Risk factors associated with alcohol related self-harm and suicide:
New insights and improving evidence based policy and practice

26th October 2017

Professor Ella Arensman
National Suicide Research Foundation,
WHO Collaborating Centre on Surveillance and Research in Suicide Prevention
School of Public Health, University College Cork, Ireland
Visiting Professor Australian Institute for Suicide Research and Prevention, Griffith University
International Association for Suicide Prevention
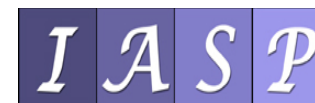
Overview

› Prevalence of alcohol involvement in suicide and self-harm

› Seasonal patterns associated with increased risk of alcohol related self-harm

› Relationship between alcohol misuse and abuse, and suicide/self-harm and the impact on mental and physical health

› Dual diagnosis, increasing awareness and management of co-morbid factors associated with self-harm and suicide

› Improving evidence based policy and practice

› Video: *John's story: Alcohol and suicide*

Background
Alcohol consumption and suicidal behaviour

› Suicidal behaviour is associated with a wide range of risk factors, spanning biological, psychiatric, psychosocial, and sociological domains

Alcohol consumption ➡ Suicidal behaviour

› Alcohol is often involved in self-harm acts and present at time of deaths by suicide
- › Average: 36% (range 10–69%) in suicides
- › Average: 41% (range 10–73%) in suicide attempts

(Nock et al, 2008; Yoshimasu et al, 2008)

Alcohol consumption and suicidal behaviour

› Alcohol consumption prior to a suicide attempt may be a more important risk factor than habitual alcohol consumption

› Consuming alcohol increased risk for suicide attempts up to 90 times compared with abstinence

(Razvodovsky, 2011)

› Relationship between alcohol consumption and suicide rates holds at an ecological level
(Pridemore, 2006; Razvodovsky, 2011)

Suicide and alcohol related risk factors - Australia

Psychological autopsy study *(Kolves et al, 2017)*

› Comparison of people with Alcohol Use Disorder (AUD) who died by suicide versus those without AUD and versus sudden death controls with AUD:

Suicide with AUD was significantly associated with:

- History of suicide attempts

- Another substance-use disorder

- Victim of a crime

- Higher levels of aggression towards self and more lethal self-harm methods

- Recent serious relationship problems

› Co-morbidity of mental disorders (mood disorders, substance dependence/abuse, Cluster B personality disorders) most likely place males at higher risk of suicidal behaviours *(Kolves, De Leo and AISRAP, 2013)*

National Self-Harm Registry Ireland

Aims:

- To establish the extent and nature of hospital-treated self-harm;

- To monitor trends over time and also by area;

- To contribute to policy and development in the area of suicidal behaviour;

- To help the progress of research and prevention.

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'.

(Schmidtke et al, 2006)
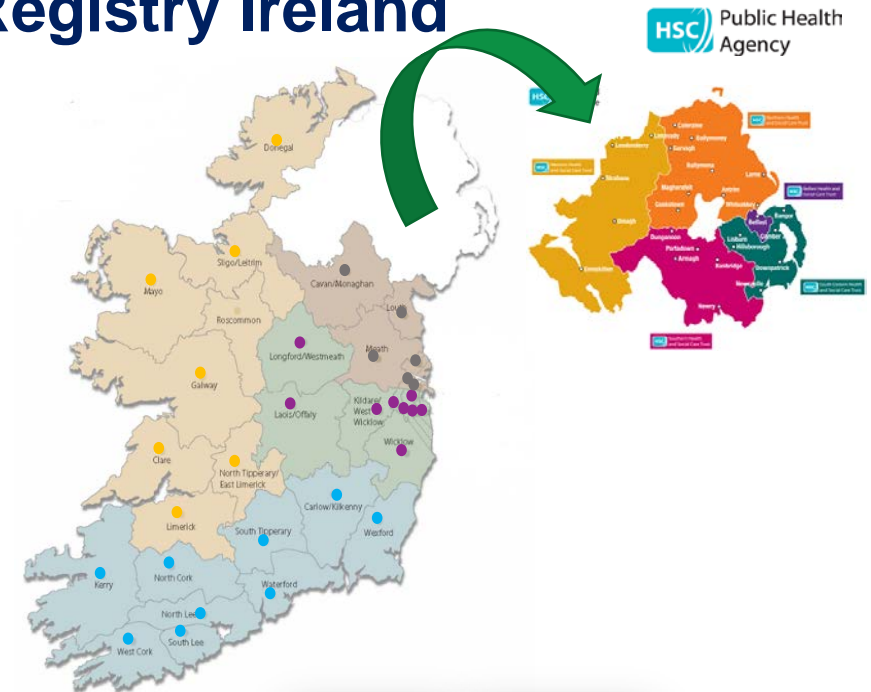
Self-harm on public holidays

- Consistently higher number of presentations on public holidays

- More likely to involve alcohol

- More likely to attend out-of-hours
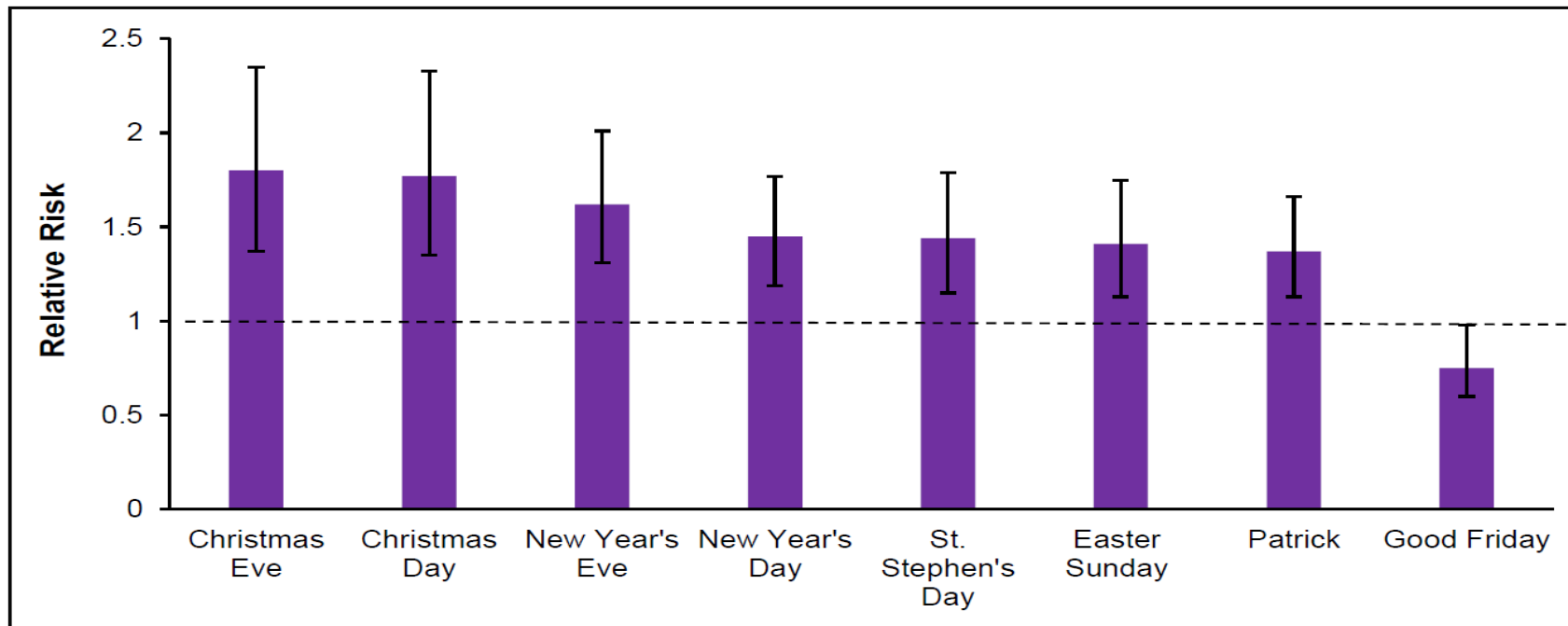
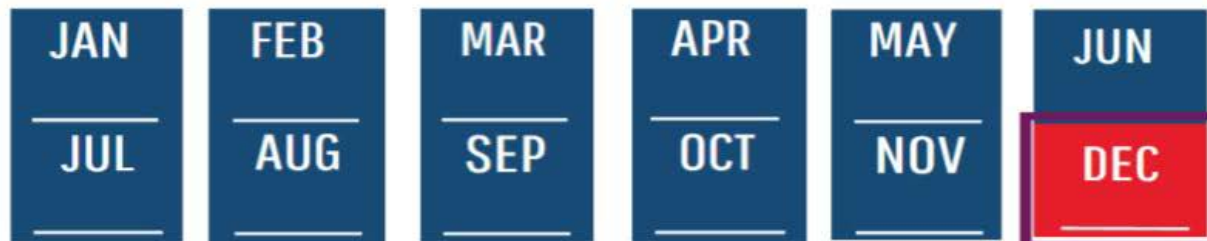The seasonal relationship between self-harm and alcohol

NSRF

Self-Harm

01 JANUARY

The highest number of self-harm presentations occur on **New Year's Day**

Average number of **56** presentations

Alcohol

JAN	FEB	MAR	APR	MAY	JUN
JUL	AUG	SEP	OCT	NOV	DEC

Self-harm presentations involving alcohol are highest at **Christmas**

Presentations involving **alcohol 3 times more likely** at Christmas

Relationship between alcohol misuse/abuse, and suicide/self-harm, and the impact on mental and physical health

The impact of alcohol

Alcohol abuse is one of the factors contributing to the high rates of self-harm among young people and adults

Direct effects:

➤ Impairs problem-solving ability

➤ Increases impulsivity and lack of control

➤ Increases feelings of depression, stress, anger or anxiety

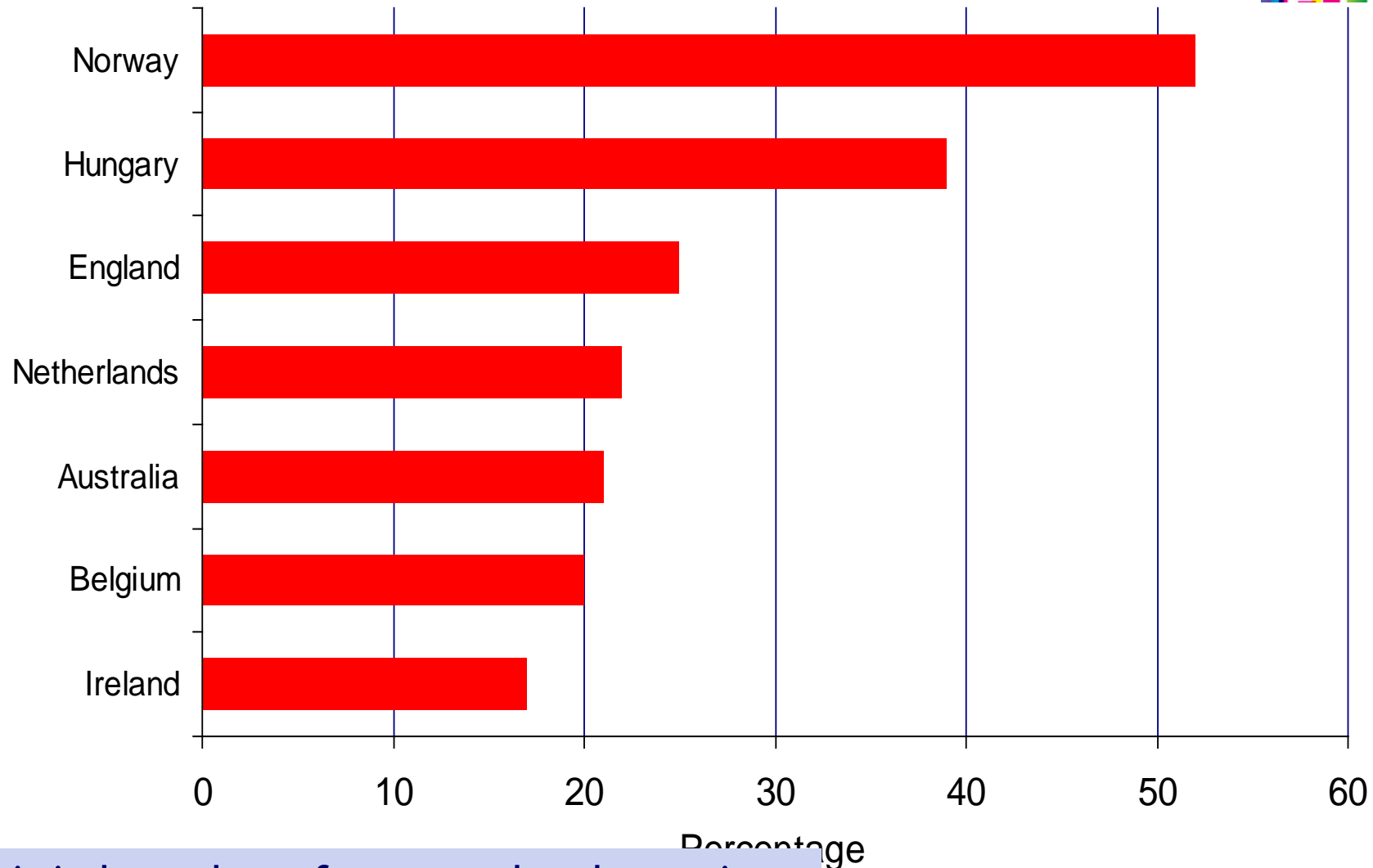*Long term and indirect effects:*

➤ Isolation (loss of work, relationships, etc.)

➤ Physical illness and deterioration

➤ Neurobiological deficits

Rossow et al, 2007; Madge et al, 2008; McMahon et al, 2010;Khalily & Hallahan, 2012

Proportion of adolescent self-harm due to heavy drinking (recurrent pattern of binge drinking)

Australian Institute for
Suicide Research and Prevention
National Centre of Excellence
in Suicide Prevention

Country	Percentage
Norway	~52
Hungary	~39
England	~25
Netherlands	~22
Australia	~21
Belgium	~20
Ireland	~17

Percentage

This effect is independent of: age, gender, depression, impulsivity and negative life events

Rossow et al, 2007

Implications for intervention and prevention

➤ Heavy alcohol consumption increases risk of self-harm independent of other factors

➤ Reducing adolescents' heavy drinking in Ireland and Australia should reduce their rate of self-harm by 17% and 22% respectively

National Suicide Research Foundation

HRB Health Research Board

IASP

UCC University College Cork, Ireland Coláiste na hOllscoile Corcaigh

Alcohol involvement in self-harm

- Alcohol was present in 31% of self-harm presentations to hospital EDs in 2016

- Increased risk of:

  - Attending out-of-hours and at weekends
  - Leaving without being seen
  - Arriving by ambulance
  - Associated with repeat attendances
  - Not receiving an assessment

Self-harm with and without alcohol by time of the day, day of the week and gender
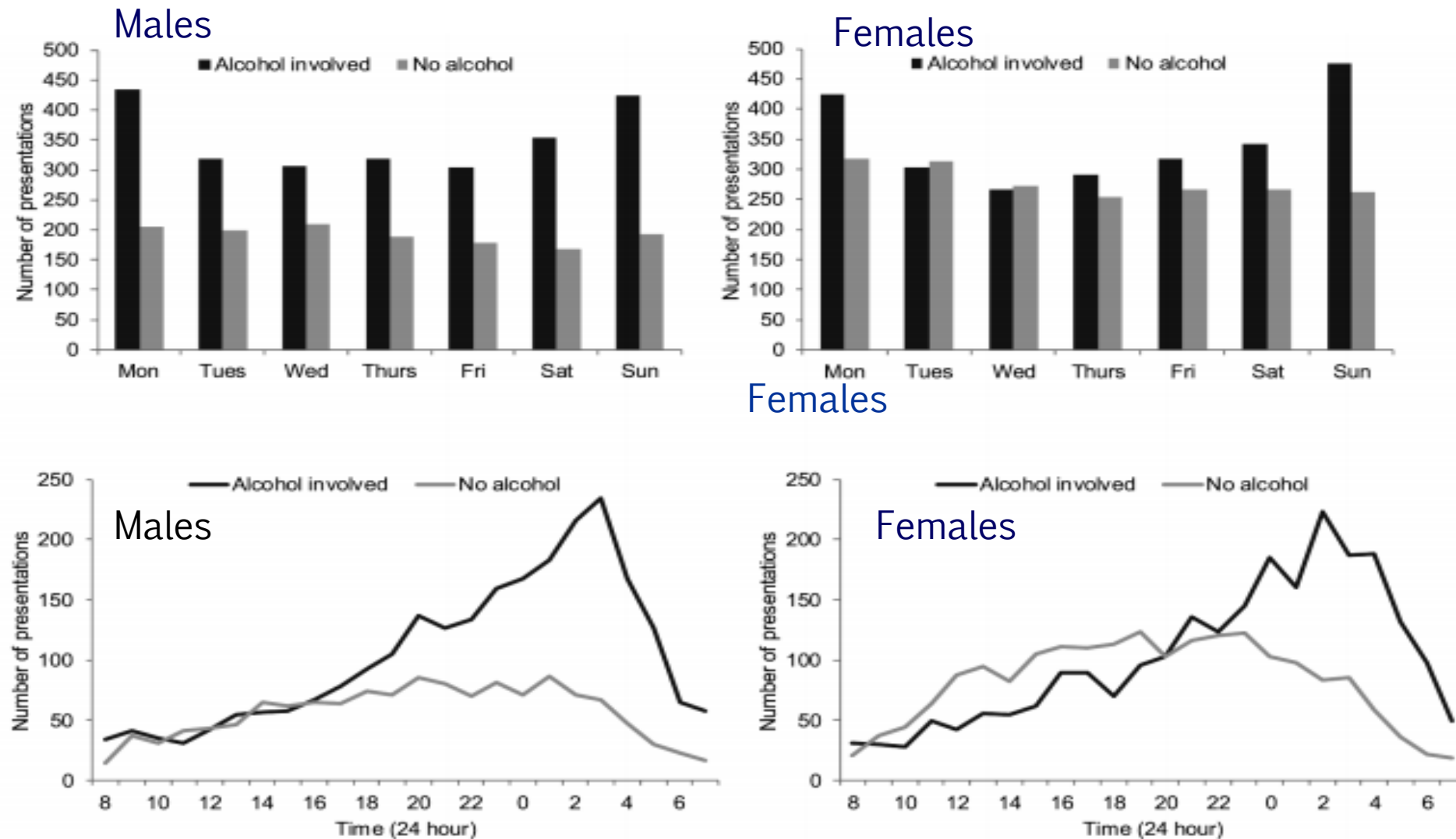
Figure 2. Frequency of male (left-hand charts) and female (right-hand charts) deliberate self-harm presentations to hospital by day of the week and hour of the day with and without the involvement of alcohol.

Suicide Support and Information System

Recorded consecutive cases of confirmed and probable suicide (open verdicts)

› Suicide verdict: *beyond a reasonable doubt* that a person has taken their own life

› Open verdicts screened (Rosenberg et al, 1988)

Response rate: 100%

Coroners' verdict records & Post mortem reports

Response rate: 77%

GP/Psychiatrist/ Psychologist

Close family members/ friends

Response rate: 66%
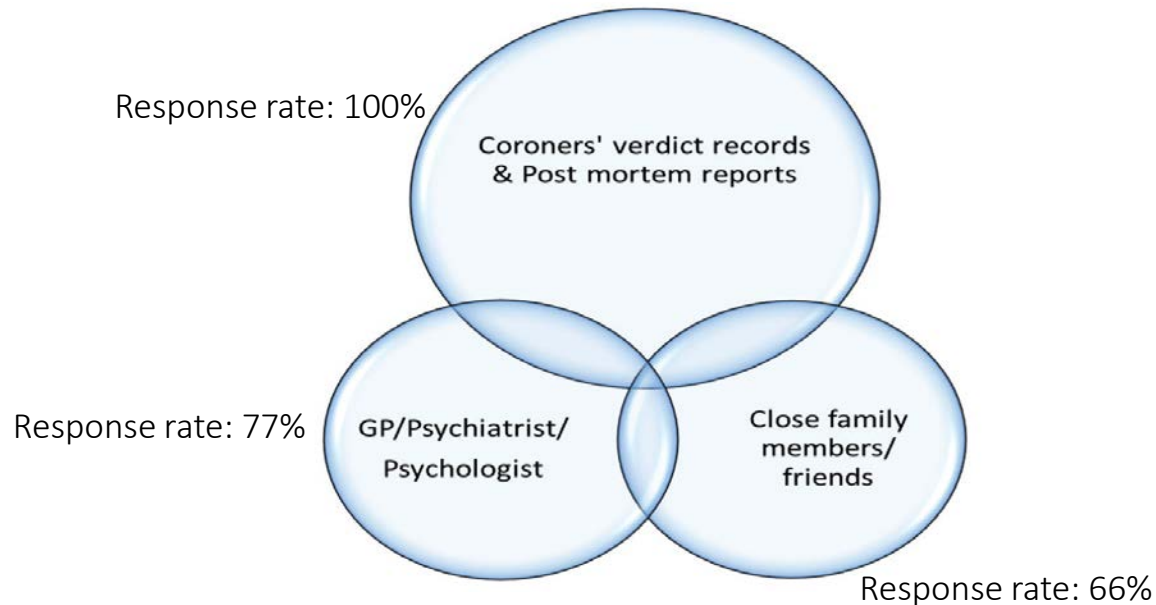
Coroner's inquest concluded involving cases of suicide / open verdicts

Step 1: SRP facilitates support for families bereaved by suicide / other sudden deaths after conclusion of inquest

Step 2: Research: SRP approaches next of kin and health care professional(s) after conclusion of inquest

Period and area covered: City and County Cork

Number of consecutive cases: 275 suicide cases + 32 open verdicts meeting screening criteria

- **Total N=307**

National Suicide Research Foundation

HRB Health Research Board

IASP

UCC University College Cork, Ireland Coláiste na hOllscoile Corcaigh

Suicide Support and Information System Results

› 307 consecutive cases of suicide and probable suicide (80.1% male) were recorded by the SSIS in Cork, Ireland

› Characteristics of overall sample
  – 80.1% male
  – Mean age 40.8 years (SD= 16.1 years)
  – 40.6% were in paid employment
  – 63.8% died by hanging
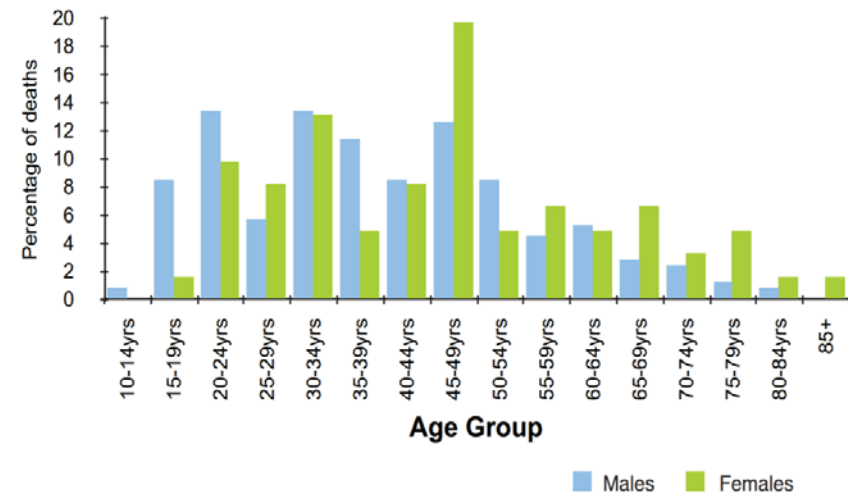
› Toxicology report information on alcohol consumption was available for 298 of the 307 cases
  – 131 (44%) tested positive for alcohol

SSIS: Differences between men aged <40 years versus men aged > 40 years
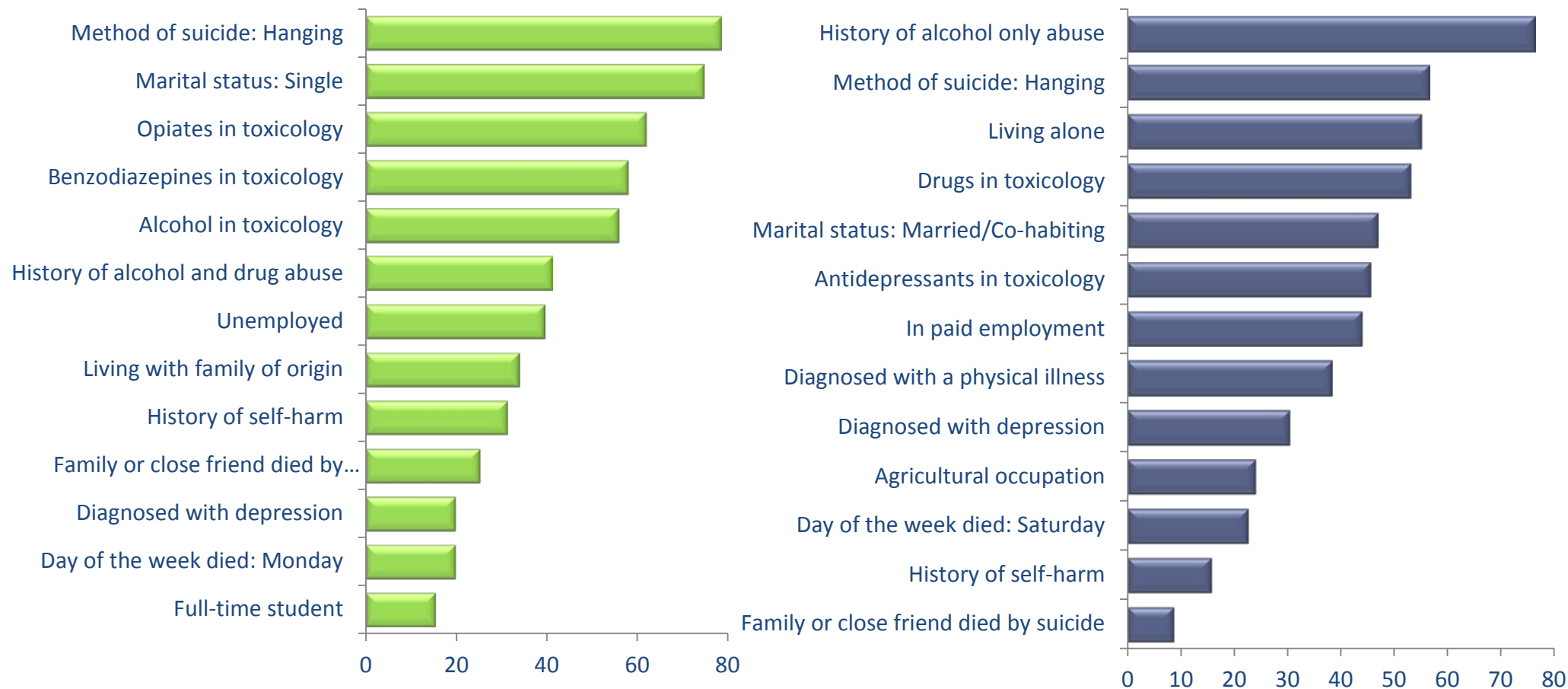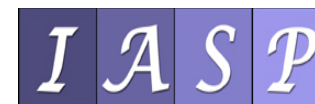
High-risk self-harm

› **First outcomes:**

- 233 consecutive cases fulfilled the criteria for high risk self-harm *(July 2014-September 2016)*

- Gender: 66.3% Male; Mean age: 47 years

  – **Self-harm history:** History of one or more self-harm episodes (58.7%)

  – **Addiction history:** Alcohol abuse (53.3%,) Drug abuse (33.3%), and both drug and alcohol abuse (21.2%)

  – **Experience of abuse:** History of physical, sexual or emotional abuse (46.0%)

  – **Contact with healthcare services:** Attended GP in the past year (93.3)%, previously treated as a psychiatric inpatient (57.8%)

Binge drinking and the impact on physical and neurological functions

Alcoholic liver disease on the increase in young women

'We are used to alcoholic liver disease in middle-aged men but scarily we are seeing a significant number of women in their 20s and 30s in this situation,''

Simone Strasser, Gastroenterological Society of Australia (2014)

Binge drinking may quickly lead to liver damage

UCSF Study in Mice Finds Fatty Liver, Inflammation, Enzyme Changes within Seven Weeks

(Wegner et al, 2017)

Binge Drinking and Alcohol Poisoning

- Binge drinking is the consumption of large amounts of alcohol in a short period of time
- Alcohol poisoning occurs when a high BAC suppresses the central nervous system
- Extreme cases can lead to permanent brain damage or death

National Suicide Research Foundation

HRB Health Research Board

IASP

UCC University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

Reducing alcohol related harm

› Reducing alcohol-related harm

– Societal approaches (Anderson et al., 2009)

› Minimum pricing, reduced availability, limiting advertising

› Also reduces alcohol-related diseases, alcohol-related driving injuries, accidents, and violent crime

› Increased awareness of harmful impacts of alcohol misuse and abuse at national level and strategically linked to peak days of self-harm and suicide in the year

– Clinical interventions

› Screening and brief interventions in primary care (Bertholet, 2005; D'Onofrio et al., 2008), care for dual diagnosis (Drake et al., 2008; Foster, 2001)

› Enhanced health service capacity in emergency departments out-of-hours

› Enhance multidisciplinary treatment approaches for people with dual diagnosis

Suicide risk in the presence of dual diagnosis

'Complex needs; co-morbid mental health and substance misuse problems; when a mental health disorder and substance misuse interact and impact significantly on the quality of a service user's life.' (DOH, 2016)

Dual Diagnosis

Assessment must include questions about alcohol and/or drugs use; if so what type, method of administration, quantity and frequency.

Consequences
- Increased rate of self-harm and suicide (ambivalence, loss of inhibition)
- Desensitisation to emotional and physical pain.
- Increase in depressive symptoms.
- Lengthening of associated psychiatric episodes, e.g. depression or psychosis.

Considerations
- Determination of level of abuse or dependence.
- Assessing and management of risk of relapse.

Service delivery implications and potential limitations in cases of dual diagnosis

Co-morbid service users have significantly poorer treatment outcomes and are most likely to experience:

- Poor compliance with medication and treatment regimes

- Increased rates of inpatient admission (ED as pathway)

- Social exclusion/homelessness/loneliness/isolation

- Disengagement from services

- Offending behaviour (legal implications)

Therefore, a multidisciplinary treatment approach is crucial

Implications of alcohol abuse for assessment

➢Assessment of risk may need to be postponed

➢Risk of low mood and agitation following alcohol intoxication

➢Shame and guilt associated with realisation of self-harm act afterwards

Assessment and management of alcohol problems

➢ Detailed assessment and direct questions

➢ Assessment may take several sessions

➢ Give feedback and information about treatment services to hazardous drinkers/those with alcohol abuse

➢ Detoxify and prevent complications of withdrawal in alcohol dependent patients

➢ Give information/referral to hospital/aftercare/alcohol treatment services

Improving evidence based policy and practice

- National strategies to increase awareness of the risks involved in the use and misuse of alcohol should be intensified, starting at pre-adolescent age

- Health care professionals working with people who engage in self-harm should receive training in the assessment and management of self-harm and co-morbid alcohol and drug misuse/abuse.

- Health care professionals prescribing medication to people at risk of self-harm or suicide should carefully monitor compliance with appropriate use of medication.

Preventing suicide
A global imperative

Improving evidence based policy and practice

- Breaking the commercially reinforced links between alcohol and sport.

- Recruit the major national sporting organisations as partners in the development of a national positive mental health promotion campaign.

Doctors call for ban on alcohol sponsorship of cricket, ABC

Alcohol sponsorship ban 'would hurt sports'

National Suicide Research Foundation

HRB

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

John's story: Alcohol and Suicide

https://www.youtube.com/watch?v=Cur2hrugcP0&feature=youtu.be .

National Suicide Research Foundation

PRESS RELEASE
THE NATIONAL SUICIDE RESEARCH FOUNDATION SUPPORTS THE ENACTMENT OF THE PUBLIC HEALTH ALCOHOL BILL

Alcohol is one of the most important risk factors associated with self-harm acts and deaths by suicide. Among people who die by suicide in Ireland, the proportion of those dependent on alcohol ranges from 51% to 85%. Based on the National Self-Harm Registry Ireland (NSHRI) data, alcohol is involved in one third of all self-harm presentations to hospital Emergency Departments (31%).

One in every three self-harm presentations to hospital Emergency Departments in Ireland involves alcohol, with 34% of men and 29% of women presenting with alcohol related self-harm. Alcohol related self-harm is also prevalent among Irish adolescents. It has been estimated that 17% of adolescent self-harm was attributed to heavy drinking.

Alcohol contributes to increasing rates of self-harm and is involved in peaks at specific times in the year. These peaks would not exist if alcohol would not be involved. Over the past decade, the NSHRI has identified that the highest number of self-harm presentations to hospital occurred on bank holidays and the day after, in particular St Patrick's Day and New Year's Day. Alcohol was involved in 46% of all self-harm presentations on bank holidays compared to 39% on all other days. In particular, the Christmas period was associated with the highest risk of alcohol being involved in self-harm.

Alcohol involvement in self-harm poses challenges for the management and assessment of self-harm patients in Emergency Departments. Co-morbidity and dual diagnosis add complexity, and alcohol intoxication may lead to delayed assessment following a self-harm act as well as challenges in encouraging people to engage in treatment.

An overview of systematic reviews of population-level interventions to reduce alcohol-related harm concluded that there is a pattern of support for regulatory or statutory enforcement interventions. A review reported in 2016 that the literature on alcohol policies and suicide in general supported the protective effect of restrictive alcohol policies on reducing suicide.

The Public Health Alcohol Bill will contribute to reducing suicide and self-harm in Ireland, and will complement priority actions of *Connecting for Life,* Ireland's National Strategy to Reduce Suicide, 2015-2020. The Bill sets out measures that are long overdue: minimum unit pricing, strict separation of alcohol products in outlets, compulsory health-labelling on alcohol containers, restrictions on advertising and promotions and its goal is to reduce average annual consumption from 11 to 9.1 litres per person by 2020.

Implementing the Public Health Alcohol Bill will contribute to saving many lives in Ireland.

Prof. Ella Arensman, Ms Eileen Williamson, Dr Paul Corcoran, Dr Eve Griffin, Mr Niall McTernan,
National Suicide Research Foundation, WHO Collaborating Centre for Surveillance and Research in Suicide Prevention, University College Cork, Ireland
For further information, please contact Mr Niall McTernan via e-mail: niall.mcternan@ucc.ie, or
T: 021 4205548

18th October 2017

NATIONAL SELF-HARM REGISTRY IRELAND

4th Floor, Western Gateway Building, University College Cork, Ireland
Tel: +353 21 420 5551   Email: info@nsrf.ie   www.nsrf.ie

2016 statistics at a glance

Presentations
11,485

Persons
8,909

1 in every 3 involved alcohol

34% Men

29% Women

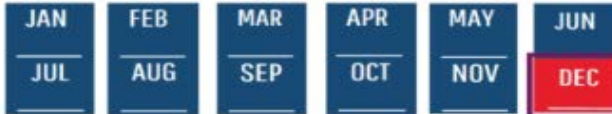### The seasonal relationship between self-harm and alcohol

Self-Harm

01 JANUARY — The highest number of self-harm presentations occur on **New Year's Day**

Average number of **56** presentations

Alcohol

| JAN | FEB | MAR | APR | MAY | JUN |
| JUL | AUG | SEP | OCT | NOV | DEC |

Self-harm presentations involving alcohol are highest at **Christmas**

Presentations involving **alcohol 3 times more likely** at Christmas

The National Self-Harm Registry Ireland Annual report 2016 and 'The paradox of public holidays: Hospital-treated self-harm and associated factors' are available on www.nsrf.ie

Thank you!

Acknowledgements:
Eileen Williamson, Paul Corcoran, Eve Griffin, Christina Dillon, Niall McTernan, Caroline Daly, Dorothy Leahy, Grace O'Regan, Sara Leitao, Colette Corry, Ivan Perry, Carmel McAuliffe, Jacklyn McCarthy, Eugene Cassidy, James Kinahan, Karen Mulcahy, Ruth Benson

Professor Ella Arensman
National Suicide Research Foundation,
WHO Collaborating Centre on Surveillance and Research in Suicide Prevention
School of Public Health, University College Cork, Ireland
Visiting Professor Australian Institute for Suicide Research and Prevention, Griffith University
International Association for Suicide Prevention