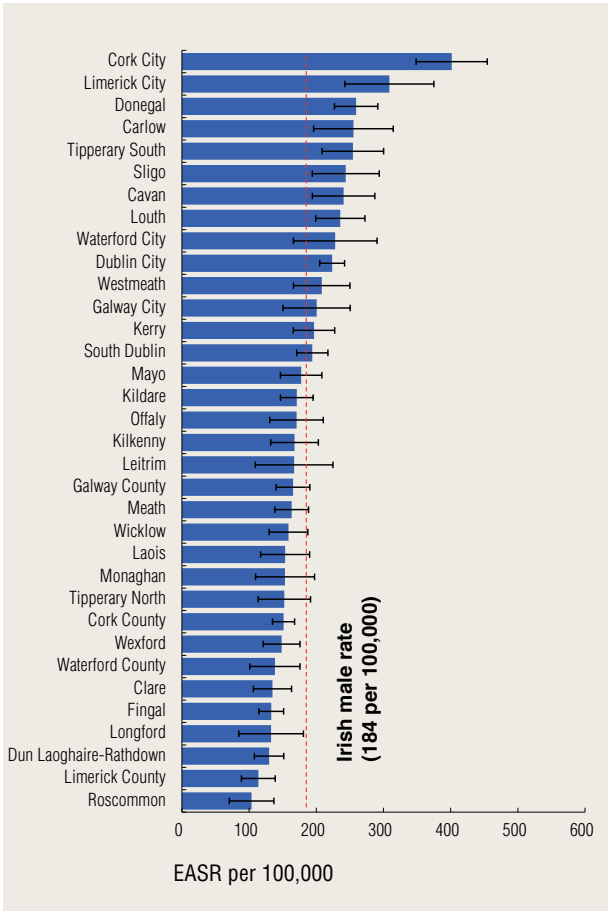


Figure 16: Person-based European age-standardised rate (EASR) of self-harm in 2016 for urban and rural district residents by HSE region.

Rate by city and county



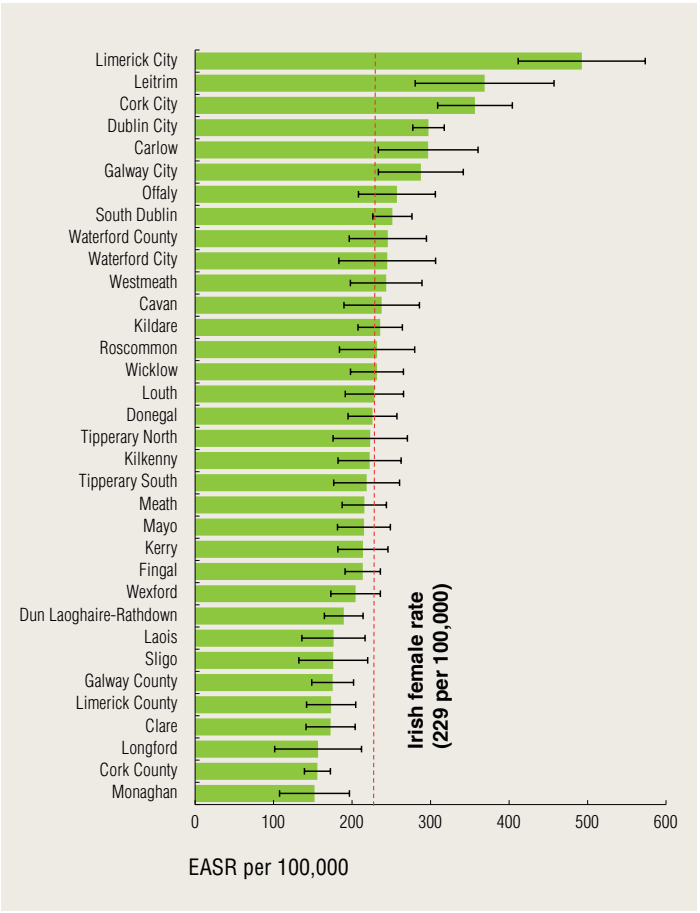


Figure 16a: Person-based European age-standardised rate (EASR) of self-harm in the Republic of Ireland in 2016 by city/county of residence for **men**.

Figure 16b: Person-based European age-standardised rate (EASR) of self-harm in the Republic of Ireland in 2016 by city/county of residence for **women**.

There was widespread variation in the male and female self-harm rate when examined by city/ county of residence. The male rate varied from 104 per 100,000 for Roscommon to 402 per 100,000 for Cork City. The lowest female rates were recorded for Monaghan (152 per 100,000) with the highest rates recorded for Limerick City residents at 493 per 100,000. Relative to the national rate, a high rate of self-harm was recorded for male and female city residents and for men living in Donegal, Carlow, Tipperary South and Sligo and for women

living in Leitrim, Carlow, Offaly and South Dublin. In 2016 high rates for both men and women were seen in Cork City, where the male rate was 2.2 times higher than the national average and the female rate was 56% higher. In Limerick City the male was 68% higher than the national average while the female rate was approximately twice as high (+115% for women).

At a national level, the female self-harm rate exceeded the male rate by 24%. The magnitude of this gender difference varied by city/county. The female rate far exceeded the male rate in Roscommon (+124%), Leitrim (+121%), Waterford County (+77%), Fingal (+61%) and Limerick City (+60%). The opposite pattern of a significantly lower female rate was observed in Sligo (-28%), Tipperary South (-14%), Donegal (-13%) and Cork City (-11%).

Compared to 2015, significant increase in the male rate of self-harm were observed in Monaghan (+99%), Galway County (+50%), Westmeath (+42%), Donegal (+32%) and Louth (+29%), while significant increases in the female rate of self-harm were observed in Leitrim (+95%), Roscommon (+75%), Offaly (+57%), Waterford County (+41%), Louth (+37%) and Cork City (+23%). Significant decreases in the male rate of self-harm were observed in Roscommon (-36%) and Dublin City (-18%). There were no significant decreases in the female rate of self-harm.

There were significant year-to-year increases in the rate of hospital-treated self-harm in Ireland since the advent of the economic recession in 2008. Despite decreases in recent years, the overall rate has increased by 10% since 2007, from 188 to 206 per 100,000. The male rate has increased by 14% from 162 to 184 per 100,000 and the female rate has increased by 7% from 215 to 229 per 100,000. Figures 17a and 17b illustrate, for each county and city, the percentage change in the rate of hospital-treated self-harm from 2007 to 2016.

There have been notable increases in the male rate of self-harm in Leitrim, Sligo, Carlow and Monaghan. Increases in the female rate of self-harm were observed in Leitrim, Waterford County, Kilkenny and South Dublin. For men, decreases have been recorded in Limerick City, Galway City, Roscommon and Dun Laoghaire-Rathdown, while decreases for women were observed in Dun Laogahire-Rathdown, Tipperary North, Monaghan and Westmeath.

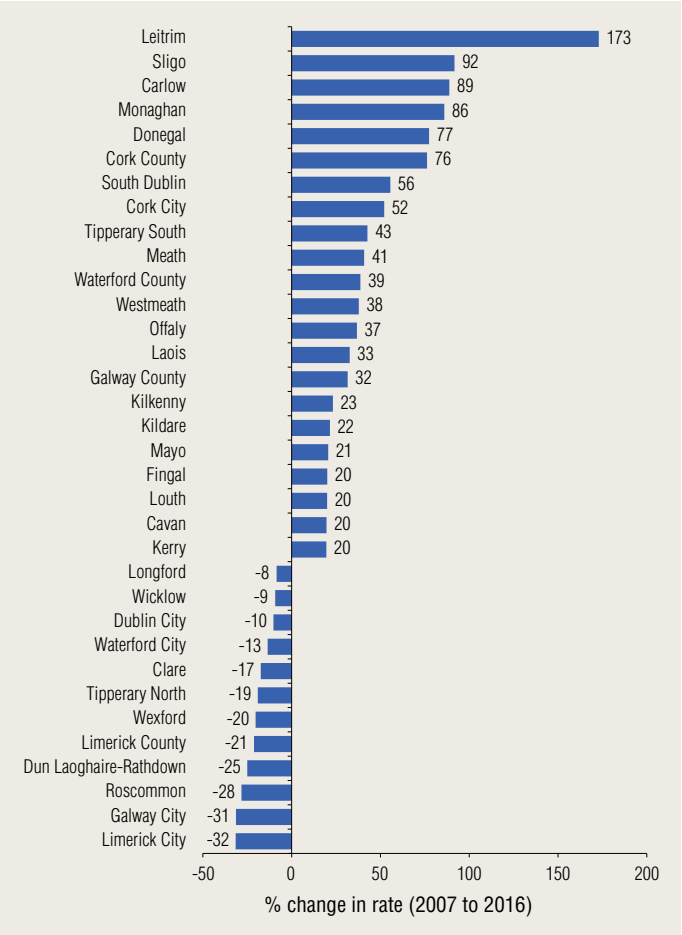


Figure 17a: Percentage change from 2007 to 2016 in the person-based European age-standardised rate (EASR) of self-harm in the Republic of Ireland by city/county of residence for **men**.

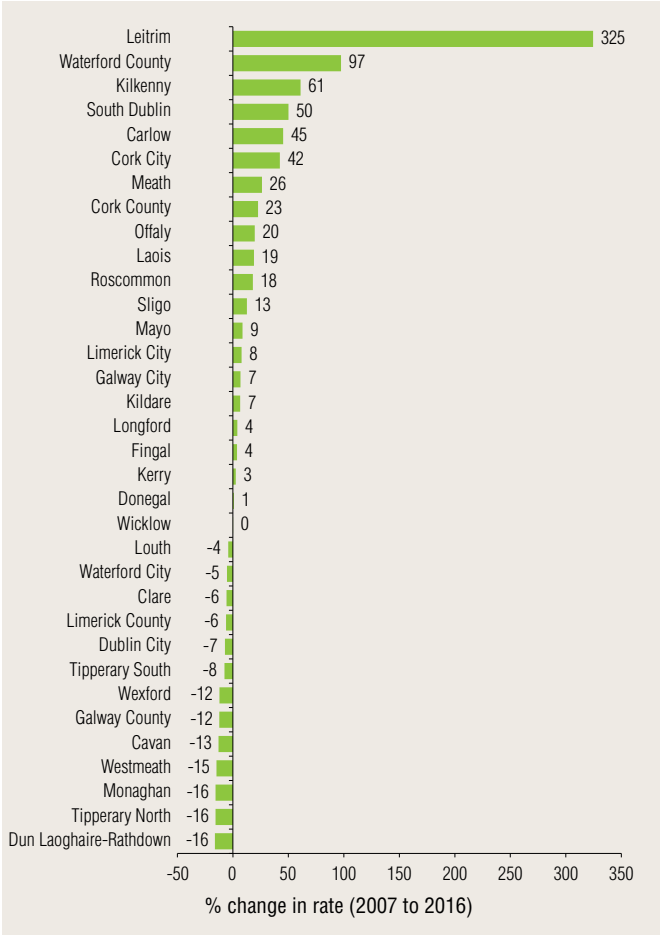


Figure 17b: Percentage change from 2007 to 2016 in the person-based European age-standardised rate (EASR) of self-harm in the Republic of Ireland by city/county of residence for **women**.

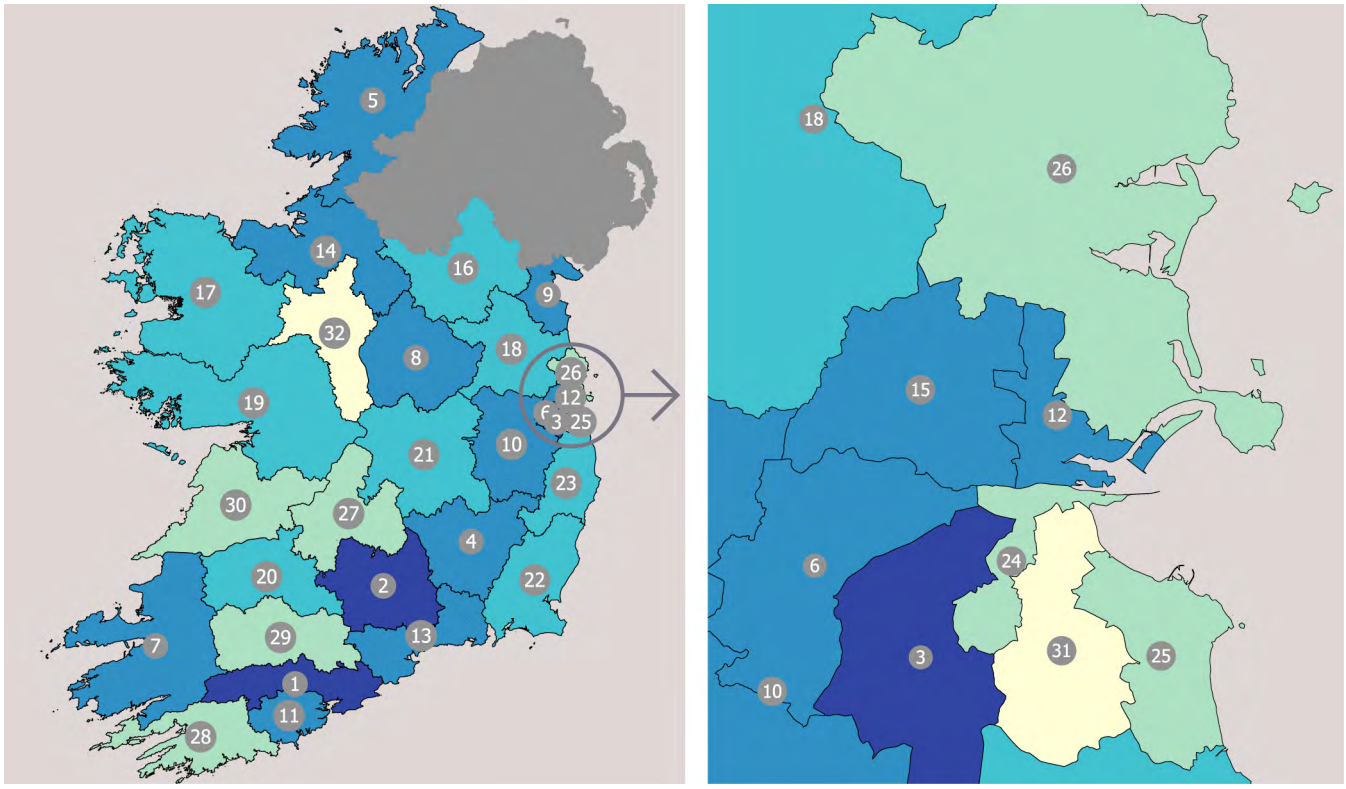
Rate by HSE Local Health Office (LHO)

For 2016, Table 12 details the population (derived by the National Census 2011), number of men and women who presented to hospital as a result of self-harm and the incidence rate (age-adjusted to the European standard population) for each LHO area. Thematic maps are also provided to illustrate the variation in the male and female incidence of hospital-treated self-harm by LHO area.

There was more than a two-fold difference in the rate of self-harm when examined by LHO area. The rate for men ranged from 86 per 100,000 in Roscommon to 246 per 100,000 in Cork North Lee and for women ranged from 133 per 100,000 in West Cork to 287 per 100,000 in Dublin South West. The female rate exceeded 240 per 100,000 for Dublin South West, Carlow/ Kilkenny, Limerick, Dublin North West and Dublin West. The male rate exceeded 220 per 100,000 in Cork North Lee, South Tipperary and Dublin South West.

HSE Region and LHO		MEN				WOMEN			
			SELF-HARM				SELF-HARM		
		Population*	Persons	Rate**	Rank	Population*	Persons	Rate**	Rank
DUBLIN MID LEINSTER	Dublin South City	69042	105	137	24	71143	127	162	29
	Dublin South East	57530	52	86	31	62502	82	143	30
	Dublin South West	75078	173	227	3	79393	220	287	1
	Dublin West	72067	146	196	6	74265	178	243	5
	Kildare/West Wicklow	113750	192	171	10	114660	264	240	6
	Laois/Offaly	79017	114	148	21	78229	163	220	14
	Longford/Westmeath	62432	107	176	8	62732	135	221	13
	Dun Laoghaire	62008	85	137	25	68555	121	180	26
	Wicklow	58450	81	142	23	60092	135	237	8
DUBLIN NORTH EAST	Cavan/Monaghan	66734	104	163	16	65639	113	179	27
	Dublin North	119057	158	134	26	125305	285	239	7
	Dublin North Central	66320	126	169	12	69059	160	227	10
	Dublin North West	98800	177	167	15	102945	244	249	4
	Louth	60763	105	174	9	62134	125	208	16
	Meath	91910	138	152	18	92225	192	222	12
SOUTH	Carlow/Kilkenny	65251	133	211	4	65064	164	267	2
	Cork North	44889	50	119	29	44642	69	167	28
	Cork North Lee	90708	222	246	1	91094	199	227	9
	Cork South Lee	93436	165	171	11	97733	184	187	24
	Cork West	28437	31	122	28	28093	36	133	32
	Kerry	72629	124	182	7	72873	141	206	18
	Tipperary South	47156	108	238	2	46980	95	216	15
	Waterford	63520	102	168	13	64287	135	224	11
	Wexford	71909	100	148	22	73411	142	207	17
WEST	Clare	58298	65	117	30	58898	78	142	31
	Donegal	80523	153	201	5	80614	145	193	22
	Galway	124758	194	152	19	125895	236	193	21
	Limerick	76749	117	150	20	77638	201	262	3
	Mayo	65420	98	159	17	65218	116	192	23
	Tipperary North/East Limerick	54406	69	126	27	53338	94	181	25
	Roscommon	32353	26	86	32	31712	56	195	20
	Sligo/Leitrim/West Cavan	49299	80	167	14	49185	94	205	19

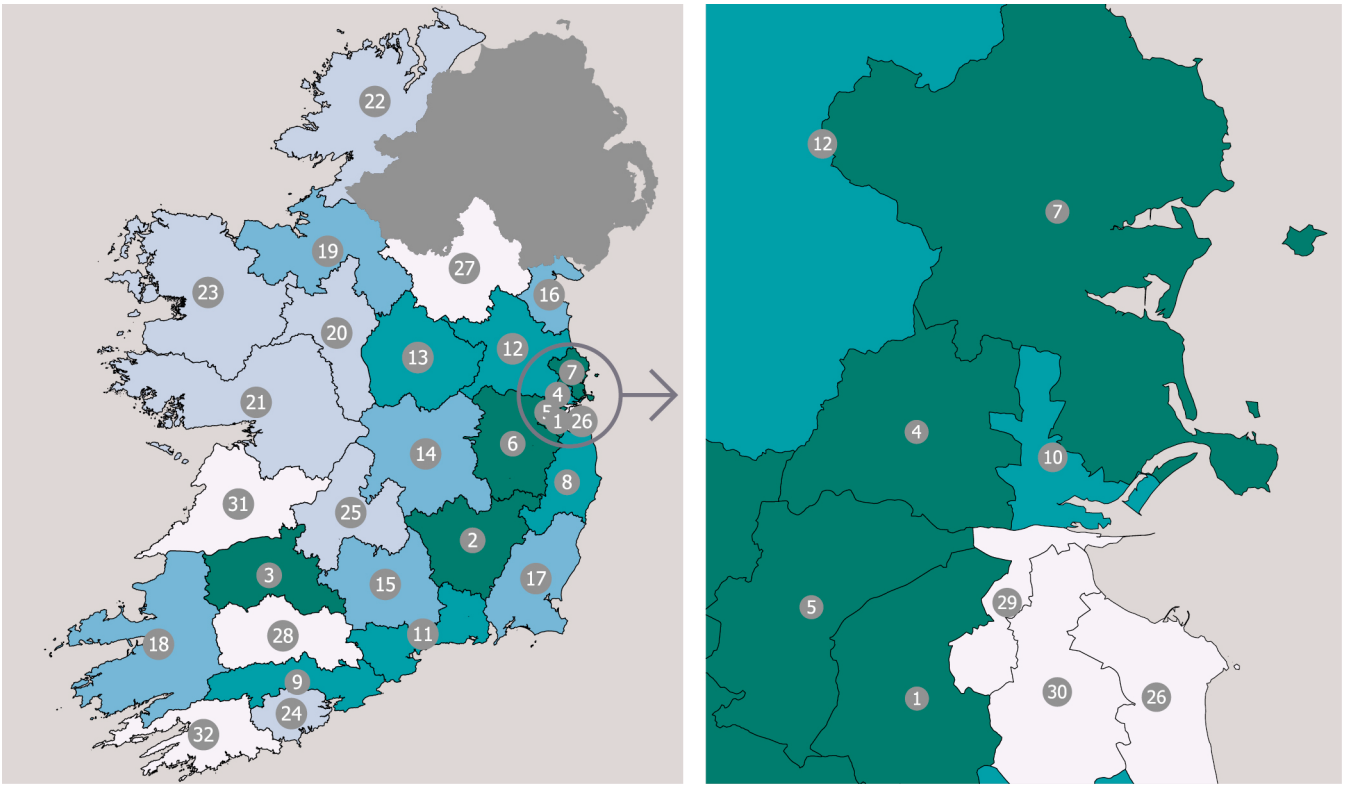
*Population derived by the National Census 2011
**Person-based European age-standardised rate per 100,000 population
Table 12: Self-harm in 2016 by HSE Local Health Office (LHO) area of residence and gender.



Map 2: Person-based European age-standardised rate (EASR) of self-harm in the Republic of Ireland in 2016 by HSE Local Health Office area for men (Numbers indicate rank from 1 for highest to 32 for lowest)

Male rate of self-harm

- Self-harm rate greater than 211
- Self-harm rate between 164 and 211
- Self-harm rate between 138 and 163
- Self-harm rate between 87 and 137
- Self-harm rate less than 87



Map 3: Person-based European age-standardised rate (EASR) of self-harm in the Republic of Ireland in 2016 by HSE Local Health Office area for women (Numbers indicate rank from 1 for highest to 32 for lowest)

Female rate of self-harm

- Self-harm rate greater than 238
- Self-harm rate between 221 and 238
- Self-harm rate between 199 and 220
- Self-harm rate between 181 and 198
- Self-harm rate less than 181

Appendices

APPENDIX I:

APPENDIX 1: HOSPITAL-TREATED EPISODES OF SELF-HARM IN THE REPUBLIC OF IRELAND BY HOSPITALS GROUP, 2016

HOSPITAL GROUP	IRELAND EAST		DUBLIN MIDLANDS		RCSI		SOUTH/ SOUTH WEST		UNIVERSITY OF LIMERICK		SAOLTA UNIVERSITY		CHILDREN'S		REPUBLIC OF IRELAND	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
0-4yrs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5-9yrs	0	0	0	0	0	0	5	<5	0	<5	<5	0	<5	0	7	<5
10-14yrs	11	47	<5	8	7	14	24	60	<5	16	7	40	43	106	97	291
15-19yrs	121	275	137	237	89	208	174	245	31	79	93	180	33	103	678	1327
20-24yrs	220	176	149	162	116	129	169	176	46	49	114	142	0	0	814	834
25-29yrs	161	179	153	170	116	146	150	136	38	55	127	65	0	0	745	751
30-34yrs	135	129	148	103	100	116	117	108	36	65	104	87	0	0	640	608
35-39yrs	132	110	124	157	72	90	127	85	29	71	77	83	0	0	561	596
40-44yrs	122	171	81	119	67	91	88	97	25	34	62	85	0	0	445	597
45-49yrs	91	132	69	67	83	84	80	81	26	23	58	58	0	0	407	445
50-54yrs	53	109	42	79	38	53	62	56	16	31	31	51	0	0	242	379
55-59yrs	40	64	37	59	27	41	36	60	13	13	32	33	0	0	185	270
60-64yrs	18	28	23	15	16	26	23	26	<5	9	14	15	0	0	98	119
65-69yrs	15	33	10	12	11	9	23	17	6	<5	9	12	0	0	74	86
70-74yrs	14	15	<5	<5	7	8	11	20	<5	7	<5	8	0	0	42	61
75-79yrs	7	10	<5	<5	<5	<5	7	5	0	6	0	<5	0	0	21	29
80-84yrs	<5	<5	<5	<5	<5	<5	<5	<5	<5	0	0	<5	0	0	8	12
85yrs+	<5	<5	0	0	<5	<5	<5	<5	<5	<5	0	0	0	0	6	8
Total	1144	1483	983	1197	756	1021	1099	1178	278	463	733	864	77	209	5070	6415

APPENDIX 1A: HOSPITAL-TREATED EPISODES OF SELF-HARM IN THE HSE IRELAND EAST HOSPITAL GROUP, 2016

	MATER MISERICORDIAE UNIVERSITY HOSPITAL		MIDLAND REGIONAL HOSPITAL, MULLINGAR		OUR LADY'S HOSPITAL, NAVAN		ST. COLUMCILLE'S HOSPITAL, LOUGHLINSTOWN		ST. LUKE'S HOSPITAL, KILKENNY		ST. MICHAEL'S HOSPITAL, DUN LAOGHAIRE		OTHER		WEXFORD GENERAL HOSPITAL	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
<15yrs	0	0	<5	12	0	0	0	0	<5	9	0	0	0	<5	5	23
15-19yrs	18	49	12	13	6	24	0	<5	27	57	<5	<5	40	94	17	33
20-24yrs	76	46	24	18	10	17	0	<5	41	25	0	<5	56	49	13	18
25-34yrs	115	119	22	30	34	25	<5	0	42	29	<5	<5	64	87	16	17
35-44yrs	104	89	18	27	20	20	<5	0	27	48	6	<5	64	62	14	32
45-54yrs	46	54	16	30	12	22	0	0	20	38	<5	<5	40	59	9	36
55-64yrs	7	16	<5	14	10	8	0	<5	14	14	<5	<5	16	27	6	9
65yrs+	8	23	7	5	<5	8	<5	0	<5	<5	<5	<5	11	20	6	<5
Total	374	396	105	149	94	124	<5	<5	178	223	13	17	291	401	86	170

APPENDIX 1B: HOSPITAL-TREATED EPISODES OF SELF-HARM IN THE HSE DUBLIN MIDLANDS HOSPITAL GROUP, 2016

	ADELAIDE AND MEATH HOSPITAL, TALLAGHT		MIDLAND REGIONAL HOSPITAL, PORTLAOISE		MIDLAND REGIONAL HOSPITAL, TULLAMORE		NAAS GENERAL HOSPITAL		ST. JAMES'S HOSPITAL	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
<15yrs	0	0	<5	<5	0	<5	0	<5	0	0
15-19yrs	63	89	14	31	10	27	31	45	19	45
20-24yrs	33	41	12	18	9	13	35	29	60	61
25-34yrs	86	66	26	26	15	14	41	38	133	129
35-44yrs	60	64	13	29	14	21	45	73	73	89
45-54yrs	28	28	21	26	13	13	10	32	39	47
55-64yrs	18	23	7	<5	<5	5	13	17	21	25
65yrs+	6	<5	<5	0	0	<5	6	6	<5	13
Total	294	312	97	135	62	98	181	243	349	409

APPENDIX 1C: HOSPITAL-TREATED EPISODES OF SELF-HARM IN THE HSE RCSI HOSPITAL GROUP, 2016

	BEAUMONT HOSPITAL		CAVAN GENERAL HOSPITAL		CONNOLLY HOSPITAL, BLANCHARDSTOWN		OUR LADY OF LOURDES HOSPITAL, DROGHEDA	
	Male	Female	Male	Female	Male	Female	Male	Female
<15yrs	0	0	<5	7	0	0	<5	7
15-19yrs	31	54	12	27	22	59	24	68
20-24yrs	42	61	19	13	24	38	31	17
25-34yrs	53	107	27	20	83	90	53	45
35-44yrs	39	50	20	18	42	65	38	48
45-54yrs	31	58	25	15	28	32	37	32
55-64yrs	16	22	8	12	9	22	10	11
65yrs+	9	10	5	<5	5	7	6	<5
Total	221	362	120	114	213	313	202	232

APPENDIX 1D: HOSPITAL-TREATED EPISODES OF SELF-HARM IN THE HSE SOUTH/SOUTH WEST HOSPITAL GROUP, 2016

	BANTRY GENERAL HOSPITAL		CORK UNIVERSITY HOSPITAL		UNIVERSITY HOSPITAL, KERRY		MALLOW GENERAL HOSPITAL		MERCY UNIVERSITY HOSPITAL, CORK		SOUTH TIPPERARY GENERAL HOSPITAL		UNIVERSITY HOSPITAL, WATERFORD	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
<15yrs	0	0	10	17	<5	17	0	0	6	7	<5	14	5	6
15-19yrs	<5	6	58	61	25	38	0	0	37	59	22	29	30	52
20-24yrs	<5	<5	46	51	21	21	0	0	46	39	18	15	34	49
25-34yrs	<5	0	61	79	39	32	0	0	85	63	46	31	33	39
35-44yrs	5	<5	50	45	44	23	0	0	57	59	32	27	27	26
45-54yrs	9	<5	27	35	23	20	0	0	61	39	6	18	16	21
55-64yrs	<5	<5	18	20	7	21	0	0	17	16	6	9	7	16
65yrs+	<5	<5	15	10	5	8	0	0	7	11	6	<5	10	10
Total	28	21	285	318	168	180	0	0	316	293	140	147	162	219

APPENDIX 1E: HOSPITAL-TREATED EPISODES OF SELF-HARM IN THE HSE UNIVERSITY OF LIMERICK HOSPITAL GROUP, 2016

	ENNIS HOSPITAL		NENAGH HOSPITAL		ST. JOHN'S HOSPITAL, LIMERICK		UNIVERSITY HOSPITAL, LIMERICK	
	Male	Female	Male	Female	Male	Female	Male	Female
<15yrs	0	0	0	0	0	0	<5	17
15-19yrs	0	<5	0	0	0	0	31	77
20-24yrs	0	0	0	0	0	0	46	49
25-34yrs	<5	<5	<5	<5	0	<5	72	112
35-44yrs	0	<5	0	0	0	0	54	102
45-54yrs	<5	0	0	0	0	0	41	54
55-64yrs	0	0	0	0	0	0	17	22
65yrs+	0	0	0	0	0	0	10	17
Total	<5	7	<5	<5	0	<5	275	450

APPENDIX 1F: HOSPITAL-TREATED EPISODES OF SELF-HARM IN THE HSE SAOLTA UNIVERSITY HEALTH CARE GROUP, 2016

	GALWAY UNIVERSITY HOSPITAL		LETTERKENNY GENERAL HOSPITAL		MAYO GENERAL HOSPITAL		PORTIUNCULA HOSPITAL, BALLINASLOE		SLIGO REGIONAL HOSPITAL	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
<15yrs	<5	16	<5	9	<5	<5	<5	<5	<5	9
15-19yrs	35	70	29	25	11	29	10	25	8	31
20-24yrs	44	50	23	38	18	12	15	19	14	23
25-34yrs	70	47	44	29	44	34	20	21	53	21
35-44yrs	47	47	38	62	20	17	9	28	25	14
45-54yrs	21	35	17	29	29	17	12	12	10	16
55-64yrs	14	15	8	9	7	11	<5	7	14	6
65yrs+	5	11	0	<5	<5	8	<5	0	<5	5
Total	237	291	161	202	132	131	74	115	129	125

APPENDIX 1G: HOSPITAL-TREATED EPISODES OF SELF-HARM IN THE HSE CHILDREN'S HOSPITAL GROUP, 2016

	CHILDREN'S UNIVERSITY HOSPITAL AT TEMPLE STREET		NATIONAL CHILDREN'S HOSPITAL AT TALLAGHT HOSPITAL		OUR LADY'S CHILDREN'S HOSPITAL, CRUMLIN	
	Male	Female	Male	Female	Male	Female
<15yrs	23	44	12	39	9	23
15-19yrs	11	55	16	38	6	10
20-24yrs	0	0	0	0	0	0
25-34yrs	0	0	0	0	0	0
35-44yrs	0	0	0	0	0	0
45-54yrs	0	0	0	0	0	0
55-64yrs	0	0	0	0	0	0
65yrs+	0	0	0	0	0	0
Total	34	99	28	77	15	33

APPENDIX II:

APPENDIX 2A: RECOMMENDED NEXT CARE BY HOSPITAL IN THE HSE IRELAND EAST HOSPITAL GROUP, 2016

	MATER MISERICORDIAE UNIVERSITY HOSPITAL	MIDLAND REGIONAL HOSPITAL, MULLINGAR	OUR LADY'S HOSPITAL, NAVAN	ST. COLUMCILLE'S HOSPITAL, LOUGHLINSTOWN	ST. LUKE'S HOSPITAL, KILKENNY	ST. MICHAEL'S HOSPITAL, DUN LAOGHAIRE	OTHER	WEXFORD GENERAL HOSPITAL
	(n=770)	(n=254)	(n=218)	(n=6)	(n=401)	(n=30)	(n=692)	(n=256)
Admitted (general and psychiatric)	17.3%	42.1%	28.9%	16.7%	47.1%	33.3%	20.5%	52.7%
Patient would not allow admission	0.8%	0.4%	0%	0%	1.7%	0%	0%	2.0%
Left before recommendation	25.6%	10.2%	17.0%	0%	10.0%	13.3%	7.7%	10.2%
Not admitted	56.4%	47.2%	54.1%	83.3%	41.1%	53.3%	71.8%	35.2%

APPENDIX 2B: RECOMMENDED NEXT CARE BY HOSPITAL IN THE HSE DUBLIN MIDLANDS HOSPITAL GROUP, 2016

	ADELAIDE AND MEATH HOSPITAL, TALLAGHT	MIDLAND REGIONAL HOSPITAL, PORTLAOISE	MIDLAND REGIONAL HOSPITAL, TULLAMORE	NAAS GENERAL HOSPITAL	ST. JAMES'S HOSPITAL
	(n=606)	(n=232)	(n=160)	(n=424)	(n=758)
Admitted (general and psychiatric)	25.4%	41.4%	36.3%	31.6%	26.1%
Patient would not allow admission	0.7%	0.4%	2.5%	1.2%	0%
Left before recommendation	10.4%	14.7%	5.6%	13.2%	15.4%
Not admitted	63.5%	43.5%	55.6%	54.0%	58.4%

Note: It may not always be recorded in the emergency department that a patient has been directly admitted to psychiatric inpatient care. Therefore, the figures for direct psychiatric admission detailed in Appendices 2A-2G may be underestimates.

APPENDIX 2C: RECOMMENDED NEXT CARE BY HOSPITAL IN THE HSE RCSI HOSPITAL GROUP, 2016

	BEAUMONT HOSPITAL	CAVAN GENERAL HOSPITAL	CONNOLLY HOSPITAL, BLANCHARDSTOWN	OUR LADY OF LOURDES HOSPITAL, DROGHEDA
	(n=583)	(n=234)	(n=526)	(n=434)
Admitted (general and psychiatric)	20.8%	48.3%	31.9%	33.9%
Patient would not allow admission	0.2%	0%	1.5%	0.2%
Left before recommendation	13.9%	10.7%	14.3%	25.3%
Not admitted	65.2%	41.0%	52.3%	40.6%

APPENDIX 2D: RECOMMENDED NEXT CARE BY HOSPITAL IN THE HSE SOUTH/SOUTH WEST HOSPITAL GROUP, 2016

	BANTRY GENERAL HOSPITAL	CORK UNIVERSITY HOSPITAL	UNIVERSITY HOSPITAL, KERRY	MALLOW GENERAL HOSPITAL	MERCY UNIVERSITY HOSPITAL, CORK	SOUTH TIPPERARY GENERAL HOSPITAL	UNIVERSITY HOSPITAL, WATERFORD
	(n=49)	(n=603)	(n=348)	(n=0)	(n=609)	(n=287)	(n=381)
Admitted (general and psychiatric)	38.8%	50.9%	31.9%	0%	13.0%	29.6%	26.2%
Patient would not allow admission	0%	0%	0.3%	0%	0%	2.1%	2.1%
Left before recommendation	6.1%	5.6%	10.3%	0%	13.5%	12.5%	11.8%
Not admitted	55.1%	43.4%	57.5%	0%	73.6%	55.7%	59.8%

Note: It may not always be recorded in the emergency department that a patient has been directly admitted to psychiatric inpatient care. Therefore, the figures for direct psychiatric admission detailed in Appendices 2A-2G may be underestimates.

APPENDIX 2E: RECOMMENDED NEXT CARE BY HOSPITAL IN THE HSE UNIVERSITY OF LIMERICK HOSPITAL GROUP, 2016

	ENNIS HOSPITAL	NENAGH HOSPITAL	ST. JOHN'S HOSPITAL, LIMERICK	UNIVERSITY HOSPITAL, LIMERICK
	(n=9)	(n=4)	(n=3)	(n=725)
Admitted (general and psychiatric)	11.1%	0%	0%	20.1%
Patient would not allow admission	0%	0%	0%	0%
Left before recommendation	0%	0%	0%	10.2%
Not admitted	88.9%	100%	100%	69.7%

APPENDIX 2F: RECOMMENDED NEXT CARE BY HOSPITAL IN THE HSE SAOLTA UNIVERSITY HEALTH CARE GROUP, 2016

	GALWAY UNIVERSITY HOSPITAL	LETTERKENNY GENERAL HOSPITAL	MAYO GENERAL HOSPITAL	PORTIUNCULA HOSPITAL, BALLINASLOE	SLIGO REGIONAL HOSPITAL
	(n=528)	(n=363)	(n=263)	(n=189)	(n=254)
Admitted (general and psychiatric)	31.6%	59.5%	43.0%	30.7%	23.6%
Patient would not allow admission	2.3%	0%	3.8%	1.6%	3.9%
Left before recommendation	13.4%	7.4%	14.4%	11.1%	8.7%
Not admitted	52.7%	33.1%	38.8%	56.6%	63.8%

Note: It may not always be recorded in the emergency department that a patient has been directly admitted to psychiatric inpatient care. Therefore, the figures for direct psychiatric admission detailed in Appendices 2A-2G may be underestimates.

APPENDIX 2G: RECOMMENDED NEXT CARE BY HOSPITAL IN THE HSE CHILDREN'S HOSPITAL GROUP, 2016

	CHILDREN'S UNIVERSITY HOSPITAL AT TEMPLE STREET	NATIONAL CHILDREN'S HOSPITAL AT TALLAGHT HOSPITAL	OUR LADY'S CHILDREN'S HOSPITAL, CRUMLIN
	(n=133)	(n=105)	(n=48)
Admitted (general and psychiatric)	60.2%	87.6%	77.1%
Patient would not allow admission	0.8%	0%	2.1%
Left before recommendation	0.8%	1.0%	0%
Not admitted	38.3%	11.4%	20.8%

Note: It may not always be recorded in the emergency department that a patient has been directly admitted to psychiatric inpatient care. Therefore, the figures for direct psychiatric admission detailed in Appendices 2A-2G may be underestimates.

APPENDIX III:

APPENDIX 3A: REPETITION BY GENDER AND HOSPITAL FOR INDIVIDUALS TREATED IN THE HSE IRELAND EAST HOSPITAL GROUP, 2016

		MATER MISERICORDIAE UNIVERSITY HOSPITAL	MIDLAND REGIONAL HOSPITAL, MULLINGAR	OUR LADY'S HOSPITAL, NAVAN	ST. COLUMCILLE'S HOSPITAL, LOUGHLINSTOWN	ST. LUKE'S HOSPITAL, KILKENNY	ST. MICHAEL'S HOSPITAL, DUN LAOGHAIRE	OTHER	WEXFORD GENERAL HOSPITAL
Number of individuals treated	**Men**	251	87	84	3	143	13	231	79
	Women	277	120	103	3	172	17	325	123
	Total	528	207	187	6	315	30	556	202
Number who repeated	**Men**	72	11	10	1	19	1	45	9
	Women	64	22	15	0	27	5	51	27
	Total	136	33	25	1	46	6	96	36
Percentage who repeated	**Men**	28.7%	12.6%	11.9%	33.3%	13.3%	7.7%	19.5%	11.4%
	Women	23.1%	18.3%	14.6%	0%	15.7%	29.4%	15.7%	22.0%
	Total	25.8%	15.9%	13.4%	16.7%	14.6%	20.0%	17.3%	17.8%

APPENDIX 3B: REPETITION BY GENDER AND HOSPITAL FOR INDIVIDUALS TREATED IN THE HSE DUBLIN MIDLANDS HOSPITAL GROUP, 2016

		ADELAIDE AND MEATH HOSPITAL, TALLAGHT	MIDLAND REGIONAL HOSPITAL, PORTLAOISE	MIDLAND REGIONAL HOSPITAL, TULLAMORE	NAAS GENERAL HOSPITAL	ST. JAMES'S HOSPITAL
Number of individuals treated	**Men**	229	80	58	160	250
	Women	264	109	84	184	316
	Total	493	189	142	344	566
Number who repeated	**Men**	40	12	4	18	62
	Women	37	25	12	30	64
	Total	77	37	16	48	126
Percentage who repeated	**Men**	17.5%	15.0%	6.9%	11.3%	24.8%
	Women	14.0%	22.9%	14.3%	16.3%	20.3%
	Total	15.6%	19.6%	11.3%	14.0%	22.3%

APPENDIX 3C: REPETITION BY GENDER AND HOSPITAL FOR INDIVIDUALS TREATED IN THE HSE RCSI HOSPITAL GROUP, 2016

		BEAUMONT HOSPITAL	CAVAN GENERAL HOSPITAL	CONNOLLY HOSPITAL, BLANCHARDSTOWN	OUR LADY OF LOURDES HOSPITAL, DROGHEDA
Number of individuals treated	**Men**	181	101	185	157
	Women	270	102	252	201
	Total	451	203	437	358
Number who repeated	**Men**	29	14	32	22
	Women	54	11	52	21
	Total	83	25	84	43
Percentage who repeated	**Men**	16.0%	13.9%	17.3%	14.0%
	Women	20.0%	10.8%	20.6%	10.4%
	Total	18.4%	12.3%	19.2%	12.0%

APPENDIX 3D: REPETITION BY GENDER AND HOSPITAL FOR INDIVIDUALS TREATED IN THE HSE SOUTH/SOUTH WEST HOSPITAL GROUP, 2016

		BANTRY GENERAL HOSPITAL	CORK UNIVERSITY HOSPITAL	UNIVERSITY HOSPITAL, KERRY	MALLOW GENERAL HOSPITAL	MERCY UNIVERSITY HOSPITAL, CORK	SOUTH TIPPERARY GENERAL HOSPITAL	UNIVERSITY HOSPITAL, WATERFORD
Number of individuals treated	Men	20	257	135	0	262	117	135
	Women	19	256	154	0	248	106	164
	Total	39	513	289	0	510	223	299
Number who repeated	Men	5	29	17	0	42	22	28
	Women	2	32	23	0	40	15	24
	Total	7	61	40	0	82	37	52
Percentage who repeated	Men	25.0%	11.3%	12.6%	0	16.0%	18.8%	20.7%
	Women	10.5%	12.5%	14.9%	0	16.1%	14.2%	14.6%
	Total	17.9%	11.9%	13.8%	0	16.1%	16.6%	17.4%

APPENDIX 3E: REPETITION BY GENDER AND HOSPITAL FOR INDIVIDUALS TREATED IN THE HSE UNIVERSITY OF LIMERICK HOSPITAL GROUP, 2016

		ENNIS HOSPITAL	NENAGH HOSPITAL	ST. JOHN'S HOSPITAL, LIMERICK	UNIVERSITY HOSPITAL, LIMERICK
Number of individuals treated	Men	2	1	0	239
	Women	5	2	3	350
	Total	7	3	3	589
Number who repeated	Men	1	0	0	30
	Women	2	1	0	57
	Total	3	1	0	87
Percentage who repeated	Men	50.0%	0%	0%	12.6%
	Women	40.0%	50.0%	0%	16.3%
	Total	42.9%	33.3%	0%	14.8%

APPENDIX 3F: REPETITION BY GENDER AND HOSPITAL FOR INDIVIDUALS TREATED IN THE HSE SAOLTA UNIVERSITY HEALTH CARE GROUP, 2016

		GALWAY UNIVERSITY HOSPITAL	LETTERKENNY GENERAL HOSPITAL	MAYO GENERAL HOSPITAL	PORTIUNCULA HOSPITAL, BALLINASLOE	SLIGO REGIONAL HOSPITAL
Number of individuals treated	Men	208	143	103	65	104
	Women	232	134	115	99	113
	Total	440	277	218	164	217
Number who repeated	Men	24	16	19	11	14
	Women	30	21	12	15	11
	Total	54	37	31	26	25
Percentage who repeated	Men	11.5%	11.2%	18.4%	16.9%	13.5%
	Women	12.9%	15.7%	10.4%	15.2%	9.7%
	Total	12.3%	13.4%	14.2%	15.9%	11.5%

APPENDIX 3G: REPETITION BY GENDER AND HOSPITAL FOR INDIVIDUALS TREATED IN THE HSE CHILDREN'S HOSPITALS GROUP, 2016

		CHILDREN'S UNIVERSITY HOSPITAL AT TEMPLE STREET	NATIONAL CHILDREN'S HOSPITAL AT TALLAGHT HOSPITAL	OUR LADY'S CHILDREN'S HOSPITAL, CRUMLIN
Number of individuals treated	**Men**	28	25	15
	Women	86	67	31
	Total	114	92	46
Number who repeated	**Men**	6	2	0
	Women	11	7	4
	Total	17	9	4
Percentage who repeated	**Men**	21.4%	8.0%	0%
	Women	12.8%	10.4%	12.9%
	Total	14.9%	9.8%	8.7%

APPENDIX IV:

APPENDIX 4: SELF-HARM BY RESIDENTS OF THE REPUBLIC OF IRELAND, 2016

	MEN				WOMEN			
		SELF-HARM				SELF-HARM		
Age group	Population	Persons	Rate	95% CI*	Population	Persons	Rate	95% CI*
0-4yrs	181700	0	0	(+/-0)	173700	0	0	(+/-0)
5-9yrs	183800	7	4	(+/-3)	179500	2	1	(+/-2)
10-14yrs	163400	88	54	(+/-11)	157200	253	161	(+/-20)
15-19yrs	148100	563	380	(+/-32)	140200	1070	763	(+/-47)
20-24yrs	117200	605	516	(+/-42)	109600	640	584	(+/-46)
25-29yrs	139200	541	389	(+/-33)	143200	485	339	(+/-31)
30-34yrs	166500	502	302	(+/-27)	184700	457	247	(+/-23)
35-39yrs	184700	451	244	(+/-23)	194000	428	221	(+/-21)
40-44yrs	175800	347	197	(+/-21)	178700	434	243	(+/-23)
45-49yrs	163200	301	184	(+/-21)	163100	352	216	(+/-23)
50-54yrs	148000	201	136	(+/-19)	151400	309	204	(+/-23)
55-59yrs	132300	151	114	(+/-19)	134600	229	170	(+/-22)
60-64yrs	115800	87	75	(+/-16)	118800	106	89	(+/-17)
65-69yrs	102300	65	64	(+/-16)	104300	66	63	(+/-16)
70-74yrs	77600	38	49	(+/-16)	81000	51	63	(+/-18)
75-79yrs	53200	20	38	(+/-17)	60100	26	43	(+/-17)
80-84yrs	34100	8	23	(+/-17)	44600	12	27	(+/-16)
85yrs+	23700	6	25	(+/-21)	44700	8	18	(+/-13)
Total**	2310600	3981	184	(+/-5)	2363400	4928	229	(+/-6)

*95% Confidence Interval. **The total rates are European age-standardised rates per 100,000.

APPENDIX 4A: SELF-HARM BY RESIDENTS OF THE HSE DUBLIN/MID-LEINSTER REGION, 2016

Age group	MEN				WOMEN			
		SELF-HARM				SELF-HARM		
	Population	Persons	Rate	95% CI*	Population	Persons	Rate	95% CI*
0-4yrs	53713	0	0	(+/-0)	51306	0	0	(+/-0)
5-9yrs	53245	1	2	(+/-4)	52743	0	0	(+/-0)
10-14yrs	46983	23	49	(+/-20)	45528	70	154	(+/-37)
15-19yrs	43153	160	371	(+/-59)	40815	304	745	(+/-85)
20-24yrs	35431	155	437	(+/-70)	33965	188	554	(+/-81)
25-29yrs	44848	136	303	(+/-52)	47311	138	292	(+/-50)
30-34yrs	54701	127	232	(+/-41)	59552	127	213	(+/-38)
35-39yrs	56865	129	227	(+/-40)	59052	131	222	(+/-39)
40-44yrs	52116	101	194	(+/-39)	53464	130	243	(+/-43)
45-49yrs	47298	77	163	(+/-37)	47615	87	183	(+/-39)
50-54yrs	41985	50	119	(+/-34)	44319	78	176	(+/-40)
55-59yrs	37546	44	117	(+/-35)	39049	73	187	(+/-44)
60-64yrs	31794	22	69	(+/-30)	33823	29	86	(+/-32)
65-69yrs	27523	15	55	(+/-28)	28557	23	81	(+/-34)
70-74yrs	20362	8	39	(+/-28)	22224	6	27	(+/-22)
75-79yrs	14173	5	35	(+/-32)	16534	10	60	(+/-38)
80-84yrs	9025	2	22	(+/-31)	12430	3	24	(+/-28)
85yrs+	6207	1	16	(+/-32)	12302	2	16	(+/-23)
Total**	676966	1056	162	(+/-10)	700590	1399	216	(+/-11)

*95% Confidence Interval. **The total rates are European age-standardised rates per 100,000.

APPENDIX 4B: SELF-HARM BY RESIDENTS OF THE HSE DUBLIN/NORTH EAST REGION, 2016

Age group	MEN				WOMEN			
		SELF-HARM				SELF-HARM		
	Population	Persons	Rate	95% CI*	Population	Persons	Rate	95% CI*
0-4yrs	44839	0	0	(+/-0)	42285	0	0	(+/-0)
5-9yrs	42184	0	0	(+/-0)	41635	0	0	(+/-0)
10-14yrs	35901	26	72	(+/-28)	34254	55	161	(+/-43)
15-19yrs	31489	116	368	(+/-68)	29013	266	917	(+/-112)
20-24yrs	23814	150	630	(+/-103)	23462	145	618	(+/-103)
25-29yrs	33187	134	404	(+/-70)	35439	145	409	(+/-68)
30-34yrs	42997	142	330	(+/-55)	46648	135	289	(+/-50)
35-39yrs	45714	110	241	(+/-46)	48183	116	241	(+/-45)
40-44yrs	40834	91	223	(+/-47)	41491	121	292	(+/-53)
45-49yrs	36417	82	225	(+/-50)	35775	109	305	(+/-58)
50-54yrs	31017	51	164	(+/-46)	31944	85	266	(+/-58)
55-59yrs	26574	28	105	(+/-40)	27360	48	175	(+/-51)
60-64yrs	22581	21	93	(+/-41)	24039	27	112	(+/-43)
65-69yrs	20522	14	68	(+/-36)	21598	12	56	(+/-32)
70-74yrs	15734	13	83	(+/-46)	16547	12	73	(+/-42)
75-79yrs	10660	6	56	(+/-46)	12709	4	31	(+/-31)
80-84yrs	6670	1	15	(+/-30)	9103	2	22	(+/-31)
85yrs+	4578	2	44	(+/-62)	8797	4	45	(+/-45)
Total**	515713	987	204	(+/-12)	530283	1286	267	(+/-14)

*95% Confidence Interval. **The total rates are European age-standardised rates per 100,000.

APPENDIX 4C: SELF-HARM BY RESIDENTS OF THE HSE SOUTH REGION, 2016

Age group	MEN				WOMEN			
		SELF-HARM				SELF-HARM		
	Population	Persons	Rate	95% CI*	Population	Persons	Rate	95% CI*
0-4yrs	42900	0	0	(+/-0)	42200	0	0	(+/-0)
5-9yrs	45500	5	11	(+/-10)	45000	2	4	(+/-6)
10-14yrs	41300	29	70	(+/-26)	40400	82	203	(+/-45)
15-19yrs	37900	190	501	(+/-73)	36800	298	810	(+/-94)
20-24yrs	32500	182	560	(+/-83)	30100	166	551	(+/-86)
25-29yrs	34500	153	443	(+/-72)	33800	124	367	(+/-66)
30-34yrs	36600	120	328	(+/-60)	42900	92	214	(+/-45)
35-39yrs	44000	127	289	(+/-51)	47400	91	192	(+/-40)
40-44yrs	44300	86	194	(+/-42)	44100	107	243	(+/-47)
45-49yrs	41700	81	194	(+/-43)	41900	89	212	(+/-45)
50-54yrs	39300	62	158	(+/-40)	39400	76	193	(+/-44)
55-59yrs	35300	46	130	(+/-38)	35200	67	190	(+/-47)
60-64yrs	31200	29	93	(+/-35)	31100	28	90	(+/-34)
65-69yrs	27400	23	84	(+/-35)	27600	16	58	(+/-29)
70-74yrs	20900	12	57	(+/-33)	21900	20	91	(+/-41)
75-79yrs	14500	7	48	(+/-36)	16100	7	43	(+/-33)
80-84yrs	9200	4	43	(+/-43)	12000	4	33	(+/-33)
85yrs+	6400	3	47	(+/-54)	11800	2	17	(+/-24)
Total**	585400	1159	212	(+/-12)	599700	1271	232	(+/-12)

*95% Confidence Interval. **The total rates are European age-standardised rates per 100,000.

APPENDIX 4D: SELF-HARM BY RESIDENTS OF THE HSE WEST REGION, 2016

Age group	MEN				WOMEN			
		SELF-HARM				SELF-HARM		
	Population	Persons	Rate	95% CI*	Population	Persons	Rate	95% CI*
0-4yrs	40248	0	0	(+/-0)	37909	0	0	(+/-0)
5-9yrs	42871	1	2	(+/-5)	40122	0	0	(+/-0)
10-14yrs	39215	10	26	(+/-16)	37018	46	124	(+/-37)
15-19yrs	35559	97	273	(+/-55)	33572	201	599	(+/-84)
20-24yrs	25455	117	460	(+/-85)	22073	140	634	(+/-107)
25-29yrs	26666	118	443	(+/-81)	26650	77	289	(+/-66)
30-34yrs	32202	110	342	(+/-65)	35601	102	287	(+/-57)
35-39yrs	38121	83	218	(+/-48)	39364	88	224	(+/-48)
40-44yrs	38550	66	171	(+/-42)	39645	75	189	(+/-44)
45-49yrs	37785	58	153	(+/-40)	37809	67	177	(+/-43)
50-54yrs	35698	38	106	(+/-35)	35736	69	193	(+/-46)
55-59yrs	32879	32	97	(+/-34)	32991	40	121	(+/-38)
60-64yrs	30225	15	50	(+/-26)	29838	22	74	(+/-31)
65-69yrs	26855	13	48	(+/-27)	26545	15	57	(+/-29)
70-74yrs	20603	5	24	(+/-22)	20329	13	64	(+/-35)
75-79yrs	13867	2	14	(+/-20)	14758	5	34	(+/-30)
80-84yrs	9205	1	11	(+/-22)	11067	3	27	(+/-31)
85yrs+	6516	0	0	(+/-0)	11800	0	0	(+/-0)
Total**	532522	766	165	(+/-10)	532827	963	206	(+/-12)

*95% Confidence Interval. **The total rates are European age-standardised rates per 100,000.

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