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11

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Alcohol consumption, alcohol-related harm and alcohol policy in Ireland

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Alcohol consumption, alcohol-related harm and alcohol policy in Ireland

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List of abbreviations

AAFs	alcohol-attributable fractions
ABV	alcohol by volume
ALD	alcoholic liver disease
AUD	alcohol use disorder
AUDIT	alcohol use disorders identification test
BAC	blood alcohol concentration
CSO	Central Statistics Office
ED	emergency department
FAS	foetal alcohol syndrome
FASD	foetal alcohol spectrum disorder
HBSC	health behaviour in school-aged children
HED	heavy episodic drinking (binge drinking)
HIPE	Hospital In-Patient Enquiry
HPO	Healthcare Pricing Office
HRB	Health Research Board
HSE	Health Service Executive
MUP	minimum unit price
MWS-1	my world survey wave 1
MWS-2	my world survey wave 2
NADS	national alcohol diary survey
NDRDI	National Drug-Related Deaths Index
NDTRS	National Drug Treatment Reporting System
NHS	National Health Service
NPIRS	National Psychiatric Inpatient Reporting System
NSHRI	National Self-Harm Registry Ireland
OECD	Organisation for Economic Co-operation and Development
RSA	Road Safety Authority
SATUs	sexual assault treatment units
UK	United Kingdom
USA	United States of America
WHO	World Health Organization

Summary

Introduction

Although half of the world's population does not drink, alcohol use is the seventh leading risk factor for both deaths and disability-adjusted life years globally, and the leading risk factor among those aged 15–49 years. Alcohol is a modifiable risk factor; reductions in alcohol consumption would lead to an associated reduction in the burden of disease, not only from conditions such as alcohol dependence and alcoholic liver disease, but also from commonly reported health conditions, including cardiovascular disease and cancer. Ireland has a high level of alcohol consumption and many Irish people engage in harmful drinking patterns.

In 2009, the Government established the National Substance Misuse Strategy Steering Group to formulate an alcohol policy for Ireland. In 2012, the steering group published their recommendations, many of which were ultimately incorporated into the Public Health (Alcohol) Act 2018. The steering group report recommended that the Health Research Board (HRB) act as joint lead on the recommendation to collect information on the appropriate alcohol epidemiological indicators. To achieve this goal, the HRB periodically publishes overviews on the alcohol situation in Ireland, and the most recent one was published in 2016. This is the fourth alcohol overview undertaken by the HRB. The purpose of this overview is to update the data and information contained in the previously published overviews in order to assess the current situation in Ireland regarding alcohol consumption and harm, and policy responses, and to analyse trends over time. It is compiled using a variety of Irish data sources.

Alcohol is the seventh leading risk factor for deaths and disability-adjusted life years globally

Data sources

The data in this overview are based on published Irish literature and existing information systems and surveys. We used the HRB National Drugs Library (http://www.drugsandalcohol.ie/) to identify and access all Irish literature on alcohol published since 2016.

Per capita alcohol consumption was measured using data obtained from Revenue and the Central Statistics Office (CSO). Revenue compiles annual alcohol sales figures by beverage type and the CSO provides population data. Revenue also records the number of licences in Ireland by licence type.

Alcohol use patterns were described using survey data. These survey data include the Healthy Ireland Survey 2016, and the 2014/2015 General Population Survey on Drug Use and Gambling which were both undertaken by the Department of Health. Analyses of these surveys were undertaken by the overview's authors. Alcohol use in schoolchildren was described using data from the 2018 Health Behaviour in School-aged Children (HBSC) survey. The analysis presented here was undertaken by HBSC staff on behalf of the HRB.

Alcohol-related morbidity was analysed using previously unpublished data from the Hospital In-Patient Enquiry (HIPE) scheme from the Health Service Executive (HSE). We were provided with HIPE data and undertook the analysis presented here.

Alcohol-related mortality was analysed using previously unpublished data from the HRB's National Drug-Related Deaths Index (NDRDI). NDRDI staff undertook the required analysis on our behalf.

Alcohol consumption in Ireland

Overall consumption

While the 30-year period 1989-2019 has shown considerable variation in consumption trends, since 2013 alcohol consumption levels in Ireland have remained stable. In 2019, per capita alcohol consumption per adult aged 15 and over was 10.8 litres of pure alcohol; this corresponds to 40 (700ml) bottles of vodka, 113 (750ml) bottles of wine, or 436 pints of beer (alcohol by volume (ABV) 4.3%). As survey data indicate that one in four of the population abstain from alcohol completely, those who drink alcohol consume even greater quantities (53 bottles of vodka or 149 bottles of wine or 574 pints of beer). Consumption in 2019 was 19% higher than the stated aim of the Irish Government to reduce per capita alcohol consumption in Ireland to 9.1 litres by 2020.

Irish licence data since the 1990s indicate that there has been a shift from consuming alcohol in pubs and bars (the on-trade sector) to consuming alcohol purchased in off-licences (including supermarkets and other retail outlets that sell alcohol). Between 1998 and 2018, the number of pub licences in Ireland decreased by 21.8%, from 10,395 to 8,134. During the same time period, the combined number of wine and spirits off-licences increased by 407%, from 1,063 to 5,389. Expenditure data indicate that the off-licence share of alcohol market value in 2016 was 27.4%. Because of the lower price per unit of alcohol in the off-licence sector, its share of alcohol volume is much greater than that of the on-trade sector. In 2016, the off-licence sector was estimated to have a 61% volume share of the market.

In 2019, on average,
Irish people aged 15 and over drank

10.8 litres of pure alcohol

This corresponds to

40 bottles of vodka

or

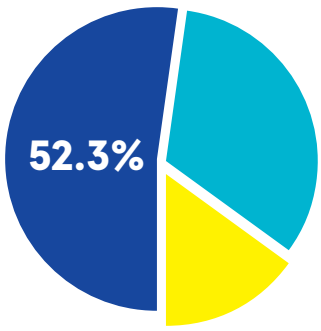
113 bottles of wine

or

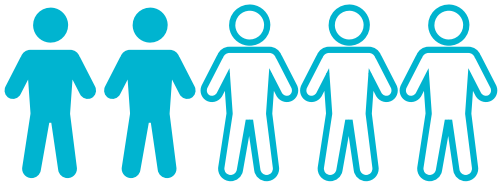
436 pints of beer

Consumption patterns

Alcohol-related harm is determined by the volume of alcohol consumed and the pattern of drinking. Sustained high-volume drinking above low-risk drinking guidelines may not lead to much intoxication and acute consequences, such as accidents, but can lead to chronic harms such as liver cirrhosis. Acute intoxication or heavy episodic drinking (HED), even in a person who does not have a long-standing drinking problem, can result in alcohol poisoning and injuries. Patterns of alcohol consumption were described using data from the Healthy Ireland Survey 2016. One in four respondents (25.3%) reported that they had not consumed alcohol in the year prior to the survey, with women and those in the 65 years and over age group most likely to abstain from alcohol. More than half (52.3%) of all drinkers were classified as hazardous drinkers using the World Health Organization's AUDIT-C screening tool. This screening tool takes account of frequency and volume of drinking as well as HED. Hazardous drinking was more common among men (70.0%) than women (34.1%), particularly younger men, with almost four in five (78.1%) 25–34-year-old males meeting the criteria for hazardous drinking. Overall, those in the 15–24-year-old age group (65.0%) were almost twice as likely to be classified as hazardous drinkers compared with those in the 65 years and over age group (33.2%). Almost two-fifths (39.2%) of drinkers engaged in monthly HED and one-fifth (22.8%) engaged in HED on a weekly basis. HED is often referred to as 'binge drinking' and is defined for both males and females as consuming at least six standard drinks on a single drinking occasion. Monthly HED was most prevalent among 25–34-year-old men (62.8%), followed by men aged 15–24 years (60.9%). Women (23.3%) were less likely to engage in monthly HED than men (54.5%). However, almost half (45.0%) of 15–24-year-old women reported monthly HED. Rates also differed according to level of affluence. Those living in less affluent areas were more likely to engage in HED than those in more affluent areas (42.7%



More than half
of Irish drinkers are classified as hazardous drinkers



Two in five
drinkers report monthly binge drinking

vs. 31.1%); this difference was most pronounced among women, with 27.2% of those in the most deprived quintile engaging in HED compared to 10.7% of women in the most affluent quintile. Although a high proportion of drinkers met AUDIT-C criteria for hazardous drinking and HED was common, the majority of drinkers considered themselves as being a light or moderate drinker (73.5%), 23.9% considered themselves to be a light or moderate drinker who sometimes binge drinks, and 2.6% considered themselves to be a heavy drinker.

Alcohol consumption among young people

Data from the 2018 Health Behaviour in School-aged Children (HBSC) study indicate that 81.9% of schoolchildren have consumed their first alcoholic drink by the age of 17 years. Lifetime drunkenness was reported by 16% of boys and 17% of girls, ranging from 5.2% of 13-year-olds to 62.0% of 17-year-olds. Analysis of alcohol use trends since 1998 show that there has been a continuous decrease in the percentage of schoolchildren who drink alcohol and in levels of lifetime drunkenness, especially among 13-15-year-olds, which is encouraging, as this group is particularly vulnerable to experiencing alcohol-related harm. This trend has not been observed among 17-year-olds, where there has been little change in alcohol use and drunkenness since 1998. There is a sharp increase in alcohol use with increasing age; lifetime alcohol use increases from 49.6% among 15-year-olds to 70.0% among 16-year-olds and to 81.9% among 17-year-olds. Spirits were the most popular type of alcoholic drink among schoolchildren of all ages, followed by cider and alcopops. This differs from the general population, where beer is the most popular beverage, followed by wine and spirits. The source of alcohol most commonly reported by schoolchildren was parents, followed by a pub, bar or disco. Girls were more likely than boys to report that parents had given them alcohol on their most recent drinking occasion; 38.0% of 16-year-olds and 45.8% of 17-year-olds reported receiving alcohol from their parents. The respective figures for 16- and 17-year-old boys were 32.1% and 31.2%. One in five (19.4%) 16-year-olds and almost two in five (38.1%) 17-year-olds reported that they last drank alcohol at a bar, pub, or disco. These

findings highlight that a considerable share of children are consuming and purchasing alcohol in licensed premises, which is against the law in Ireland.

Data from the 2014/2015 General Population Survey on Drug Use and Gambling were used to estimate the number of children in Ireland living with a parent who regularly engages in HED or who is dependent on alcohol. More than one-quarter of parents (27.6%) engaged in HED at least once a month, while 5.2% were classified as dependent on alcohol, suggesting that in 2015, an estimated 325,291 children were living with at least one parent who engages in regular HED, and a further 56,745 children were living with at least one parent who was dependent on alcohol. Parents who were dependent on alcohol were younger, more likely to be single or separated, and more likely to be from a lower socioeconomic class compared with parents in the lower-risk drinking categories. There was also a higher prevalence of smoking and illicit drug use among parents who were dependent on alcohol.

Alcohol-related harm in Ireland

The relationship between alcohol and health is complex. Harm from alcohol is determined not only by the volume of alcohol consumed, but also by patterns of drinking, in particular occasions of HED. Adding to this complexity, there are multiple mechanisms through which alcohol use affects health: toxic effects on organs and tissues through cumulative alcohol consumption; acute intoxication leading to poisoning or injuries; and alcohol dependence leading to impairments in behaviour.

In Ireland, the HIPE scheme collects clinical and administrative data on discharges (including deaths) from acute Irish hospitals. For this overview we analysed all alcohol-related discharges that were either wholly attributable to alcohol (alcohol is a necessary cause for these conditions to manifest) or partially attributable (conditions where alcohol may be one of a range of causative factors, for example, only a proportion of road crashes are considered to be alcohol attributable).

While there has been a general upward trend in the number of wholly attributable alcohol-related discharges since 1995, the number has remained relatively stable since our most recent overview, published in 2016. The overall increase in alcohol-related discharges per 100,000 population between 1995 and 2018 was 37.9% from 345/100,000 population to 477/100,000. From 1995 to 2018, the number of bed days accounted for by wholly attributable alcohol-related conditions increased by 216%, from 56,264 to 177,892, which is likely due to the higher number of discharges, combined with an increasing average length of stay. The length of stay for alcohol-related conditions increased from a mean of 6.0 days in 1995 to a mean of 10.3 days in 2018. This indicates that presentations of alcohol-related conditions may be becoming more complex and taking longer to treat. In 2018, males accounted for 71.5% of discharges, while females accounted for 28.5% of discharges. However, for discharges aged 17 years or under, females accounted for almost half (45.8%) of total discharges.

In 2018, acute conditions such as alcohol poisoning and intoxication accounted for 12.4% of wholly attributable alcohol-related discharges, chronic diseases such as liver disease accounted for 23.2% of such discharges, and other chronic conditions, including alcohol dependence, accounted for 64.4%. Acute alcohol-related conditions were more common among younger people, whereas chronic diseases and other chronic conditions were more prevalent among the older age groups. The number of discharges with a diagnosis of alcoholic liver disease has increased steadily since 1995, with the rate of alcoholic liver disease discharges in 2017 reaching the highest it has ever been since recording began, at 102.3 discharges per 100,000 persons, representing a 262% increase from 1995. Alcoholic liver disease discharges decreased slightly between 2017 and 2018 to 90.8 per 100,000 persons, a 221% increase from 1995. In terms of age, this increase was most pronounced, albeit from a lower base, among those aged 15–34 years (211%) and those aged 65 years or over (216%), compared with 35–49-year-olds (192%) and 50–64-year-olds (144%). Of all discharges (including deaths) with a diagnosis of alcoholic liver disease, 8.4% died while in hospital. The proportion of these discharges who died was similar across the study period (1995–2018), which suggests that there has been little improvement in the prognosis of patients with alcoholic liver disease since 1995.

Alcohol-attributable fractions were calculated for 29 partially alcohol-attributable conditions using Irish survey data and applied to the HIPE data for the time period 2012–2017. Between 2012 and 2017, there were 121,919 hospital discharges from partially alcohol-attributable conditions; cancers accounted for 45.2% of these discharges and cardiovascular disease accounted for 27.9%. In 2017, there were 20,201 hospital discharges due to partially alcohol-attributable conditions. Of these, 14,775 discharges (73.1%) related to chronic conditions, while the remaining 5,425 discharges (26.9%) related to acute conditions. Males accounted for 86.6% of these discharges. Although females accounted for just 13.4% of all partially alcohol-attributable hospital discharges in 2017, more than one-third (36.6%) of alcohol-attributable cancer discharges were female. This is primarily due to the high number of breast cancer discharges related to alcohol. As Irish survey data greatly underestimate the total volume of alcohol consumed (a 2013 Irish survey indicated that alcohol consumption in the survey accounted for just 39% of alcohol sold in Ireland in the same year), the alcohol-attributable fractions are therefore likely an underestimate of the proportion of partially alcohol-attributable health conditions to which alcohol contributes. The number of partially alcohol-attributable hospital discharges reported in this overview thus represent the minimum number of hospital discharges related to alcohol use; the true number is likely to be considerably higher.

Alcohol mortality data from the NDRDI were analysed for 2008–2017. During this 10-year period, 10,803 alcohol-related deaths were recorded, accounting for 3.7% of all deaths in Ireland during this time. There were 8,000 male and 2,803 female deaths, accounting for 5.4% of all male deaths and 2.0% of all female deaths in Ireland during this time period. In 2017, there were 1,094 deaths, which is an average of 92 deaths per month or three deaths per day. The 50–64-year-old age group consistently accounted for the highest number of alcohol-related deaths each year, with two in five (39.1%) alcohol-related deaths between 2008 and 2017 occurring in this age group. Deaths among those aged 65 years and over have shown an upward trend over time, increasing by 22.6% between 2008 and 2017. Overall, seven in ten deaths (70.3%) occurred in persons aged under 65 years, highlighting the level of premature mortality associated with alcohol.

Of the 1,094 alcohol-related deaths that occurred in 2017, 125 deaths (11.4%) were due to poisoning, 159 (14.5%) were due to traumatic causes, and 810 (74.0%) were due to medical causes. Similar proportions of males and females were classified as dying from medical, poisoning, and traumatic causes; however, cause of death varied considerably between age groups. People aged 15–34 years were most likely to have a poisoning or traumatic cause of death; almost two in five (37.7%) deaths in this age group were due to poisonings and 34.0% were due to traumatic causes. This is probably to be expected, as younger people are most likely to engage in HED and risk-taking behaviour. Six in ten (59.0%) of those aged 35–49 years had a medical cause of death, and the likelihood of dying of a medical cause increased with age. From 2008 to 2017, there were 2,173 deaths with a diagnosis of liver disease. One in three (33.4%) of these were females, while two in three (66.6%) were males. Almost half (45.3%) of deaths from liver disease were among those in the 50–64-year-old age group.

There is a well-established link between alcohol and suicide and self-harm. In 2018, there were 12,588 recorded episodes of self-harm in Ireland. Alcohol-related self-harm presentations accounted for almost one-third (30%) of all cases, although it should be noted that the number of alcohol presentations has decreased by 13% since 2006. Alcohol was significantly more common in male presentations of self-harm (34%) compared with female presentations (27%). Alcohol was also associated with peaks in hospital attendances at night, at weekends, and on public holidays.

The under-reporting of sexual assault makes it difficult to estimate the extent of alcohol-related sexual violence and assault in Ireland. In 2018, there were 941 attendances at the six sexual assault treatment units in Ireland. When recorded, 410 (44%) had consumed more than six standard drinks in the 24 hours prior to the incident, while 213 (23%) had not had any alcohol. In a recent survey which investigated experiences of sexual assault among 6,026 university students in Ireland, 29% of females, 10% of males, and 28% of non-binary students reported non-consensual penetration through force or threat of force, or while incapacitated and unable to give consent. Alcohol was involved in the majority of cases; two-thirds of males (64.4%) and females (64.6%) and one-third (33.3%) of non-binary students reported that their perpetrator had been consuming alcohol prior to the incident. More than two-thirds (68.2%) of females, more than one-half (55.9%) of males, and two-fifths (41.7%) of non-binary students reported that they had been drinking alcohol at the time the incident occurred. A further Irish survey of 753 third-level students revealed worrying attitudes regarding alcohol consumption and sexual consent among young people. When provided with a vignette around alcohol and consent, the majority of students (67%) did not consider that the girl in the vignette was too drunk to give consent even after drinking 28 standard drinks. The survey also measured the consequences of alcohol on their sexual behaviour. In the 12 months prior to the survey, participants' alcohol consumption had resulted in: regretted sexual experiences for 26.0% of females and 28.0% of males; neglecting to use contraception for 25.0% of females and 25.5% of males; having sex with someone they would not normally have sex with for 25.5% of females and 28.5% of males; being pressured or forced into having sex for 7.0% of females and 3.0% of males; and forcing or pressuring someone into sexual activity for 2.0% of both females and males.

Alcohol treatment

Alcohol treatment was analysed using data from the National Drug Treatment Reporting System (NDTRS) and the National Psychiatric Inpatient Reporting System (NPIRS). Between 2013 and 2019, 53,200 cases were treated for alcohol as their main problem drug. The number of cases decreased by 3.5% from 2013 (7,819 cases) to 2019 (7,546 cases). The share of new cases also decreased during this time, from 47.4% in 2013 to 43.7% in 2019. This may reflect a true decrease in the number of cases presenting for treatment, but may also reflect reduced levels of participation or under-reporting to the NDTRS.

NDTRS data report that the median age of first drinking among cases entering treatment was 16 years. The median age of cases in treatment in 2019 was 41 years, which was similar to that in previous years. In 2019, when entering treatment, a higher proportion of women (31.5%) was aged over 50 years; the corresponding figure for men was 25.7%. The number of cases that were unemployed decreased between 2013 (55.7%) and 2019 (49.4%), as did the number of cases that were early school leavers. However, between 2013 and 2019, the proportion of cases that were homeless increased from 6.5% in 2013 to 8.7% in 2019. It is difficult to interpret whether long-standing alcohol problems lead to social disadvantage, or whether failure to secure or retain employment and accommodation and complete second-level education lead to a greater likelihood of developing chronic alcohol-related problems. According to data from the NPIRS, the number of cases admitted to psychiatric hospitals with a diagnosis of alcohol dependence decreased by 60.6% between 2006 and 2019, from 2,767 to 1,090. One reason for the long-term decrease is the move to outpatient settings for clients who do not require inpatient treatment in psychiatric hospitals.

Alcohol policy response in Ireland

Since the most recent overview was published in 2016, the most important development in alcohol policy in Ireland has been the enactment of the Public Health (Alcohol) Act 2018, which was signed into law in October 2018. The Act faced much opposition from various interest groups, and the three-year interval between publication of the Bill and enactment of the Act was the longest ever in Ireland. The main provisions of the Act include minimum unit pricing, structural separation of alcohol products in mixed retail outlets, restrictions around alcohol advertising, and labelling of alcohol products.

Under the Act, a minimum unit price (MUP) for all products containing alcohol will be introduced and set at 10 cent per gram of alcohol in the product. In Ireland, alcohol can be bought cheaply from the off-trade. Currently, it is possible for a man to consume his weekly low-risk guideline limit for €7.48, while a woman can consume hers for just €4.84. Irish data indicate that the heaviest drinkers and those with lower incomes, such as students, buy the cheapest alcohol and are likely to be most affected by a MUP. However, the MUP legislation has yet to be commenced. The Act requires all alcohol products to display: health warning labels, including the direct link between alcohol and cancer; the number of grams of alcohol in the container; the calorie content; and details of a HSE website, which provides public health information in relation to alcohol. The Healthy Ireland Survey data demonstrate that

current public knowledge of the link between cancer and alcohol in Ireland is low, with just one-quarter of Irish women being aware of the direct link between alcohol and breast cancer. This provision has yet to be commenced. Health warning labels on alcohol products are subject to scrutiny at European Union (EU) level.

The Act provides for the structural separation of alcohol products in mixed retail outlets (e.g. supermarkets and grocery stores), whereby retailers must choose from one of three options: storing alcohol products in an area of the store that is separated by a physical barrier, storing alcohol products in one or more closed storage units or cabinets, or storing alcohol products in no more than three open storage units in the premises. Structural separation was commenced on 12 November 2018. Since November 2020, all mixed-trade retailers are obliged by law to physically separate alcohol products from other grocery items.

A range of restrictions will apply to the advertisement of alcohol products, with a particular emphasis on protecting children and young people. These include restricting content of advertisements to specific information about the nature of the product, restrictions on advertising of alcohol in print media in relation to volume and type of publication, a 9.00pm broadcast watershed for advertisements on television and radio, and a ban on advertising alcohol products near schools, in parks, on public transport, in train and bus stations, and at bus or Luas stops. Some of these measures have recently become law, including measures around advertising in the vicinity of children. However, the other measures are yet to be implemented.

Conclusion

The data presented in this overview indicate that since 2016, little has changed with regard to alcohol consumption and alcohol-related harm. Ireland still has a high level of per capita consumption and a majority of drinkers in Ireland consume alcohol in a manner that is risky to their health. The consequences of our drinking patterns are reflected in our mortality data, which show that, on average, there have been three alcohol-related deaths every day since 2008. The signing into law of the Public Health (Alcohol) Act in 2018 was an important first step in reducing alcohol-related harm. However, in order for it to have a real impact, it needs to be implemented in full as soon as possible. The overview will be an important evidence support for the work of the Public Health Alcohol Research Group, which was set up to evaluate the Public Health (Alcohol) Act 2018 and will also inform the implementation of other health-related strategies and policies.

01

Introduction

Background

Alcohol is a psychoactive substance; it affects the drinker through the mechanisms of acute intoxication, toxic effects on organs and tissues, alcohol dependence and through psychosocial changes and emotional well-being. Although half of the world's population does not drink, alcohol use is the seventh leading risk factor for both deaths and disability-adjusted life years globally, and the leading risk factor among those aged 15–49 years. Alcohol is a modifiable risk factor; reductions in alcohol consumption would lead to an associated reduction in the burden of disease, not only from conditions such as alcohol dependence and alcoholic liver disease, but also from commonly reported health conditions including cardiovascular disease and cancer. It is long established that Ireland has a high level of alcohol consumption and that many Irish people engage in harmful drinking patterns.

In 2009, the Government established the National Substance Misuse Strategy Steering Group to formulate an alcohol policy for Ireland. In 2012, the steering group published their report, which contained 45 recommendations, and formed the basis of the Public Health (Alcohol) Act 2018. The report proposed that the overall impact of the implementation of the strategy should be reviewed. The steering group report recommended that the Health Research Board (HRB) act as joint lead on this recommendation, and collect information on the appropriate alcohol epidemiological indicators to enable monitoring of the strategy. To achieve this goal, the HRB periodically publishes overviews on the alcohol situation in Ireland, with the most recent one being published in 2016. This is the fourth alcohol overview undertaken by the HRB.

Purpose

The purpose of this overview is to update the data and information contained in the previously published overviews in order to assess the current situation in Ireland regarding alcohol consumption and harm, and policy responses, and to analyse trends over time. It is compiled using published Irish literature and existing Irish information systems and surveys. It may also be used to help assess the impact of the policy measures introduced in the Public Health (Alcohol) Act 2018.

Data Sources

The data in this overview are based predominantly on published Irish literature and existing information systems. We used the HRB National Drugs Library (http://www.drugsandalcohol.ie) to identify all Irish literature published since 2016, including journal articles, reports, media reports and policy documents. This resource provides one point of access to all Irish alcohol research and policy material, and a comprehensive collection of key international evidence. This resource enabled us to identify all Irish journal articles and reports and we

have included all relevant documents in this overview. For topics for which there was little Irish information, for example, the relationship between alcohol and health conditions, and alcohol and marketing, we undertook additional searches using the PubMed database. We also searched the World Health Organization website for relevant alcohol reports.

Alcohol consumption at a population level was measured using data obtained from Revenue and the Central Statistics Office (CSO). Revenue compiles annual alcohol sales figures based on the volume of each alcoholic beverage type released from bonded warehousing on payment of excise duty, and the CSO provides population data. Revenue also records the number of licences in Ireland by licence type.

Alcohol use in the general population in Ireland and among specific subgroups is mainly described using previously unpublished survey data. These survey data include the Healthy Ireland Survey 2016, and the 2014/2015 General Population Survey on Drug Use and Gambling which were both undertaken by the Department of Health. Access to these surveys was provided to the overview's authors who undertook the analyses. Alcohol use in schoolchildren was described using data from the 2018 Health Behaviour in School-aged Children (HBSC) survey. The analysis presented here was undertaken by HBSC staff on behalf of the HRB.

Alcohol-related morbidity between 1995 and 2018 was analysed using previously unpublished data from the Hospital In-Patient Enquiry (HIPE) scheme from the Health Service Executive (HSE). We were provided with HIPE data and undertook the analysis presented here. The University of Sheffield calculated Ireland-specific alcohol-attributable fractions (AAFs) using data from the Healthy Ireland Survey 2016. These were then applied to the HIPE data for years 2012–2017 by the HRB.

Alcohol-related mortality between 2008 and 2017 was analysed using previously unpublished data from the HRB's National Drug-Related Deaths Index (NDRDI). NDRDI staff undertook the required analysis on our behalf.

The raw data received by the authors from the data sources outline above were analysed using EXCEL or STATA. Numbers were converted to population-based rates where appropriate. Trends over time and experiences by age, gender and diagnosis are presented.

Report structure

This overview presents information available on alcohol consumption in Ireland, alcohol-related harm and alcohol policy from published Irish literature, information systems and surveys. Following the introductory chapter, Chapter 2 provides an outline of per capita alcohol consumption in Ireland based on alcohol sales data provided by Revenue and from alcohol use data available in population surveys. Chapter 3 examines alcohol consumption patterns using data from general population surveys. This chapter includes a section on alcohol use among young people in Ireland, presenting findings on alcohol prevalence and patterns of alcohol use from surveys of school-aged children and adolescents.

This section also presents information on harms to children and young people as a result of their own drinking or that of others, including parents.

Chapter 4 details the harms caused either by people's own drinking or as result of that of others. This chapter provides information on health conditions that are either wholly or partially attributable to alcohol, based on analysis of hospital admissions data. Information on alcohol-related mortality, including suicides where alcohol is a contributing factor, is presented in this chapter also. Chapter 5 outlines the provisions of the Public Health (Alcohol) Act 2018, which aims to reduce total alcohol consumption and related harm.

02

Alcohol consumption in Ireland

Per capita alcohol consumption

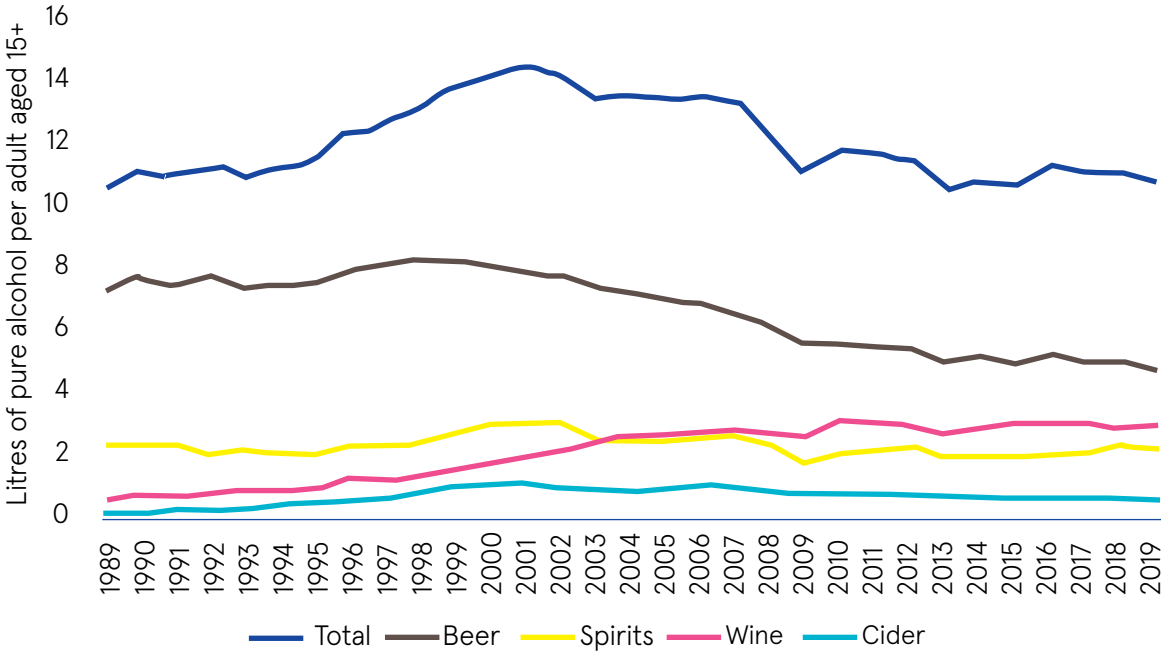
'Per capita alcohol consumption' refers to the volume of pure alcohol consumed per person aged 15 years and over each year in Ireland. Ireland's per capita alcohol consumption is calculated annually using alcohol sales data from Revenue[1] and population estimates from the Central Statistics Office (CSO).[2] Revenue provides annual alcohol sales figures for each beverage type (beer, spirits, wine, and cider). The alcohol sales figures represent the volume of alcoholic beverages released from bonded warehousing and where excise duty has been paid. Beer and spirits volumes are provided in litres of pure alcohol. Wine volumes are provided in litres of alcohol and converted to pure alcohol based on an alcohol by volume (ABV) of 12.5%. Cider volumes are converted to pure alcohol based on an ABV of 4.5%, as most cider product sold in Ireland is sold at this strength. The population figures provided by the CSO are based on the Census data collected every five years, and are estimated for the intervening years by the CSO. After a Census year, the estimated population figures for the preceding years are revised based on the actual Census data. This means that previously calculated consumption figures for the years between Census data collections may change due to revised population figures. Per capita consumption figures from 2011 presented in this overview were calculated using population estimates based on the 2016 Census[3] and overwrite any estimates of per capita consumption prior to 2016. It is important to note that Revenue data do not account for home-brewed alcohol or alcohol consumed in Ireland that may have been bought outside the Republic of Ireland, including cross-border alcohol sales. Per capita consumption figures also do not account for alcohol consumed by Irish people while abroad. Conversely, alcohol consumed by visitors to Ireland is not subtracted from Revenue figures. The per capita consumption figures reported here are therefore likely to be an underestimation of the true amount of alcohol consumed by Irish adults.

Per capita alcohol consumption in Ireland

Per capita alcohol consumption from 1989 to 2019 by total consumption and by beverage type is presented in Figure 1 and Table 1. There has been considerable variation in per capita alcohol consumption over this 30-year period. Between 1989 and 2001, there was a general upward trend in consumption, with per capita consumption increasing from 10.5 litres in 1989 to 14.3 litres in 2001. The steepest increase took place between 1994 and 2001, a period of economic growth and prosperity in Ireland, referred to as the Celtic Tiger. Alcohol may have been more accessible to consumers during this period due to increased disposable income combined with no increases in excise duty on alcohol. Excise duty on spirits was increased in December 2002, which likely contributed to the 6.3% decrease in consumption between 2002 and 2003. Consumption remained stable between 2003 and 2007, and decreased by 16.7% between 2007 and 2009. Ireland entered a recession in 2008, from which it emerged in 2013. The reduction in disposable income that accompanied this economic downturn may have contributed to the sharp decrease in alcohol consumption seen in 2008 and 2009. In December 2009, excise duty on all alcohol products was reduced by 20–21%, halting the decline in consumption. In 2010, per capita alcohol consumption increased by 5.5% to 11.6 litres. In December 2012, excise duty on alcohol products was increased by 37–62%, which likely contributed to the 8.7% decrease in alcohol consumption in 2013. In October 2013, excise duty on alcohol products was further increased.

However, this increase did not influence per capita alcohol consumption. Between 2013 and 2019, consumption has remained relatively stable, rising just 2.9% from 10.5 litres to 10.8 litres over that period. It is possible that the 2012 and 2013 increases in excise duty may have prevented the sharp spike in alcohol sales witnessed during Ireland's last period of economic growth.

Figure 1 Adult per capita alcohol consumption, by total consumption and by beverage type, 1989–2019



Ireland has the

9th highest per capita

alcohol consumption rate of all OECD member countries

Ireland had the

8th highest rate of monthly binge drinking

in the world

Table 1 Adult per capita alcohol consumption (in litres), by total consumption and by beverage type, 1989–2019

	Total	Beer	Spirits	Wine	Cider
1989	10.5	7.3	2.3	0.7	0.2
1990	11.0	7.6	2.3	0.8	0.2
1991	10.9	7.5	2.3	0.8	0.3
1992	11.1	7.7	2.2	0.8	0.4
1993	11.0	7.4	2.2	0.9	0.4
1994	11.1	7.5	2.2	1.0	0.5
1995	11.4	7.6	2.1	1.1	0.6
1996	12.1	7.9	2.3	1.3	0.7
1997	12.5	8.0	2.4	1.3	0.8
1998	13.1	8.2	2.4	1.5	0.9
1999	13.7	8.3	2.7	1.7	1.0
2000	14.1	8.1	3.0	1.9	1.1
2001	14.3	7.9	3.1	2.1	1.2
2002	14.2	7.7	3.2	2.3	1.1
2003	13.3	7.4	2.5	2.4	1.1
2004	13.5	7.2	2.5	2.7	1.1
2005	13.4	7.0	2.5	2.8	1.1
2006	13.4	6.8	2.6	2.9	1.1
2007	13.2	6.6	2.7	3.0	1.0
2008	12.2	6.1	2.4	2.8	0.9
2009	11.0	5.6	1.9	2.6	0.9
2010	11.6	5.6	2.2	3.0	0.8
2011	11.7	5.5	2.2	3.1	0.8
2012	11.5	5.4	2.3	3.1	0.8
2013	10.5	5.0	2.0	2.8	0.8
2014	10.8	5.2	2.0	3.0	0.8
2015	10.7	5.0	2.0	3.0	0.7
2016	11.2	5.2	2.1	3.1	0.8
2017	11.0	5.0	2.2	3.1	0.8
2018	11.0	5.0	2.3	3.0	0.7
2019	10.8	4.8	2.3	3.0	0.7

Numbers may not add up to the row totals due to rounding

Per capita alcohol consumption in 2019

In Ireland in 2019, a total of 42,160,664 litres of pure alcohol were consumed. This is then divided by the number of people aged 15 years and over in the population, which was 3,912,600 in 2019 according to CSO estimates.[2] This means per capita alcohol consumption in Ireland in 2019 was 10.8 litres of pure alcohol per person aged 15 years and over, a 1.8% decrease since 2018. This is considerably more than the stated aim of the Department of Health to reduce per capita alcohol consumption in Ireland to 9.1 litres by 2020. Because per capita alcohol consumption is based on all adults aged 15 years and over in Ireland, this rate of consumption includes those who abstain from alcohol. Data from the 2017 Healthy Ireland Survey indicate that approximately 24% of adults in Ireland aged 15 years and over had not consumed alcohol in the past year.[4] When abstainers are excluded (n=939,024), alcohol consumption among those who have consumed alcohol in the past year increases to 14.2 litres of pure alcohol per drinker aged 15 years and over.

Per capita consumption by beverage type is presented in Figure 1. Although beer remains the most popular alcoholic beverage in Ireland, its popularity has decreased considerably over the 30-year period shown, from 7.3 litres in 1989 (69.5% of market share) to 4.8 litres in 2019 (44.4% of market share). Between 1989 and 2014, there was also a general downward trend in the market share of spirits. However, since the last Health Research Board (HRB) overview was published in 2016[5] the market share of spirits has increased from 18.5% in 2014 to 21.3% in 2019. In terms of per capita consumption, there has been a 15.0% increase in spirits consumption between 2014 (2.0 litres) and 2019 (2.3 litres). Wine sales have increased dramatically since 1989, from 6.7% of market share in 1989 to more than one-quarter (27.8%) market share in 2019. The market share of cider has also increased considerably during this time – albeit from a lower base – from 1.9% in 1989 to 6.5% in 2019.

What does 10.8 litres of pure alcohol look like?

10.8 litres of pure alcohol equates to:

- 40 bottles of vodka (700 ml)
- 113 bottles of wine (750 ml), or
- 436 pints of beer (568 ml).

Considering that 24% of the population abstains from alcohol, this means that the average drinker aged 15 years and over consumed the equivalent of 149 bottles of wine, 574 pints of beer, or 53 bottles of vodka in 2019.

What do people drink?

In terms of types of alcoholic beverages consumed, Ireland consumed the following of pure alcohol per capita in 2019:

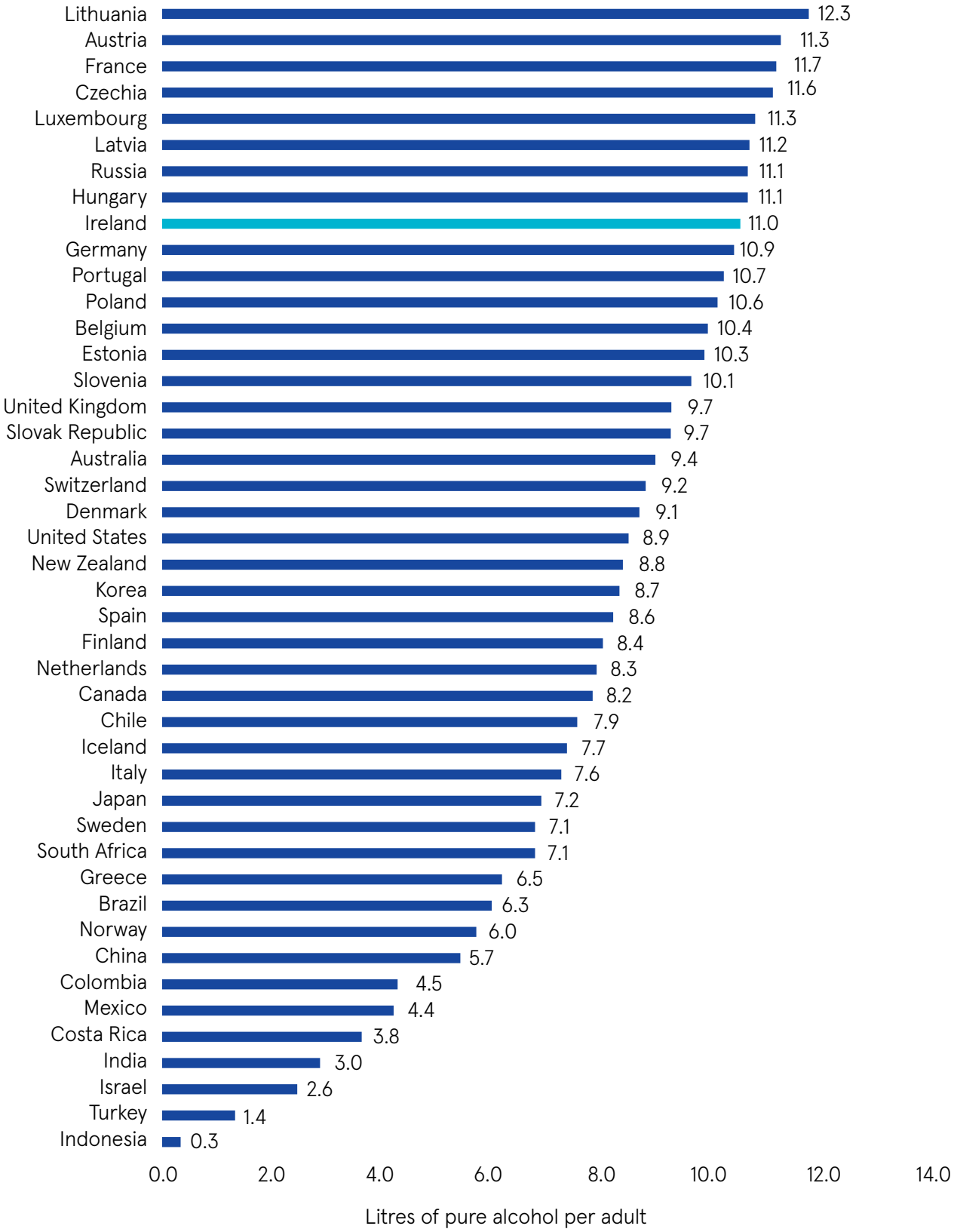
- 4.8 litres of beer
- 3.0 litres of wine
- 2.3 litres of spirits, and
- 0.7 litres of cider.

This means that, on average, each person aged 15 years and over in Ireland drank 195 pints of beer, 28 pints of cider, 31 bottles of wine, and 8 bottles of vodka in 2019.

How does Ireland's per capita alcohol consumption compare to other countries?

The Organisation for Economic Co-operation and Development's (OECD's) average recorded per capita alcohol consumption is 9.1 litres per adult, compared with an estimate of 6.2 litres worldwide.[6] The most recent per capita alcohol consumption figures available for 44 countries are presented in Figure 2. Ireland has the ninth highest per capita alcohol consumption rate of all OECD member countries (based on 2018 Irish data).[6] Our consumption is 13.4% higher than per capita consumption in the UK, despite Ireland's higher rate of past-year abstinence from alcohol. England has an abstinence rate of 18%[7] and Scotland has an abstinence rate of 16%, [7,8] both of which are considerably lower than Ireland's abstinence rate of 25%. It is likely that patterns of drinking and heavy alcohol consumption may be more problematic in Ireland compared with other countries with similar per capita consumption, due to our high number of abstainers. In 2018, the World Health Organization (WHO) reported that Ireland had the eighth highest rate of monthly binge drinking globally out of a total of 194 countries analysed. [9]

Figure 2 Per capita alcohol consumption in selected countries based on most recently available OECD data from each country



Source: OECD[6]

What is low-risk alcohol consumption?

Evidence from the Global Burden of Disease Study, which examined the relationship between alcohol-related deaths and disability-adjusted life years across 195 countries, indicates that there is no level of consumption at which alcohol is not harmful to health.[10] Although there is some evidence of a relationship between 'light to moderate drinking' (one or two standard drinks per day) and reduced risk of certain types of cardiovascular disease, the causal nature of this relationship has recently been a topic of debate.[11] Furthermore, the protective effects of alcohol for certain conditions among women, such as cardiovascular disease and diabetes, have been found to be offset when the overall health risks of alcohol were considered.[12]

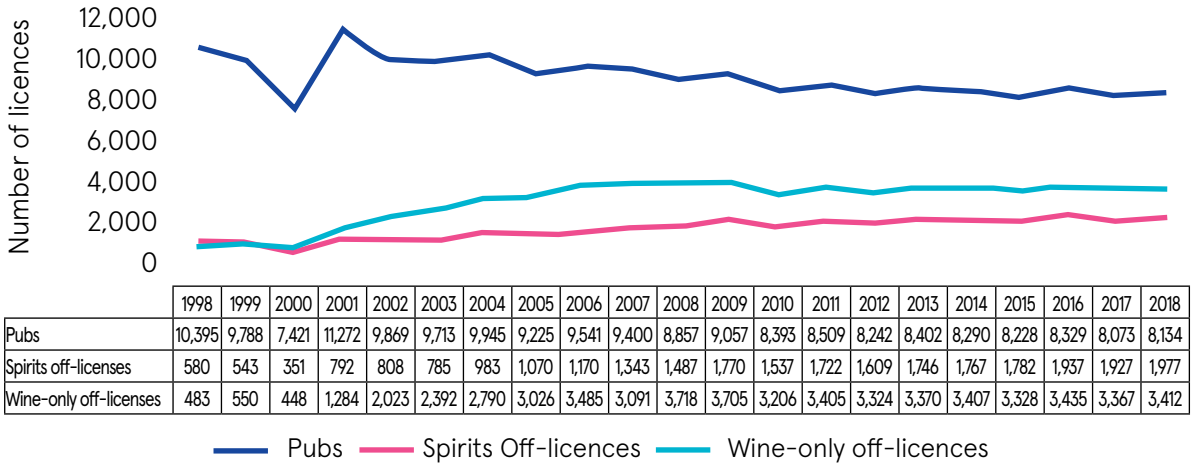
In Ireland, the Health Service Executive's (HSE's) weekly low-risk alcohol guidelines are less than 11 standard drinks (112 g of pure alcohol) for women and less than 17 standard drinks (168 g of pure alcohol) for men, spread out over the course of the week with at least two or three alcohol-free days.[13] There is no international consensus with regard to low-risk drinking guidelines, and large discrepancies exist between countries. For example, in the United Kingdom (UK), the term 'unit' is used in place of 'standard drink', and one unit is the equivalent of 8 g of pure alcohol. Both men and women are advised to drink no more than 14 units (112 g) weekly, which is roughly equivalent to the guidelines for women in Ireland (110 g) but considerably lower than Irish guidelines for men (170 g).[14] If every adult aged 15 years and over in Ireland, including abstainers, restricted his or her alcohol consumption to the recommended maximum low-risk limit for every week of the year, the actual per capita alcohol consumption would be 9.2 litres of pure alcohol per adult. However, considering that 25% of the population does not drink alcohol, per capita consumption for the drinking population at the maximum low-risk limit should be 6.9 litres of pure alcohol.

Where do people drink?

Irish licence data from 1998 to 2019 over the past 20 years indicate that there has been a shift from consuming alcohol in pubs and bars (the on-trade sector) to consuming alcohol purchased in off-licences (including supermarkets and other retail outlets that sell alcohol). Data from Revenue indicate that between 1998 and 2018, the number of pub licences in Ireland decreased by 21.8%, from 10,395 to 8,134. During the same time period, the combined number of wine and spirits off-licences increased by 407%, from 1,063 to 5,389 (Figure 3). CSO expenditure data indicate that the off-licence share of alcohol market value in 2016 was 27.4%. Because of the lower price per unit of alcohol in the off-licence sector, its share of alcohol volume is much greater than that of the on-trade sector. In 2016, the off-licence sector was estimated to have a 61% volume share of the market.[15] There are several reasons that may explain the dramatic changes in the numbers of off-licences and pubs between 1998 and 2018. The Intoxicating Liquor Act, 2000 abolished the restriction on the geographical movement of licences across the country. Prior to this Act, pub licences could only be transferred through a process that involved extinguishing one or more licences and issuing another licence for the new premises.

The rules differed for rural and urban premises; a new rural licence required extinguishing two existing rural licences, while obtaining a new licence for a previously unlicensed premises in an urban area required extinguishing one licence in the immediate vicinity of the proposed new licensed premises. The 2000 Act allowed for the transfer of licences across the country, which resulted in many rural pub licences being sold to supermarket and petrol station chains and transferred to urban areas. In 2006, the Government abolished the Groceries Order, which had banned below-cost selling of certain goods, including alcohol. This policy change was undertaken for economic reasons – in the interest of achieving lower prices for consumers – and allowed alcohol to be sold below cost to consumers in Ireland. This initiative may also help explain the increased affordability of alcohol and the shift to consuming alcohol bought from the off-trade.

Figure 3 Number of licences in Ireland, by licence type, 1998–2018



	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pubs	10,395	9,788	7,421	11,272	9,869	9,713	9,945	9,225	9,541	9,400	8,857	9,057	8,393	8,509	8,242	8,402	8,290	8,228	8,329	8,073	8,134
Spirits off-licenses	580	543	351	792	808	785	983	1,070	1,170	1,343	1,487	1,770	1,537	1,722	1,609	1,746	1,767	1,782	1,937	1,927	1,977
Wine-only off-licenses	483	550	448	1,284	2,023	2,392	2,790	3,026	3,485	3,091	3,718	3,705	3,206	3,405	3,324	3,370	3,407	3,328	3,435	3,367	3,412

What is a standard drink?

The weekly low-risk limit of alcohol consumption in Ireland is 17 standard drinks or fewer for men and 11 standard drinks or fewer for women. In Ireland, one standard alcoholic drink contains 10 g of pure alcohol. One standard drink corresponds with approximately half a pint of beer, one pub measure (35 ml) of spirits, or one small (100 ml) glass of wine. A standard drink may not always correspond with the typical serving size of an alcoholic beverage. For example, a pint of beer contains two standard drinks, while a 750 ml bottle of wine contains about 7.5 standard drinks. Although a 35 ml pub measure of spirits contains one standard drink, home measures of spirits may not correspond to a single standard drink. Most European Union (EU) countries define a standard drink as containing 10 g of pure alcohol. However, in the UK, the term 'unit' is used instead of 'standard drink', and a unit contains 8 g of pure alcohol. Because a unit is a different measure than a standard drink, the term 'unit' is inappropriate and should not be used in Ireland.

Establishing the amount of pure alcohol (and thus the number of standard drinks) in a beverage requires knowledge of both the volume of alcohol in the beverage container and its percentage of alcohol by volume (ABV). To calculate the grams of pure alcohol in an alcoholic beverage, the serving size of the drink (in millilitres) is multiplied by the percentage ABV of the drink and divided by 1.25 (1 ml=1.25 g) to establish the grams of pure alcohol in that specific drink. Using this calculation, we can ascertain that a 750 ml bottle of wine with an ABV of 12.5% contains 75 g of pure alcohol, and a pint of lager with an ABV of 4.3% contains 19.5 g of pure alcohol.

The concept of a standard drink provides information to drinkers to help them monitor their alcohol consumption. In Ireland, the term 'standard drink' is often used in alcohol awareness campaigns or as part of education campaigns to communicate low-risk alcohol consumption guidelines. It is also a useful concept in surveys when asking drinkers to recall their alcohol consumption. However, there are several issues with using standard drinks as a measure of what people are drinking. Given the somewhat complex calculation involved, it can be hard for drinkers to easily estimate what constitutes a standard drink. An Irish study of 1,020 drinkers revealed that most Irish adults are unsure of what constitutes a standard drink,[16] even after being provided with a pictorial representation. A recent survey of students in Australia and the United States of America (USA) also indicated that the students routinely underestimated their alcohol consumption and the majority did not increase the number of standard drinks they reported when they were provided with pictorial guides and standard drink terms. This trend was most evident among the heaviest and most frequent drinkers.[17] This can pose problems for drinkers in terms of monitoring their consumption, as well as when estimating their alcohol usage for household alcohol surveys. The number of standard drinks and grams of pure alcohol contained in typical serving sizes of common beverages in Ireland are presented in Table 2.

Table 2 Strength of alcoholic beverages in Ireland

Beverage	Serving size	ABV	Grams of alcohol	Number of standard drinks
Beer	Pint	4.3%	19.5	2.0
Wine	Bottle (750 ml)	12.5%	75.0	7.5
Cider	Pint	4.5%	10.2	1.0
Vodka/gin/rum	Pub measure (35.5 ml)	37.5%	10.7	1.0
Vodka/gin/rum	Bottle (700 ml)	37.5%	210.0	21.0
Whiskey	Bottle (700 ml)	40.0%	224.0	22.5
Cream liqueur	Bottle (700 ml)	17.0%	95.2	9.5
Alcopops	Long neck bottle (275 ml)	4.0%	8.8	1.0

Reproduced from *A standard drink in Ireland: what is the strength?*[18]

03

Patterns of alcohol consumption in Ireland

Per capita consumption is seen as the gold-standard measure[19] to determine the level of alcohol consumption in a country. However, surveys of alcohol consumption are also essential in order to estimate the level of harmful drinking patterns in a country, as well as demographic variations in consumption. This information is important in order to estimate the extent of alcohol-related harm in a country and identify groups of people who may be at higher risk of alcohol-related harm due to their patterns of consumption.[20] There are several internationally agreed methods to measure harmful drinking patterns. These include monthly HED or 'binge drinking', and the Alcohol Use Disorders Identification Test-Concise (AUDIT-C) screening tool. HED is typically defined as drinking six or more standard drinks (60 g or more of pure alcohol) in a single sitting. Six standard drinks corresponds to three pints of beer or six pub measures of gin and tonic. According to the WHO, HED is one of the most important indicators for acute harms due to alcohol use, including injuries, road traffic accidents, and alcohol poisoning. [9] Regular HED also increases a person's risk of chronic alcohol-related harms, including cardiovascular disease and certain cancers. [21] The AUDIT-C is a short version of the Alcohol Use Disorders Identification Test (AUDIT), which was developed by the WHO to screen for excessive drinking and to identify persons with hazardous and harmful drinking patterns. It has been shown to be effective in healthcare settings and in population surveys in screening for hazardous and harmful drinking patterns.[22,23] Irish survey data clearly indicate the relationship between drinking patterns and alcohol-related harm. Respondents dependent on alcohol (as measured by Diagnostic and Statistical Manual of Mental Disorders 4th edition (DSM-IV criteria), who engaged in monthly or occasional HED, and low-risk drinkers were compared for distribution of eight alcohol-related harms. Those who were dependent on alcohol had a significantly greater individual risk of experiencing each harm, followed by monthly HED drinkers. Dependent and monthly HED respondents accounted for 38.4% of drinkers, consumed 70.6% of alcohol, and experienced 62.1% of all harms.[24]

Limitations of alcohol consumption surveys

Although survey data provide us with important indicators on patterns of alcohol consumption, research has shown that alcohol surveys routinely underestimate the amount of alcohol consumed in a country over a given time period.[25] Kilian ***et al***. (2020) estimated that coverage rates of alcohol surveys across Europe averaged 36.5% of per capita consumption. In Ireland, a 2013 household survey of alcohol use was found to account for just 39% of recorded alcohol sales in the same year.[26] There are several possible explanations for the low coverage of alcohol surveys.[25] Survey participation in general has been decreasing in high-income countries, and surveys regarding alcohol use may be increasingly affected by non-response bias. Non-responders are often more likely to report heavier alcohol use.[27] Accurate recall may also depend on the reference period used in the survey. For example, research has found that people are more accurate when reporting what they drank yesterday compared with estimating their average consumption over a 12-month period.[28] Adding a short question on alcohol consumption yesterday may help with adjusting for underreporting. However, for practical purposes, most surveys on alcohol use, including those undertaken in Ireland, tend to have a reference period of 12 months. It is therefore important to interpret the findings presented in this chapter while keeping these limitations in mind. It is likely that the self-reported consumption figures reported here are a considerable underestimation of alcohol consumption in Ireland.

The Healthy Ireland Survey

Data on alcohol consumption patterns in Ireland were generated from the second wave of the Healthy Ireland Survey.[29] The Healthy Ireland Survey is a nationally representative cross-sectional survey of adults aged 15 years and over in Ireland. A total of 7,498 respondents took part in Wave 2 of the survey, with interviews completed between September 2015 and May 2016. A multi-stage probability sampling approach was used in order to ensure a representative sample of the Irish population. The survey population was then weighted by age, gender, education, work status of the respondent, and region in order to ensure that the survey data mirrored the population data from the CSO.[30] The survey included questions on both frequency and volume of alcohol consumption, and questions on alcohol-related harms. Results were presented by age, gender, and level of deprivation. The deprivation index used in the Healthy Ireland Survey is that designed by Haase and Pratschke.[31] The index is a method of measuring the relative affluence or deprivation of a geographical area using data compiled from various censuses. A score is given to the area based on a national average of 0 and ranging from −35 (being the most disadvantaged) to +35 (being the most affluent). For the purposes of this report, these data are presented in five quintiles, from least affluent (1) to most affluent (5). More information about the methods used in the Healthy Ireland Survey can be found in the *Healthy Ireland Survey 2016 – Technical Report*.[30]

The Healthy Ireland Survey findings

Non-drinkers

One-quarter of respondents (25.3%) reported abstaining from alcohol in the 12 months prior to the Healthy Ireland Survey. Across all age groups, women (28.3%) were more likely to abstain from alcohol than men (22.2%) (Figure 4). The highest proportion of abstainers was in the 65 years and over age group (46.8% of women and 35.6% of men), followed by the youngest age group (37.7% of women and 30.3% of men). The rate of abstinence also varied by level of deprivation (Figure 5), with a greater proportion of abstainers in the most deprived quintile (29.2%) than in the most affluent quintile (21.1%).

Figure 4 Proportion of non-drinkers in the year prior to the Healthy Ireland Survey, by age and gender

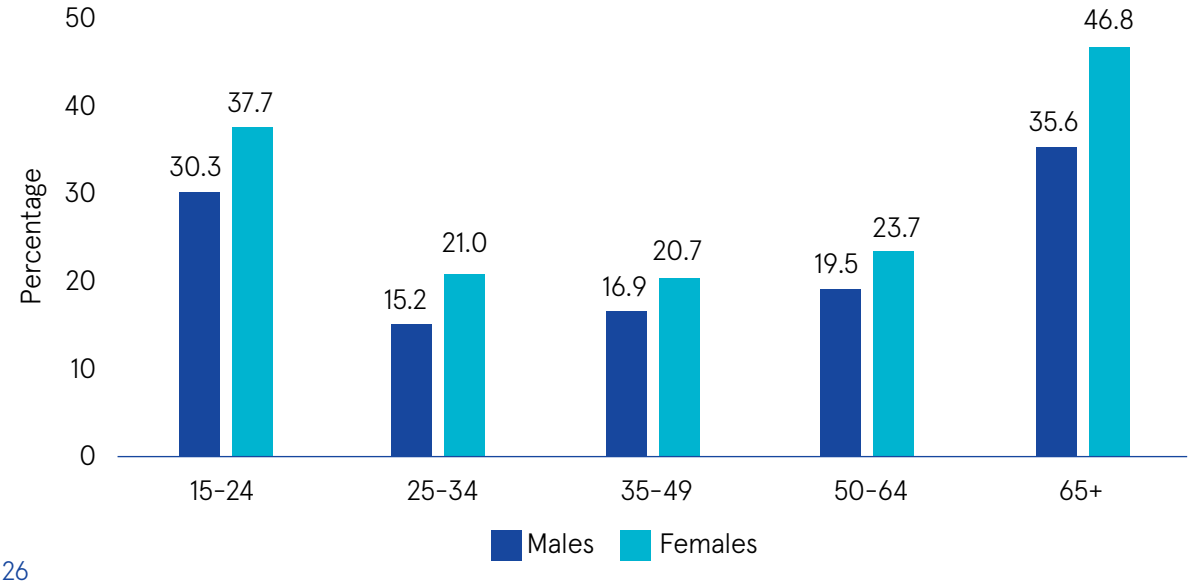
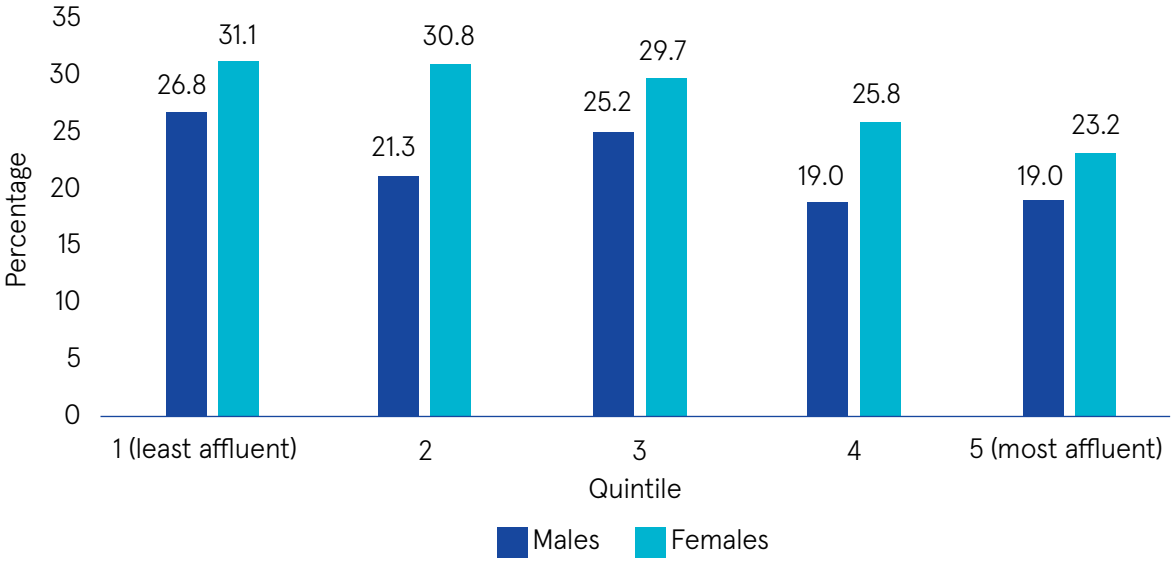


Figure 5 Proportion of non-drinkers in the year prior to the Healthy Ireland Survey, by deprivation quintile and gender



The rate of abstinence reported in this survey is higher than previous estimates, such as that reported in the National Alcohol Diary Survey (NADS; 20.6%).[26] This is likely due to the wider age range in the Healthy Ireland Survey (15 years and over) compared with the NADS (18–75 years). The Healthy Ireland survey includes respondents aged 76 and over and those aged 15–17, who may be less likely to consume alcohol compared with the rest of the adult population.

Frequency of drinking in the past year

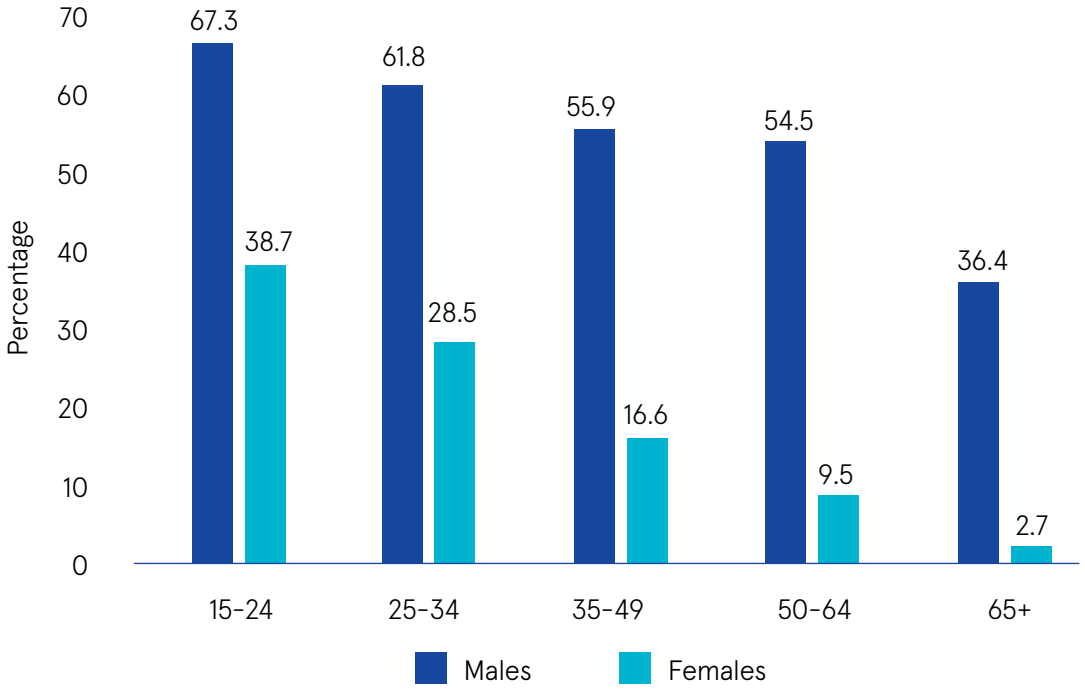
Frequency of drinking by age and gender are presented in Table 3 and Table 4 at the end of this chapter. More than half of drinkers reported drinking alcohol at least once a week (55.2%). Men consumed alcohol more frequently than women, with almost two-fifths of men (38.6%) consuming alcohol twice a week or more, compared with one-quarter of women (25.4%). Those aged 65 years and over reported drinking more frequently than those in younger age groups, with almost twice as many respondents aged 65 years and over (38.5%) consuming alcohol twice a week or more compared with 15–24-year-olds (20.9%). Overall, those in the least affluent quintiles drank less frequently than those in the most affluent quintiles. Two-fifths (40.2%) of those in the most affluent quintile reported consuming alcohol twice a week or more compared with less than one-third (28.0%) of those in the least affluent quintile (Table 5).

Quantity of alcohol consumed per typical drinking occasion

Just over one-quarter (25.9%) of respondents reported drinking one to two standard drinks per typical drinking occasion over the past year (Table 3). Women were more likely than men to report drinking one to two drinks per typical drinking occasion (36.9% vs. 15.3%). More than half of men (55.7%) and almost one-fifth of women (18.3%) reported drinking six or more drinks on a typical drinking occasion (Figure 6). Although young people drank less frequently

than those in older age groups, they reported drinking more drinks per typical drinking occasion. Of those aged 15–24 years, the majority (54.3%) reported consuming six or more standard drinks on a typical drinking occasion (Table 3). This level of consumption was almost twice as common among 15–24-year-old men (67.4%) than 15–24-year-old women (38.6%). More than one-quarter of 15–24-year-olds reported drinking nine or more drinks per typical drinking occasion (27.1%) compared with just 6.5% of those aged 65 years and over (Table 4).

Figure 6 Proportion of drinkers who drink six or more drinks on a typical drinking occasion, by gender



Although drinkers in more deprived quintiles drank less frequently than drinkers in more affluent quintiles, those in more deprived quintiles reported drinking a higher number of standard drinks on a typical drinking occasion compared with those in more affluent quintiles (Table 5 and Table 6). More than two-fifths (42.7%) of those in the least affluent quintile drank six or more drinks on a typical drinking occasion, compared with just under one-third (31.1%) of those in the most affluent quintile (Table 5). However, when this was broken down by gender, this trend was observed only among females (see Figure 7 and Figure 8). One-quarter of women (27.2%) in the most deprived quintile reported drinking six or more drinks on a typical drinking occasion compared with one-tenth of women (10.7%) in the most affluent quintile (Table 6). Consuming six or more standard drinks in a single sitting equates to 60 g of pure alcohol and meets the criteria for HED or binge drinking. HED has been associated with an increased risk of both acute and chronic harms from alcohol, including risk of injuries and falls, and the development of liver disease.[12]

Figure 7 Proportion of men who consumed six or more standard drinks on a typical drinking occasion, by deprivation quintile

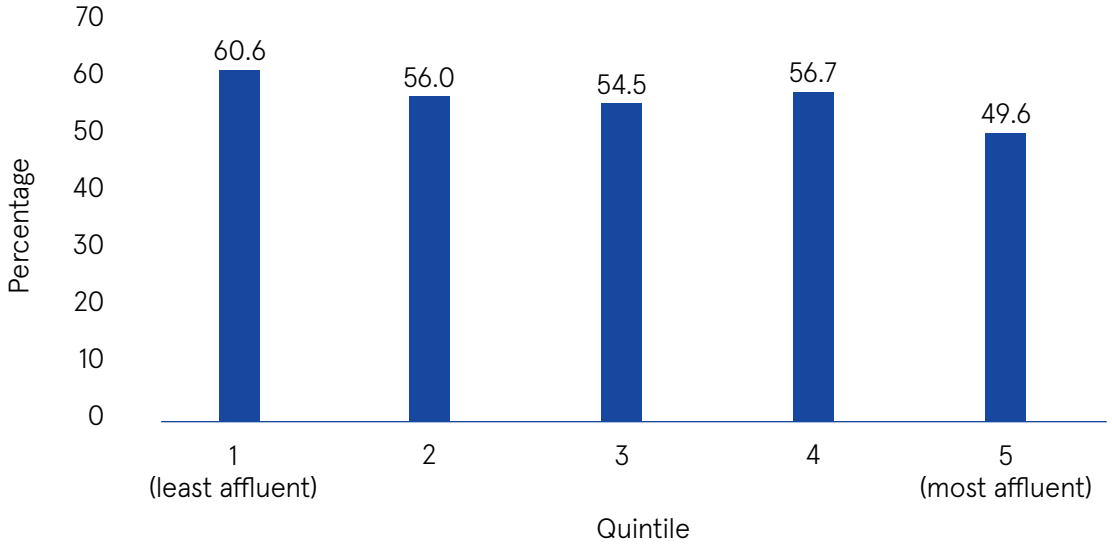
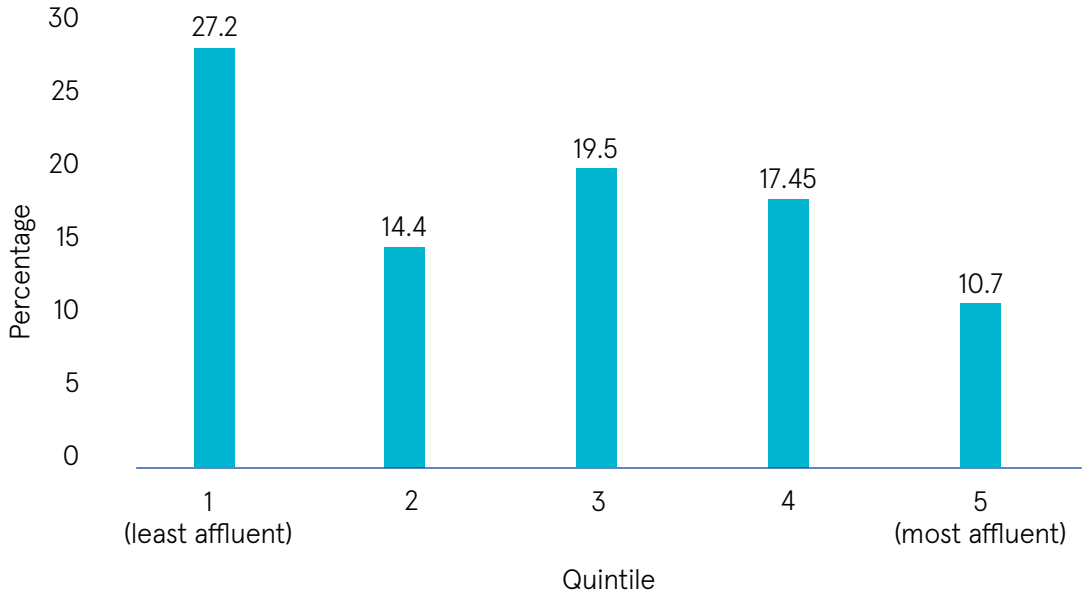


Figure 8 Proportion of women who consumed six or more standard drinks on a typical drinking occasion, by deprivation quintile

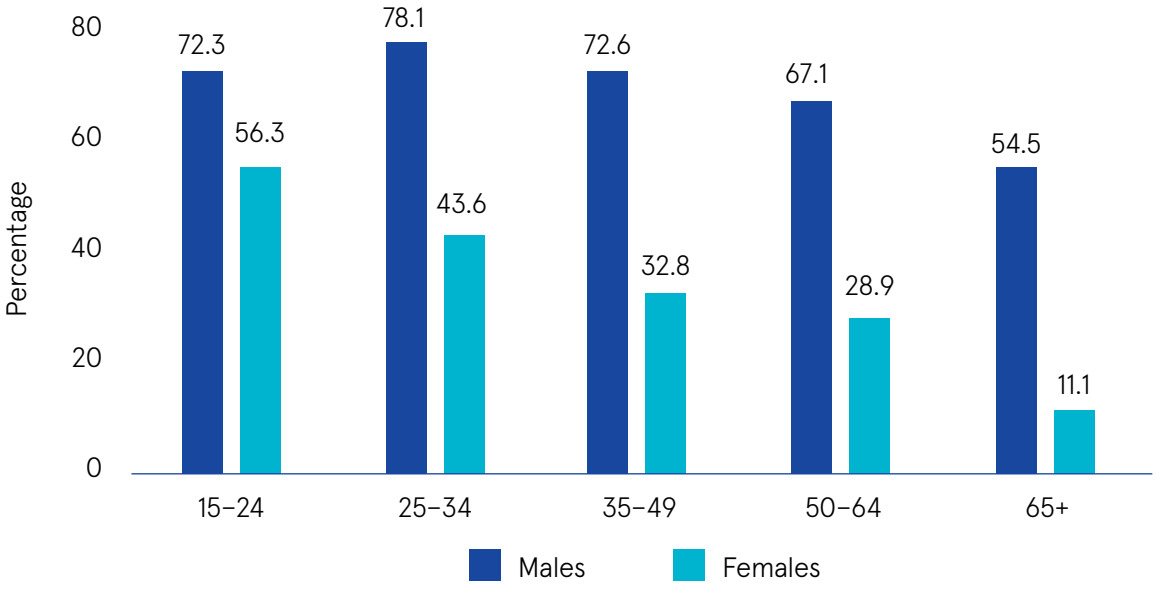


Hazardous patterns of drinking

Alcohol-related harm is determined not only by the overall volume of alcohol a person consumes, but also by a person's pattern of drinking. In general, a greater volume of alcohol consumption is linked to a greater number of both social and health-related harms from alcohol.[10,12] Hazardous patterns of drinking, such as binge drinking or HED, may determine the burden of harm caused by alcohol. For example, all-cause mortality in male drinkers consuming fewer than two drinks per day is about twice as high if they have also engaged in occasional episodes of binge drinking.[32] Two measures of hazardous drinking patterns were included in the Healthy Ireland Survey. These were the AUDIT-C screening tool and monthly HED. HED is defined as drinking 60 g of pure alcohol (six standard drinks) or more in a single sitting. In line with previous Irish surveys,[26] a cut-off score of 5 in the AUDIT-C was used to denote hazardous drinking.

More than half (52.3%) of all drinkers in Ireland were classified as hazardous drinkers using the WHO's AUDIT-C screening tool (Table 12 and Figure 9). These results are similar to those reported in the NADS, which found that 54.3% of drinkers scored 5 or more on the AUDIT-C. Hazardous drinking was more common among men (70.0%) than women (34.1%), particularly younger men, with almost four in five (78.1%) 25–34-year-old males meeting the criteria for hazardous drinking (Table 11). Overall, those in the 15–24-year-old age group (65.0%) were almost twice as likely to be classified as hazardous drinkers compared with those in the 65 years and over age group (33.2%). AUDIT-C scores of 5 or more for both males and females were similar across deprivation quintiles (Table 13).

Figure 9 Proportion of drinkers who were classified as hazardous drinkers according to the AUDIT-C, by age and gender



Heavy episodic drinking (HED)

Almost two-fifths (39.2%) of drinkers engaged in HED at least monthly in the year prior to the survey, and one-fifth (22.8%) engaged in HED on a weekly basis (Table 10). This figure for weekly HED is similar to that reported in the NADS (21.1%) in 2013, indicating that levels of binge drinking in Ireland remained high over the three-year period from 2013 to 2016. Overall, monthly HED was most prevalent among 25–34-year-old men (Figure 10), with almost two-thirds (62.8%) of this age group engaging in monthly HED. Women (23.3%) were less likely to engage in monthly HED than men (54.5%). However, almost half (45.0%) of 15–24-year-old women reported monthly HED (Table 11). Women from the most deprived quintile (28.4%) were more likely to engage in monthly HED than women in the least deprived quintile (19.4%). There were no significant differences in frequency of HED for men across the five deprivation quintiles (Figure 12 and Table 13). The high rate of binge drinking reported, particularly among young people, is of concern given that young people are particularly susceptible to both acute and long-term harms from alcohol.[33,34]

Figure 10 Proportion of drinkers who engaged in monthly HED, by age and gender

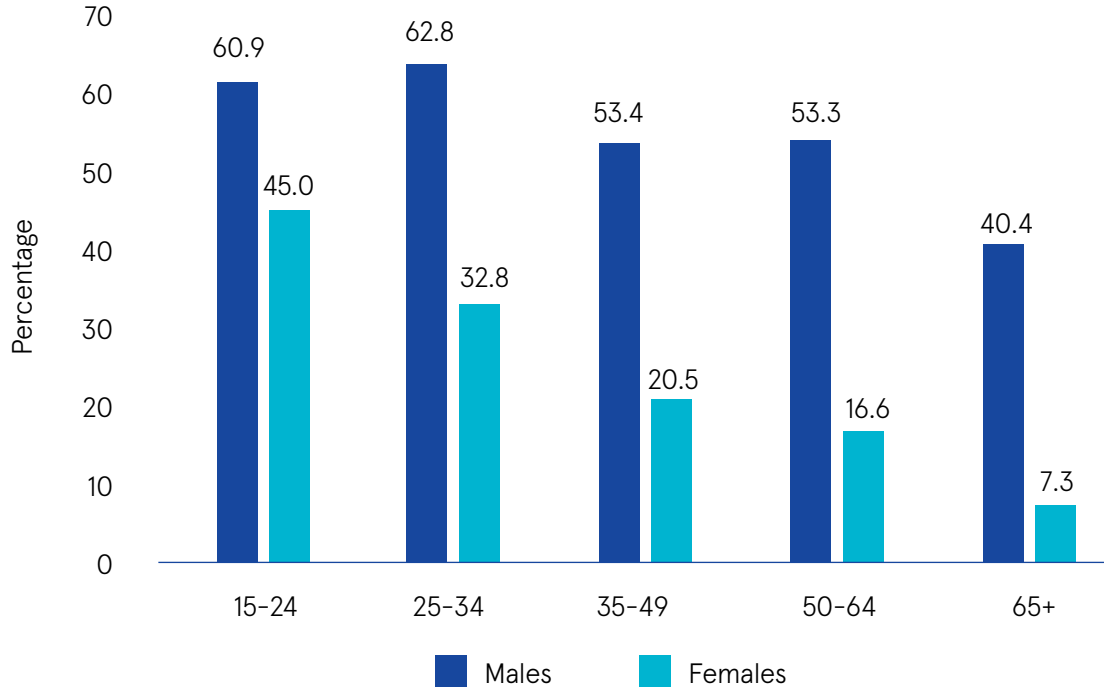


Figure 11 Proportion of males who engaged in monthly HED, by deprivation quintile

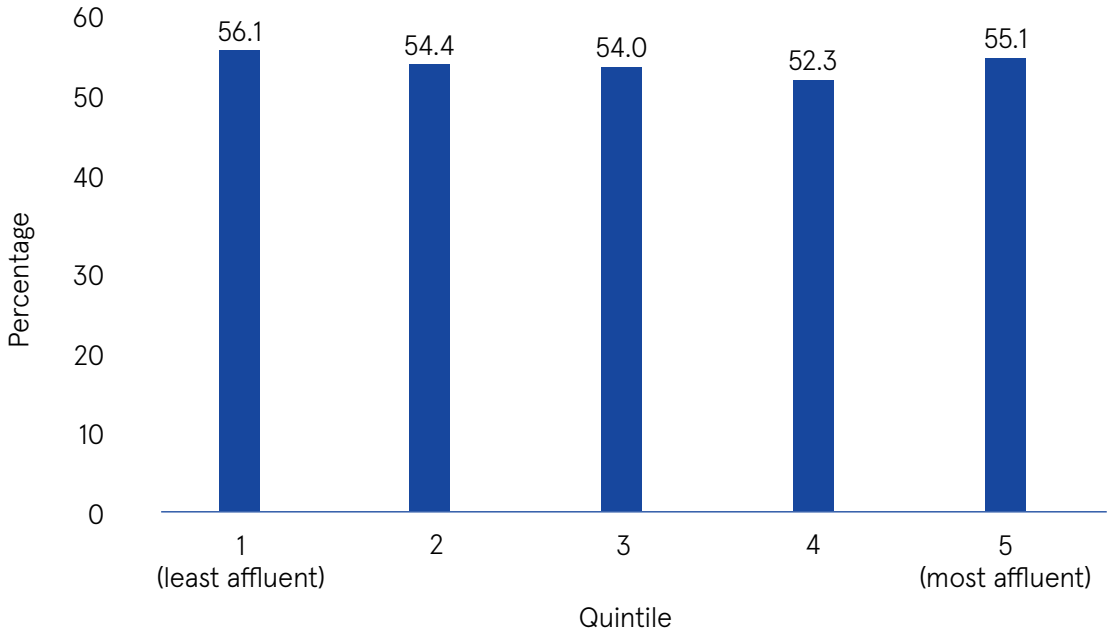
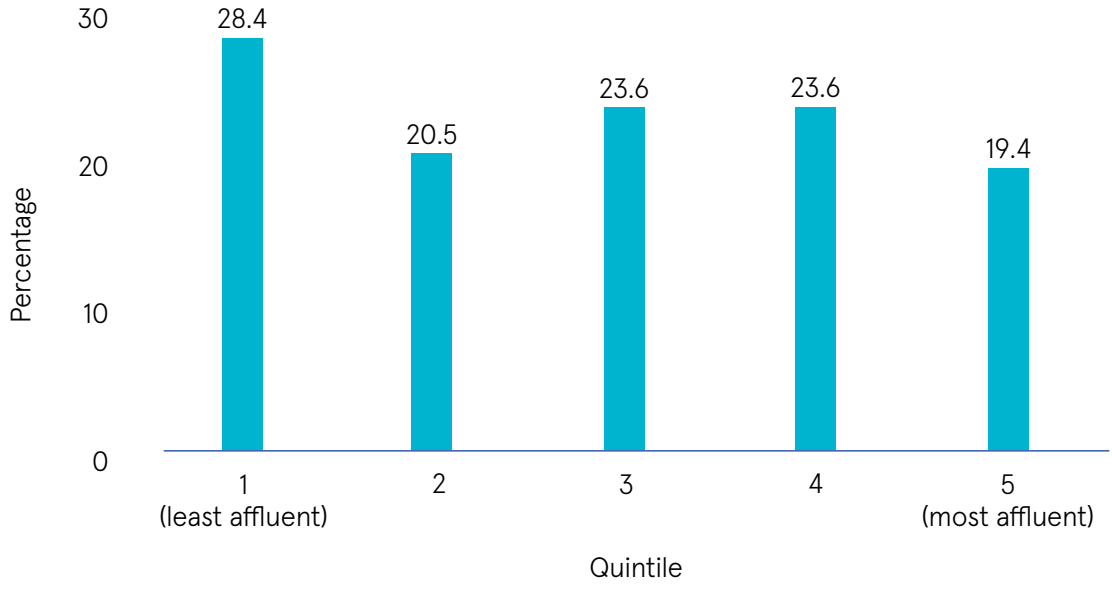


Figure 12 Proportion of females who engaged in monthly HED, by deprivation quintile



Highest number of standard drinks consumed on a single occasion in the past year

Two-thirds (68.1%) of drinkers and 82.2% of male drinkers who consumed alcohol in the past year drank six or more standard drinks on the occasion that they consumed the highest number of standard drinks (Table 7 and Table 8). The HSE's low-risk drinking guidelines recommend that males consume no more than 17 standard drinks per week and that women consume no more than 11 standard drinks per week, spread out over the course of the week with at least two alcohol-free days. [13] Findings from the Healthy Ireland Survey show that almost one in four men (22.8%) and 1 in 10 women (9.2%) drank their weekly low-risk limit or more in a single sitting in the year prior to the survey (Table 7 and Table 8). Younger people were more likely to meet this criterion, with about one-third (32.2%) of 15–24-year-old men and one-quarter (24.5%) of 15–24-year-old women consuming their weekly low-risk alcohol limit or more in a single sitting at least once in the past year (Figure 13 and Figure 14). Men across all deprivation quintiles were equally likely to consume their weekly limit or more in a single sitting (Figure 15). However, as presented in Figure 16, twice as many women in the least affluent quintile (13.4%) than women in the most affluent quintile (6.7%) reported consuming their weekly limit in a single sitting in the past year.

Consuming 11 standard drinks in a single sitting for women, or 17 standard drinks for men, may put an individual at considerable risk of suffering an acute alcohol-related harm such as having an injury, being in an accident, or suffering alcohol poisoning. Consuming alcohol in these heavy quantities over a longer period may lead to the development of chronic conditions such as alcoholic liver disease, pancreatitis, or alcohol dependence.[12] The rate of women and young people drinking at this high level is of concern, given that both of these groups may be particularly vulnerable to the harmful effects of alcohol.[33] A 2019 price survey in Ireland indicated that men can drink their weekly low-risk guideline limit for just €7.48, whereas women can do so for only €4.84. Research also indicates that the heaviest drinkers are most likely to seek out cheap alcohol and be impacted by price increases of alcoholic drinks.[35,36] The implementation of minimum unit pricing for alcohol as set out in the Public Health (Alcohol) Act 2018 should therefore be an important priority in Ireland.

Figure 13 Proportion of male drinkers who consumed their weekly low-risk limit of alcohol or more in a single sitting in the past year, by age group

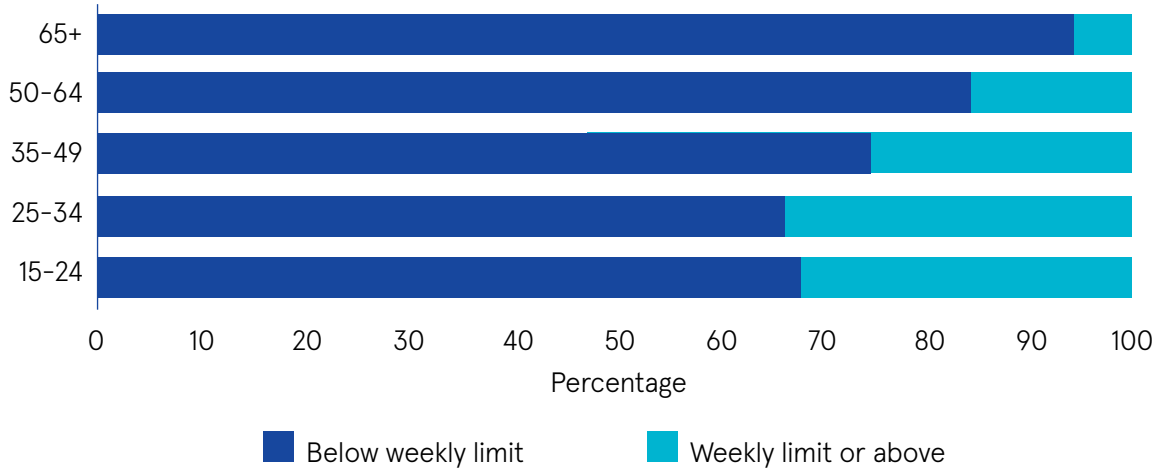


Figure 14 Proportion of female drinkers who consumed their weekly low-risk limit of alcohol or more in a single sitting in the past year, by age group

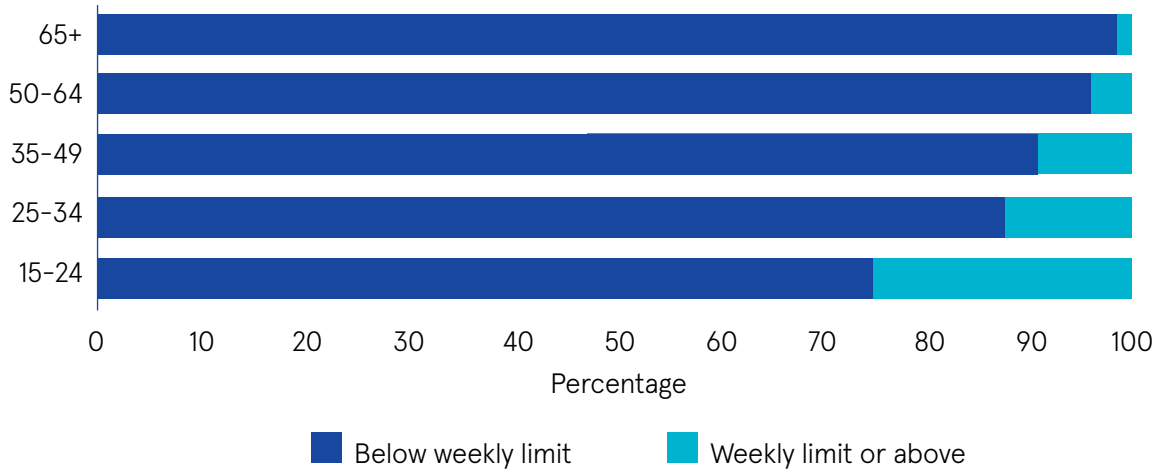


Figure 15 Proportion of males who drank their weekly low-risk limit of alcohol or more in a single sitting, by deprivation quintile

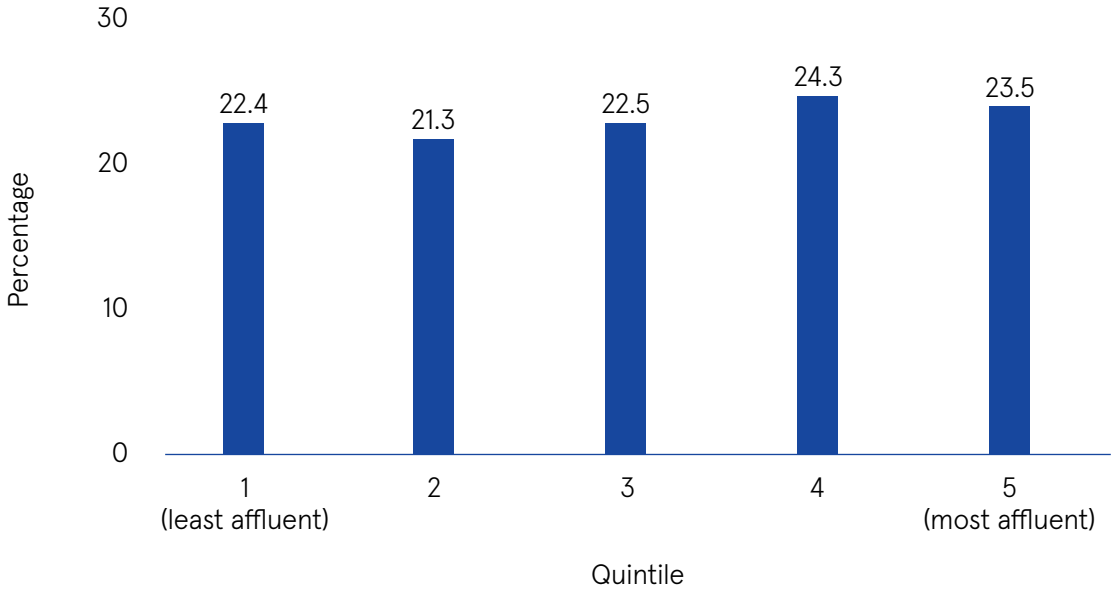
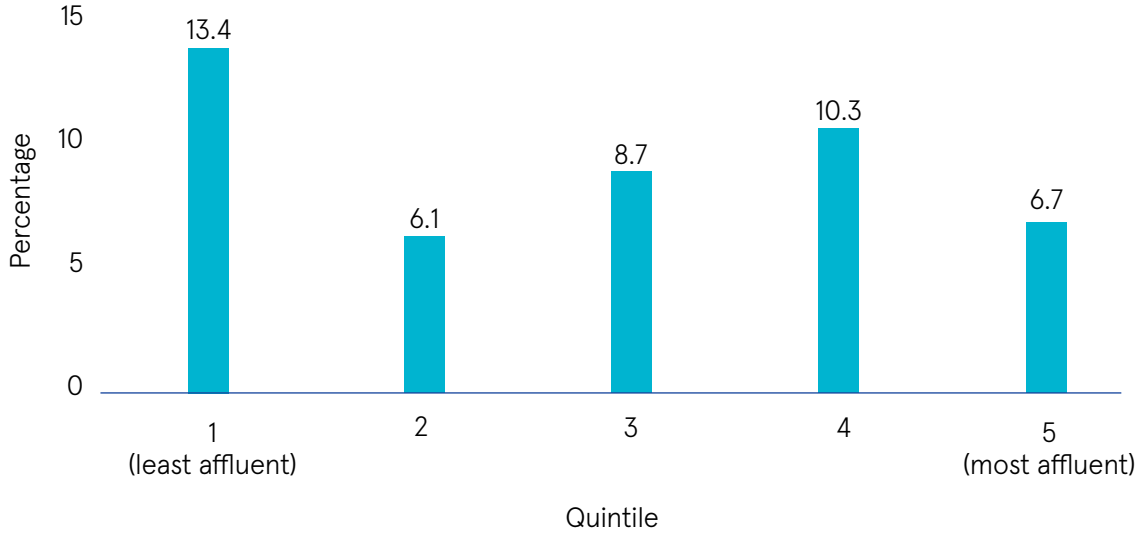


Figure 16 Proportion of females who drank their weekly low-risk limit of alcohol or more in a single sitting, by deprivation quintile



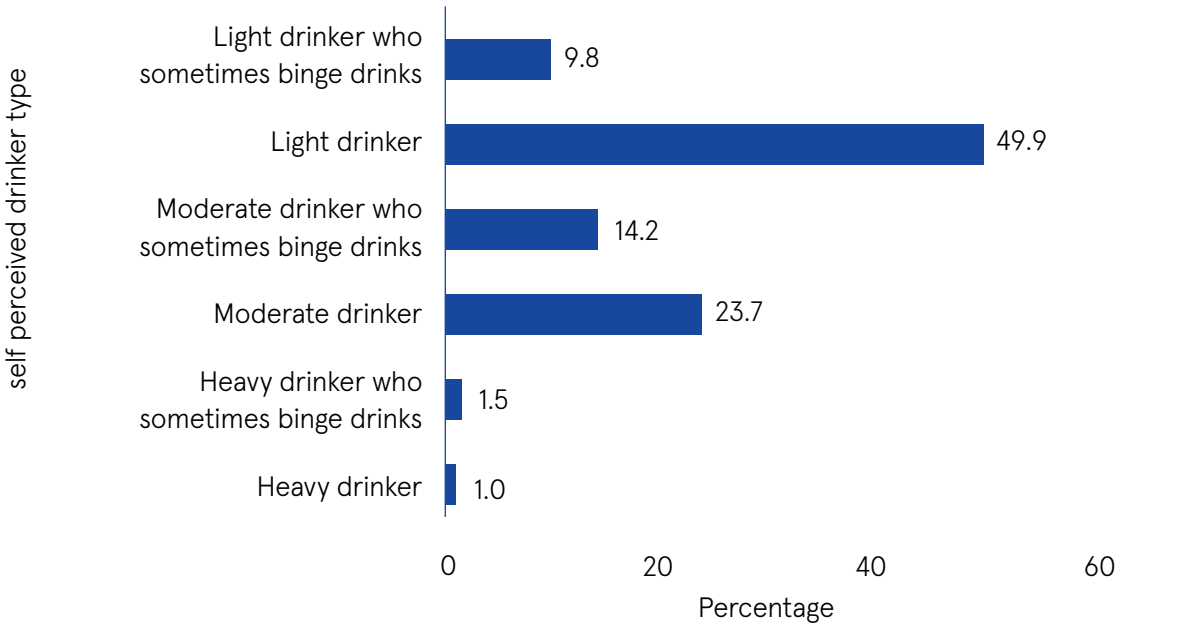
Drinkers' perception of their own drinking

Drinkers in the Healthy Ireland Survey were asked to classify themselves as one of the following types of drinkers:

- Light drinker
- Light drinker who sometimes binge drinks
- Moderate drinker
- Moderate drinker who sometimes binge drinks
- Heavy drinker, or
- Heavy drinker who sometimes binge drinks.

The percentage of drinkers who classified themselves as each drinker type is presented in Figure 17. Three-fifths (59.7%) classified themselves as either a light drinker or a light drinker who sometimes binge drinks. A further one-quarter of drinkers (23.7%) classified themselves as a moderate drinker. Just 2.5% of respondents classified themselves as either a heavy drinker (1.0%) or as a heavy drinker who sometimes binge drinks (1.5%).

Figure 17 Drinkers' self-reported drinker type



Overall, seven in ten (70%) drinkers reported binge drinking at least once in the year prior to the survey. However, just one-quarter (25.4%) of drinkers classified themselves as a drinker who sometimes binge drinks. Of those who reported binge drinking on a typical drinking occasion, less than half (42.4%) reported that they sometimes binge. Just 4.9% of those who reported binge drinking on a typical drinking occasion classified themselves as a heavy drinker, whereas more than one-third (36.1%) of these drinkers classified themselves as a light drinker or a light drinker who sometimes binges (Figure 18). These findings indicate that Irish adults are unaware of what constitutes binge drinking and that their patterns of drinking may be considered to be hazardous.

Figure 18 Self-reported drinker type among those who reported drinking six or more drinks on a typical drinking occasion

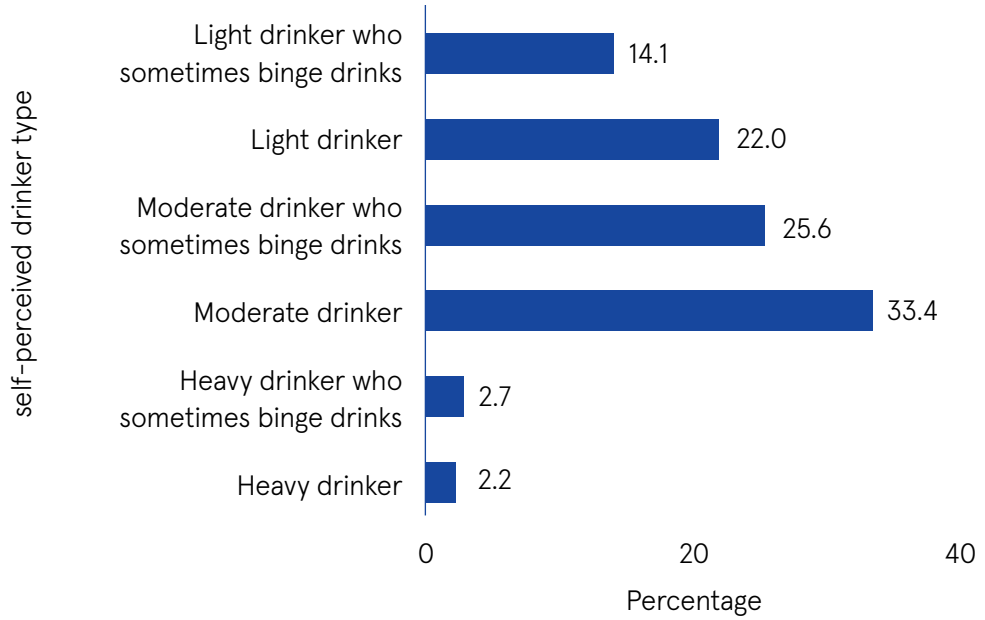


Table 3 Patterns of alcohol consumption among drinkers in the general population, by gender and age group (n=5,559)

	Male	Female	Total	15–24	25–34	35–49	50–64	65+
Frequency of drinking								
Twice a week or more	38.6	25.4	32.1	20.9	23.4	35.2	38.0	38.5
Once a week	24.5	21.6	23.1	23.2	23.7	22.1	25.1	20.9
1–3 times per month	22.1	29.8	25.9	35.0	34.6	24.8	19.6	17.6
Less than monthly	14.8	23.2	18.9	21.0	18.3	18.0	17.4	23.0
Number of standard drinks consumed on a typical drinking occasion								
1–2	15.3	36.9	25.9	12.4	19.1	24.5	28.6	47.9
3–5	29.0	44.9	36.8	33.4	35.8	39.3	38.8	32.3
6–8	28.7	15.0	22.0	27.2	25.4	21.3	21.9	13.4
9 or more	27.0	3.3	15.3	27.1	19.6	14.9	10.7	6.5
Highest number of standard drinks consumed on a single occasion in the past year								
1–2	5.9	16.4	11.1	4.6	5.9	8.3	12.3	29.2
3–4	9.4	25.0	17.1	10.7	10.7	15.3	22.4	27.3
5–6	11.5	22.8	17.0	12.9	15.0	19.2	17.9	17.4
7–8	13.3	18.0	15.6	14.5	18.5	16.5	15.7	10.2
9 or more	59.9	17.8	39.2	57.2	49.9	40.7	31.6	15.6

Table 4 Patterns of alcohol consumption among drinkers in the general population, gender by age group (n=5,559)

	Males (n=2,569)					Females (n=2,989)				
	15–24	25–34	35–49	50–64	65+	15–24	25–34	35–49	50–64	65+
Frequency of drinking										
Twice a week or more	22.0	31.9	43.0	44.3	45.2	19.5	15.1	27.3	31.4	31.6
Once a week	25.7	24.7	22.0	26.5	25.5	20.2	22.7	22.3	23.6	16.2
1–3 times per month	30.0	29.3	21.2	16.5	15.5	40.8	39.8	28.4	22.8	19.8
Less than monthly	22.4	14.1	13.9	12.8	13.9	19.4	22.4	22.0	22.2	32.4
Number of standard drinks consumed on a typical drinking occasion										
1–2	8.2	12.6	14.4	16.9	25.8	17.4	25.6	34.6	40.9	70.9
3–5	24.5	25.6	29.7	28.6	37.9	43.9	45.9	48.9	49.6	26.4
6–8	29.1	26.2	27.9	34.6	23.7	24.9	24.6	14.8	8.5	2.6
9 or more	38.3	35.7	28.1	19.9	12.6	13.7	3.9	1.8	1.0	0.0
Highest number of standard drinks consumed on a single occasion in the past year										
1–2	5.1	3.8	3.7	6.7	13.5	4.1	8.0	12.9	18.3	45.3
3–4	5.6	3.7	7.5	12.0	21.2	16.6	17.5	22.9	33.5	33.6
5–6	8.2	8.2	11.2	11.6	19.7	18.5	21.6	27.1	24.7	15.1
7–8	11.1	10.1	13.6	15.5	15.7	18.5	26.7	19.4	15.9	4.7
9 or more	70.0	74.2	63.9	54.3	30.0	42.2	26.2	17.8	7.6	1.4

Table 5 Patterns of alcohol consumption among drinkers in the general population, by level of deprivation (n=5,473)

	1 (Least affluent)	2	3	4	5 (Most affluent)
Frequency of drinking					
Twice a week or more	28.0	28.6	31.6	32.9	40.2
Once a week	23.6	23.4	22.7	23.4	22.6
1–3 times per month	26.5	25.8	25.8	27.1	23.8
Less than monthly	21.9	22.2	20.0	16.5	13.5
Number of standard drinks consumed on a typical drinking occasion					
1–2	21.2	22.9	26.0	29.2	30.9
3–5	36.1	38.4	36.5	35.6	38.0
6–8	24.2	21.7	22.5	22.0	18.7
9 or more	18.5	17.1	15.0	13.2	12.3
Highest number of standard drinks consumed on a single occasion in the past year					
1–2	9.8	10.1	12.4	12.4	11.2
3–4	15.8	17.8	17.0	16.7	18.1
5–6	17.3	15.2	17.8	17.1	17.5
7–8	14.3	16.8	15.0	18.1	14.3
9 or more	42.8	40.1	37.9	35.6	39.0

Table 6 Patterns of alcohol consumption among drinkers in the general population, by gender and level of deprivation (n=5,473)

	Males (n=2,540)					Females (n=2,954)				
	1 (Least affluent)	2	3	4	5 (Most affluent)	1 (Least affluent)	2	3	4	5 (Most affluent)
Frequency of drinking										
Twice a week or more	36.6	34.2	37.2	40.6	44.4	20.7	22.0	25.6	25.2	35.6
Once a week	26.6	26.2	23.6	22.9	23.8	21.1	20.0	21.6	23.9	21.2
1–3 times per month	18.7	23.0	22.3	23.6	22.0	33.2	29.2	29.4	30.7	25.7
Less than monthly	18.2	16.6	16.8	13.0	9.8	25.1	28.9	23.3	20.1	17.5
Number of standard drinks consumed on a typical drinking occasion										
1–2	12.5	14.3	14.8	16.4	19.0	28.7	33.1	37.8	42.1	44.1
3–5	26.9	29.0	30.7	27.7	31.5	44.1	49.5	42.7	43.5	45.3
6–8	27.2	28.6	27.5	32.1	27.3	21.6	13.4	17.2	12.0	9.3
9 or more	33.5	28.1	27.0	23.9	22.3	5.6	4.0	2.3	2.4	1.4
Highest number of standard drinks consumed on a single occasion in the past year										
1–2	5.6	6.3	6.5	5.7	5.6	13.4	14.6	18.5	19.2	17.4
3–4	7.7	10.3	10.2	9.1	9.6	22.8	26.6	24.0	24.4	27.5
5–6	12.0	10.6	12.8	11.1	10.7	21.9	20.6	23.0	23.2	25.0
7–8	11.0	14.3	12.4	15.5	13.7	17.2	19.6	17.7	20.8	14.9
9 or more	63.6	58.6	58.0	58.6	60.4	24.7	18.6	16.9	12.4	15.3

Percentages may not add up to 100% due to weighting

Table 7 Proportion of female drinkers who consumed their weekly low-risk limit or more in a single sitting on their heaviest drinking occasion in the past year, by age group (n=2,989)

Females					
	All	15–24	25–34	35–49	*50+
10 standard drinks or less	90.8	75.5	87.8	91.2	95.2
Above weekly limit	9.2	24.5	12.2	8.8	4.8

Percentages may not add up to 100% due to weighting

*The 50–64 and 65+ age groups were combined so as not to report cells with n<5

Table 8 Proportion of male drinkers who consumed their weekly low-risk limit or more in a single sitting on their heaviest drinking occasion in the past year, by age group (n=2,569)

Males						
	All	15–24	25–34	35–49	50–64	65+
16 standard drinks or less	77.2	67.8	66.6	74.6	84.5	94.3
Above weekly limit	22.8	32.2	33.4	25.4	15.5	5.7

Table 9 Proportion of drinkers who consumed their weekly low-risk limit or more in a single sitting on their heaviest drinking occasion, by gender and level of deprivation (n=5,473)

	Least	4	3	2	Most
Females (n=2,941)					
10 standard drinks or less	86.6	89.7	91.3	93.9	93.3
Above weekly limit	13.4	10.3	8.7	6.1	6.7
Males (n=2,532)					
16 standard drinks or less	77.6	75.8	77.5	78.7	76.5
Above weekly limit	22.4	24.3	22.5	21.3	23.5

Table 10 Patterns of hazardous alcohol consumption in the population who consumed alcohol in the year prior to the survey, by gender and age group (n=5,538)

	Male	Female	Total	15–24	25–34	35–49	50–64	65+
Frequency of HED in the past year								
Once a week or more	35.4	9.8	22.8	26.7	21.8	22.0	25.8	17.2
1–3 times a month	19.1	13.5	16.4	27.0	25.9	15.0	9.6	7.0
Less than monthly	28.3	31.5	29.9	28.3	34.1	36.5	25.8	16.6
Never	17.2	45.2	30.9	18.1	18.3	26.6	38.8	59.3
Hazardous drinking among those who drank in the past year								
HED (binge drinking) monthly	54.5	23.3	39.2	53.6	47.7	37.0	35.4	24.2
AUDIT-C score of 5 or more	70.0	34.1	52.3	65.0	60.7	52.7	48.4	33.2

Table 11 Patterns of hazardous alcohol consumption in the population who consumed alcohol in the year prior to the survey, gender by age group (n=5,538)

	Males (n=2,562)					Females (n=2,967)				
	15–24	25–34	35–49	50–64	65+	15–24	25–34	35–49	50–64	65+
Frequency of HED in the past year										
Once a week or more	32.6	34.1	35.0	41.3	30.6	19.7	9.7	8.9	9.6	3.3
1–3 times a month	28.3	28.7	18.4	12.0	9.8	25.4	23.1	11.5	7.0	4.0
Less than monthly	27.2	29.5	33.9	23.9	22.3	29.5	38.6	39.1	27.8	10.6
Never	11.9	7.7	12.7	22.8	37.2	25.5	28.6	40.4	55.6	82.1
Hazardous drinking among those who drank in the past year										
HED (binge drinking) monthly	60.9	62.8	53.4	53.3	40.4	45.0	32.8	20.5	16.6	7.3
AUDIT-C score of 5 or more	72.3	78.1	72.6	67.1	54.5	56.3	43.6	32.8	28.9	11.1

Percentages may not add up to 100% due to weighting

Table 12 Patterns of hazardous alcohol consumption in the population who consumed alcohol in the year prior to the survey, by level of deprivation (n=5,473)

	1 (Least affluent)	2	3	4	5 (Most affluent)
Frequency of HED in the past year					
Once a week or more	25.4	22.0	23.6	21.1	21.3
1–3 times a month	15.8	17.3	15.6	16.3	16.8
Less than monthly	29.5	30.6	28.0	31.1	30.5
Never	29.2	30.2	32.7	31.5	31.4
Hazardous drinking among those who drank in the past year					
HED (binge drinking) monthly	41.3	39.2	39.3	37.4	38.1
AUDIT-C score of 5 or more	55.2	51.4	51.3	51.6	52.1

Table 13 Patterns of hazardous alcohol consumption in the population who consumed alcohol in the year prior to the survey, gender by level of deprivation (n=5,473)

	Males (n=2,532)					Females (n=2,941)				
	1 (Least affluent)	2	3	4	5 (Most affluent)	1 (Least affluent)	2	3	4	5 (Most affluent)
Frequency of HED in the past year										
Once a week or more	39.8	32.8	35.7	34.5	33.7	13.1	9.1	10.8	7.7	7.6
1–3 times a month	16.4	19.5	18.3	19.8	21.3	15.4	14.6	12.8	12.8	11.8
Less than monthly	28.7	28.8	26.5	29.9	28.3	30.2	32.7	29.7	32.4	32.9
Never	15.2	18.8	19.6	15.7	16.6	41.4	43.7	46.7	47.2	47.6
Hazardous drinking among those who drank in the past year										
HED (binge drinking) monthly	56.1	52.3	54.0	54.4	55.1	28.4	23.6	23.6	20.5	19.4
AUDIT-C score of 5 or more	73.5	66.8	68.0	72.3	69.4	39.4	33.1	33.7	31.0	33.2

Percentages may not add up to 100% due to weighting

The impact of COVID-19 on alcohol consumption in Ireland

COVID-19 was declared a global pandemic by the WHO on 11 March 2020. In Ireland, all schools, universities, and childcare facilities were closed on 12 March, followed by closure of all non-essential shops and strict restrictions on people's movements on 24 March. Pubs in Ireland were ordered to close on 15 March. Off-licences were classified as an essential business and remained open throughout even Ireland's strictest period of COVID-19 restrictions. Data show a steep increase in off-trade alcohol sales since the restrictions were introduced. Data from Nielsen, which collects alcohol sales data from retail outlets in Ireland, indicate that €158 million was spent on off-trade alcohol sales during the four weeks leading up to 15 April, representing a 44% increase on the same period in 2019.[37]

Alcohol excise receipts and volumes 2020, the provisional data released by Revenue in March 2021, gives an insight into Irish people's alcohol consumption during the pandemic. These figures show that despite licenced premises being closed for the majority of 2020, alcohol consumption only fell by 6.5% to 10.1 litres per capita in 2020 (10.8 litres in 2019).

Overall alcohol consumption
fell by just 6.5% in 2020
despite on-trade sector being closed fully for 5 months and wet pubs closed for 9 months (suggesting major shift to home drinking during the pandemic)

Wine consumption increased by **12%***

Beer consumption fell by **17%***

* in 2020

Wine has been the most popular alcohol beverage consumed during the pandemic with sales of wine showing a consumption increase of 12.0% compared to 2019, spirits increased by 0.7% whereas beer consumption decreased by 17.3% and cider by 11.4%.

What effect has this change in drinking habits as a result of the lockdowns had on tax revenues for the government? The shift from drinking in licenced premises to drinking at home has had little impact on the exchequer returns with the net alcohol excise receipts showing a 2.4% decrease in 2020 compared to 2019. In 2019, the Irish Government raised €1.23 billion though alcohol sales and this figure dropped to €1.2 billion in 2020 demonstrating that the closure of licenced premises during the pandemic not only had little impact on alcohol consumption in Ireland but also has had little impact on the cost to the exchequer.

In April 2020, the CSO carried out a survey of 1,362 adults aged 18 years and over on the social impact of COVID-19.[38] Of those surveyed, 80.6% reported consuming alcohol. Almost one-quarter (22.2%) said their alcohol consumption had increased since the introduction of the COVID-19 restrictions in March, while 17.2% reported that their drinking had decreased. Males were more likely to report decreased (26.0%) than increased (20.9%) consumption. In comparison, just 8.6% of females reported decreased consumption, while 23.4% reported increased consumption. More females (68.0%) than males (53.1%) reported no change in alcohol consumption.

More than three-quarters (77.1%) of those aged 70 years and over reported no change in alcohol consumption since the introduction of the restrictions. Almost one-third of respondents in both the 18–34 years (30.4%) and the 35–44 years (30.7%) age groups reported an increase in alcohol consumption. Just over one-fifth (22.9%) of 18–34-year-olds surveyed reported a decrease in alcohol consumption since the restrictions were implemented. One-third (33.8%) of respondents who were unemployed (both prior to and since the implementation of the COVID-19 restrictions) reported an increase in alcohol consumption, compared with just over one-quarter (26.2%) of participants who were employed both prior to and since the implementation of the COVID-19 restrictions. Those who were not working due to retirement, home duties, or studies were least likely to report an increase in alcohol consumption. Of concern, when analysed by household composition, households with children had the highest proportion of respondents reporting an increase in drinking (27.3%). Children are adversely affected by even non-dependent levels of alcohol consumption, and parental drinking is a predictor of earlier alcohol initiation and harmful drinking patterns among adolescents.[39] The results of this survey also indicated that some family members may be using alcohol as a coping mechanism to deal with stress and conflict during this period. More than two-fifths (41.8%) of those who were very concerned about household stress due to the confinement reported drinking more, compared with approximately one-fifth of those who were somewhat (17.6%) or not at all (20.6%) concerned. Again, this is of concern, given that research shows that children are more likely to experience harm from a parent's drinking if the parent's motivations for drinking are negative.[40]

Findings regarding the association between changes in alcohol consumption and mental health also indicate that Irish adults may be using alcohol as a way of coping with difficult emotions during the pandemic. Almost one-third (29.5%) of those who reported feeling downhearted or depressed at least some of the time in the month prior to the survey reported an increase in drinking since the COVID-19 crisis began. This compares with one-fifth (22.5%) of those who felt downhearted or depressed a little of the time and just one-tenth (10.5%) of those who said they had not felt downhearted or depressed in the month prior to the survey. Almost one-third (29.3%) of those who felt very nervous at least some of time in the month prior to the survey reported an increase in drinking, compared with 13.6% of those who felt very nervous none of the time. More than 30% of those who felt lonely at least some of the time in the month prior to the survey reported that their alcohol consumption had increased, compared with 18.9% who felt lonely a little of the time and 19.6% who had not felt lonely.

Alcohol has been shown to exacerbate feelings of depression and anxiety, and alcohol use disorders often co-occur with mental health issues.[41] Using alcohol to cope with feelings of loneliness, depression, and anxiety may increase a person's risk of developing alcohol

dependence, as well as the chronic long-term health and social harms associated with heavy alcohol consumption. Given the affordability of alcohol in Ireland and reported increases in consumption during COVID-19, coupled with the findings that it is the heaviest drinkers who seek out the cheapest alcohol,[35,36] the introduction of an MUP for alcohol in Ireland should be an important priority.

Alcohol use among adolescents and young people

Background

Alcohol misuse among young people has been identified as a global health priority by the WHO.[42] Underage drinking has been associated with a wide range of adverse consequences, including a probable causal link to substance dependence later in life, as well as injuries, poisoning, and cognitive impairment.[34] Exposure to alcohol begins early in childhood, with children as young as 3 years old beginning to become aware of alcohol and alcohol-related norms.[43] Positive and negative expectancies towards drinking have been shown to emerge from as young as 4 years of age.[44] Given the high prevalence of binge drinking among young adults[45,46] and the higher susceptibility to alcohol-related harms in this population,[33] delaying alcohol use initiation and preventing heavy alcohol use among young people should be a public health priority in Ireland.

Impact of alcohol use on adolescents

Adolescence and young adulthood represent a key period of emotional and cognitive development as well as a time of critical social transitions.[47] Adolescence is the time when initiation of alcohol use typically occurs and when patterns around alcohol use begin to emerge and become established.[48] Early initiation of alcohol use may disrupt this period of social transitions and has been shown to increase risk of developing an alcohol use disorder later in life.[49] Early initiation of any substance use in adolescence also increases the likelihood of using other substances.[47] Heavy alcohol use may co-occur with mental health disorders which also emerge during adolescence.[50] A study carried out with a nationally representative sample of 43,093 adults in the USA[51] found that compared to those who started drinking at age 21 years or older, those who began drinking before age 14 were more likely to ever become dependent on alcohol and more likely to develop alcohol dependence in the first 10 years of drinking.[51]

Adolescence is a period of continued biological and psychosocial maturation, predisposing children and adolescents to increased vulnerability to the neurotoxic effects of alcohol.[34] Evidence from prospective cohort studies reveals that drinking in adolescence has been associated with a number of cognitive deficits, including in verbal learning, attention, and memory, as well as heavier alcohol consumption later in life.[52] A systematic review and meta-analysis of 58 studies exploring the effects of binge drinking (defined as four or more standard drinks for the purposes of that review) on the brains of young people aged 10–24 years showed that binge drinking was associated with overall neurocognitive deficits, with particularly strong deficits in decision-making and inhibition. These findings suggest that regularly consuming just two pints of beer (four standard drinks) may alter neural structure and activity during a highly plastic neurodevelopmental period, which could result in neural reorganisation, leading to long-lasting deficits in brain structure and function among young

people.[52] Furthermore, a 2014 review of the results of 21 magnetic resonance imaging (MRI) studies of alcohol use among adolescents also found structural alterations in the prefrontal areas of the brain among adolescent drinkers, which were not present in the non-drinking controls. The findings indicated that adolescent girls may be even more vulnerable to the alterations in structural and neural development caused by alcohol consumption.[33] Some limitations of these studies include cross-sectional design and poor control of confounding factors; however, there is a strong body of evidence to support the harmful impact of alcohol on the developing brain.[53]

Adolescents are also more likely to experience acute harms from alcohol use, including road traffic accidents, injuries, and alcohol poisoning.[34] The Global Burden of Disease Study indicated that alcohol is the number one risk factor for disability-adjusted life years and premature deaths among males aged 15–49 years.[10] This is in part due to the high quantities of alcohol consumed by young people on heavy drinking occasions. Findings from the Healthy Ireland Survey showed that more than half (54%) of 15–24-year-olds binge drink (consuming six or more standard drinks in a single sitting) on a typical drinking occasion.[54]

Factors associated with alcohol consumption among adolescents

Several factors have been found to be related to the initiation of alcohol use and alcohol misuse among young people. These include parental factors, peer influence, and the influence of alcohol marketing and the media, as well as cultural and societal norms around youth drinking. National policies regarding regulating alcohol marketing to children, and regulating the price of alcohol, may also play an important role in reducing harmful alcohol use among children.

Parental factors associated with children's alcohol use

The family context plays an important role in shaping a child's attitudes and behaviour towards alcohol. Findings from the UK indicate that most parents are aware of the example that drinking sets for their children, and deliberately model moderate behaviour towards alcohol.[55] A systematic literature review of parental factors associated with adolescent alcohol misuse, which included data from 131 longitudinal studies, identified 12 parental factors that were associated with alcohol misuse in adolescents and later in life (see Table 14). The most important of these factors are discussed in greater depth below.

Table 14 Parental risk and protective factors associated with adolescent drinking

Risk factors	Parental provision of alcohol
	Favourable parental attitudes towards alcohol
	Parental drinking
	Family conflict
Protective factors	Parental monitoring
	Parent-child relationship quality
	Parental support
	Parental involvement
	Rules about alcohol use
	Parental discipline
	Alcohol-specific communication
	General communication

Source: Yap et al. 2017[39]

Parental provision of alcohol

Parents may choose to introduce children to alcohol in the home as a way of supervising their child's drinking.[55] However, of the 12 parental risk and protective factors included in Yap ***et al.***'s systematic review, parental provision of alcohol was the risk factor with the largest effect size, accounting for 4% of variance in initiation of alcohol consumption and 7% in levels of later alcohol misuse. Children whose parents provide them with alcohol and allow them to drink in the family home drink more frequently and at higher quantities, and are more likely to have alcohol-related problems in adolescence and later in life.[39] A systematic review and meta-analysis of seven longitudinal studies examining the effects of parental provision of alcohol also found that parental supply of alcohol increased the odds of subsequent risky drinking among adolescents.[56]

Favourable parental attitudes towards alcohol

Although parents tend to be conscious that their drinking habits set an example for their children, favourable parental attitudes towards alcohol have been linked to alcohol misuse among adolescents.[39,56] Yap ***et al.*** found that favourable parental attitudes towards drinking were significantly associated with earlier alcohol initiation and higher levels of alcohol use among adolescents. A recent systematic review of 29 studies comprising data from 16,477 children and 15,229 parents[57] also indicated that less restrictive parental attitudes towards children's alcohol use were related to higher rates of alcohol use initiation, alcohol use frequency, and drunkenness among children. Findings from the Planet Youth survey, a survey of 4,490 15–16-year-olds in the West of Ireland, found that children whose parents were less

disapproving of alcohol were more than twice as likely to have been drunk in the past month. Children also reported that their parents were less likely to disapprove of drunkenness (72%) than smoking (94%) or cannabis use (96%).[58]

Parental drinking

Although most parents try to model moderate alcohol use in front of their children, Yap *et al.* found that parental drinking was associated with early alcohol use initiation and adolescent alcohol misuse.[39] Non-dependent parental drinking has also been associated with escalation of adolescent drinking[59] and later life alcohol-related hospitalisation.[60] Parental drinking, especially on special occasions and holidays, may implicitly highlight the social and pleasurable aspects of drinking, without simultaneously conveying the risks of alcohol use.[55]

Protective factors

Yap *et al.* also identified several parental factors that were protective against adolescent alcohol misuse. Better parent-child relationship quality was associated with delayed alcohol initiation and reduced alcohol misuse among adolescents.[39] Parental monitoring – the extent to which parents are aware of their child's whereabouts – was also an important protective factor, accounting for 3% of variance in age of first drink and 5% of variance in later alcohol use and misuse.[39] In Ireland, findings from the Planet Youth survey indicated that teenagers with higher levels of parental monitoring were two and a half times less likely to report drunkenness.[58] A systematic review of parenting styles and adolescent alcohol use found that authoritative parenting, which combines clear rules and expectations with high levels of warmth, may also be protective against alcohol use among young people.[61]

Peer influence

The influence of peers is at its peak during adolescence and young adulthood. There is robust evidence to suggest that association with peers who consume alcohol is one of the strongest predictors of a young person's alcohol consumption.[34] Findings from the Planet Youth survey give insight into peer influence on adolescent alcohol use among teenagers in Ireland. Almost one-third (32%) of 15–16-year-olds who responded to the survey stated that it was important to drink so as not to feel left out of their peer group; the comparable figures for smoking and cannabis use were 14% and 9%, respectively. Furthermore, teenagers who reported that their friends had been drunk in the past month were more than three times more likely to have been drunk themselves.[58] It is unclear whether adolescents are influenced by their peers to drink or whether an adolescent's personality and own alcohol use affects their choice of peers, although findings from longitudinal studies indicate that both these factors may be at play.[34] However, family may also moderate the effect that peers have on alcohol use. Evidence shows that peers have less of an impact on young people who have high levels of parental monitoring and high-quality family relationships.[62]

Alcohol pricing and availability

Similar to the adult population, alcohol use among young people is influenced by pricing and availability. There is strong evidence demonstrating that increased alcohol prices reduces overall alcohol consumption, with a 10% increase in alcohol price associated with a 3-10%

reduction in consumption. Studies in young people report the same effects as those in the whole population. [63] Restrictions to the number of outlets where alcohol is allowed to be sold or limiting hours and days of sale can reduce a young person's physical access to alcohol. [21] Regulations that proscribe alcohol sales to young people may also limit alcohol availability. [64]

Alcohol marketing to children

Alcohol marketing, promotion, and media coverage, including celebrity endorsement, product placement, and sports sponsorship, has been shown to have a significant impact on children's knowledge, attitudes, and behaviours towards alcohol.[65] Children as young as 3 years old can recognise and identify alcoholic beverages,[66] and by the age of 13 years, many children have a sophisticated knowledge of alcohol products and branding. [67] An Irish survey of 686 schoolchildren aged 13–17 years found that nine in ten children surveyed were exposed to traditional offline alcohol advertisements in the week prior to the study. More than three-quarters (77%) reported exposure to alcohol marketing online, with 35% invited to engage with alcohol marketing companies on social media. Three-fifths of all children, and 71.4% of boys, reported owning alcohol-related merchandise. The average child was exposed to seven types of alcohol marketing in the week prior to the survey, and this level of exposure was associated with risky drinking behaviours, including binge drinking and drunkenness. [68]

A systematic review of 12 longitudinal studies involving 35,219 participants in Europe, Asia, and the USA found that levels of marketing exposure were positively associated with levels of alcohol consumption, earlier initiation of alcohol use, and subsequent binge drinking among children. The authors reported that after controlling for a range of confounding factors, including peer influence and parental factors, children who were familiar with alcohol branding and had a favourite brand at baseline were 45% more likely to have their first binge drinking experience at follow-up than those who did not meet these criteria.[67] Broader aspects of marketing may target young people specifically. For example, price promotion on alcohol products has been found to increase heavier drinking among young people.[69] Colourful packaging and sugary products may increase the palatability and acceptability of alcoholic beverages among children.[70] Sports targeted at young people which are sponsored by alcohol provide an opportunity to build the brand into the event name and create brand loyalty among young people.[21]

Cultural norms around alcohol use

Age of initiation of alcohol use varies greatly between countries, indicating that social and cultural norms around alcohol play a role in alcohol initiation among adolescents.[34] In Ireland, alcohol has always been at the centre of cultural and social events. Ireland's per capita consumption is ninth highest among the 44 OECD member countries.[6] Findings from a national household survey on alcohol consumption indicated that 75% of alcohol in Ireland is consumed as part of a binge drinking session.[26] A 2019 survey of 1,000 Irish adults, carried out on behalf of the HSE, indicated that 65% of adults surveyed agreed that Irish drinking culture makes it hard to drink within low-risk limits. More than half (53%) indicated that it is easier to enjoy a social event if they have had a drink.[71] Alcohol marketing may also influence social norms around alcohol in Ireland, and it plays a role in shaping children's expectancies and cultural norms around alcohol.[21,72]

Alcohol policies targeting young people in Ireland

Given the association between alcohol marketing and advertising and children's alcohol consumption, public health policies have an important role to play in reducing young people's alcohol consumption, particularly through the regulation of alcohol advertising to young people as well as the price and availability of alcohol.[21] Historically in Ireland, alcohol advertising has been regulated primarily through an industry code of self-regulation. However, research shows that industry self-regulated advertising codes are routinely violated without consequence,[73,74] and young people continue to be disproportionately exposed to alcohol advertising.[73] In Brazil, the USA, and the UK, industry self-regulation was more likely to delay statutory regulation than improve public health.[73] However, in Ireland, the Public Health (Alcohol) Act 2018[75] was signed into law in 2018 and includes several measures that aim to reduce alcohol consumption among children and delay the age of initiation of alcohol consumption. This includes statutory regulation of alcohol advertising – specifically advertising targeting young people and children (see Table 15 for a list of the main marketing and advertising restrictions included in the Act). The WHO has identified regulations restricting the advertising and marketing of alcoholic beverages as one of its "best-buys" alcohol policies.[42] There is established evidence for the effectiveness of these regulations in reducing alcohol harm and its contribution to the overall burden of disease.[21,42] Measures introduced by the Public Health (Alcohol) Act 2018 represent a promising effort to reduce young people's exposure to alcohol marketing in Ireland. However, advertising regulations do not extend to cover online alcohol marketing, which is increasingly being used to target young audiences.[76] An Australian study of alcohol advertising on social media reported that the number of fans of alcohol brands increased by 52% from 2012 to 2014 and total interactions with social media posts by users increased by 9%.[76] Engagement with alcohol brands in this way has been related to increased risk of alcohol use and risky drinking among young people relative to simple exposure to advertising.[67]

There is also evidence to indicate that alcohol sponsorship of major sporting events leads to increased drinking among young people, with France and Norway already banning this practice. A systematic review of seven studies, comprising 12,760 participants, showed that all studies reported positive associations between exposure to alcohol sports sponsorship and self-reported alcohol consumption.[77] Both of the two studies which included data for schoolchildren found that alcohol sports sponsorship was related to increased alcohol consumption and risky drinking among children. Alcohol sports sponsorship where most participants are children will be banned under the Public Health (Alcohol) Act 2018, as will alcohol advertising in sports grounds during events where the majority of competitors are children. However, these measures have yet to be commenced, and the Act does not ban alcohol sponsorship of sports events where the majority of participants are adults. Given the available evidence and the large number of children following alcohol-sponsored events in Ireland, including the Six Nations, one of Ireland's must popular sporting tournaments, this is a concerning omission from the Act.

Young people's alcohol consumption has also been linked to the affordability of alcohol products. Reducing the affordability of alcohol is one of the WHO's "best-buys" to reduce alcohol consumption and related harm.[42] Overall, increasing the price of alcohol, particularly through the introduction of a minimum unit price (MUP) for alcohol, has been associated with population-level reductions in alcohol consumption, as well as alcohol-related morbidity and

mortality.[78] There is evidence that young people may be one of the groups most impacted by an MUP. For example, a modelling study of pricing policies in England found that for young adults aged 18–24 years who are hazardous drinkers, policies that raise the price of alcohol in pubs and bars are the most effective way to reduce alcohol consumption and related harm.[79] Price promotions have also been found to increase heavy drinking among college students.[69] An MUP for alcohol is one of the most important measures included in the Public Health (Alcohol) Act 2018; however, this measure has yet to be commenced.

Table 15 Regulations included in the Public Health (Alcohol) Act 2018 aimed at reducing alcohol consumption and related harms among young people

Measure	Description	Status	Operational
Content of advertising	The content of advertisements will be restricted to specific information about the nature of the product.	Not commenced	
Advertising in cinemas	Advertisements in cinemas will be limited to films classified as over 18s.	Commenced	12 November 2019
Broadcast watershed	There will be a 9.00pm broadcast watershed for advertisements on television and radio.	Not commenced	
Advertisements in publications	The marketing and advertising of alcohol in print media will be restricted in relation to volume and type of publication.	Not commenced	
Prohibition on advertising in certain places	There will be a ban on advertising alcohol products: • In or near a school • In or near an early years service (e.g. early years service/crèche) • In a park, open space, or playground owned or maintained by a local authority • On public transport, and • In a train or bus station, and at a bus or Luas stop.	Commenced	12 November 2019

Measure	Description	Status	Operational
Children's clothing	The Act will restrict the sale of children's clothing which promotes alcohol consumption or is branded with a product name, trademark, emblem, marketing image, or logo of an alcohol brand/product.	Commenced	12 November 2019
Sponsorship of events aimed at children	With the exception of motorsport, the Act does not ban alcohol sponsorship of sport. However, Section 15 of the Act prohibits advertising in sports grounds for events where the majority of competitors or participants are children, or directly on a sports area for all events (e.g. on the actual pitch, the race track, tennis court, etc.). Alcohol sponsorship of other events aimed at children, or where most of the participants are children, will also be prohibited under Section 16 of the Act.	Commenced	12 November 2021
Minimum unit price (MUP)	An MUP for all alcohol products will be introduced and set at 10 cent per gram of alcohol in the product. Unlike a tax increase where a retailer can choose to absorb the increase in price, the MUP will be compulsory across all alcohol products. Under the new legislation: • A 750 ml bottle of wine with an ABV of 12% will cost a minimum of €7.10. • A 700 ml bottle of vodka with an ABV of 35% will cost a minimum of €20.71. • A 500 ml can of beer with an ABV of 5% will cost a minimum of €1.97.	Not commenced	

Alcohol use among young people in Ireland

There are several studies and surveys in Ireland which have explored alcohol consumption among school-aged children in Ireland. The European School Survey Project on Alcohol and Other Drugs (ESPAD) collects data from 15–16-year-old schoolchildren regarding alcohol and other substance use. Growing Up in Ireland, a longitudinal study of Irish children, has collected data on alcohol and substance use among its child cohort, who were recruited in 2008 at age 9 years and were 20 years old at the last wave of data collection (2018/19). The My World Survey[80] also collected data on alcohol use, substance use, and mental health among adolescents and young adults in 2012 and 2019.[81]

Health Behaviour in School-aged Children study

For the purposes of this overview, we used data from the Health Behaviour in School-aged Children (HBSC) study to report on alcohol use among children in Ireland. The HBSC study is a cross-national research study conducted in collaboration with the WHO Regional Office for Europe and runs on a four-year cycle. In 2018, Ireland participated for the sixth time in the HBSC study. The study collects data on key indicators of health, health attitudes, and health behaviours – including alcohol use – among young people. The study is a school-based survey, with information collected from students through self-completion questionnaires in classrooms. The most recent Irish HBSC study included 15,557 schoolchildren from 3rd class in primary school to 5th year in post-primary school. An analysis on alcohol use among 5,625 children aged 13–17 years who participated in the HBSC study was prepared for the HRB by members of the Health Promotion Research Centre at the National University of Ireland, Galway (NUIG). The findings of that report are presented below.

82% of schoolchildren

have consumed their first alcoholic drink by the age of 17 years

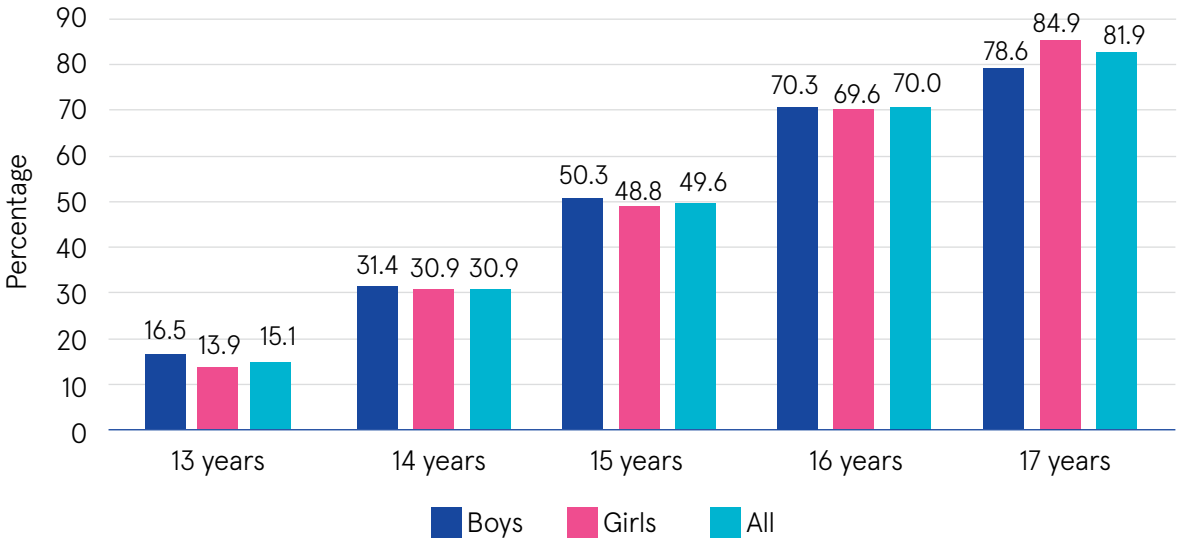
The proportion of schoolchildren that have ever been drunk ranged from

5% of 13-year-olds **to** **62%** of 17-year-olds

Lifetime alcohol use

Eight in ten children (81.9%) had consumed their first alcoholic drink by the age of 17 years. Use of alcohol increased with each year of age. Across all age groups, a similar proportion of girls and boys had consumed alcohol (Figure 19).

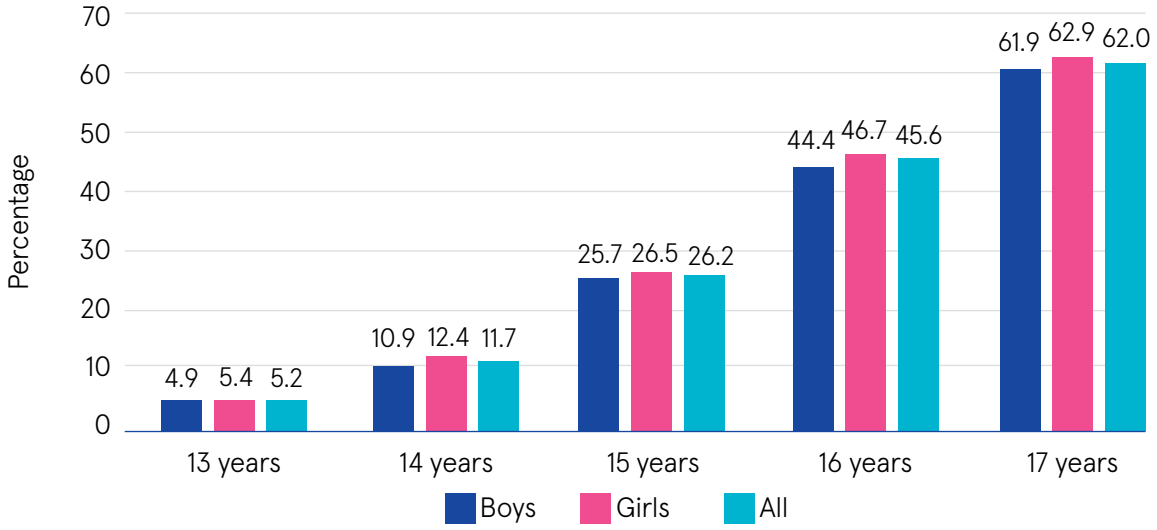
Figure 19 Percentages of schoolchildren reporting that they had ever had an alcoholic drink in their lifetime, by gender and age



Lifetime drunkenness

Overall, 16% of boys and 17% of girls report having ever been 'really drunk'. As shown in Figure 20, the prevalence of lifetime drunkenness was higher among older teenagers, with almost two-thirds (62.0%) of 17-year-olds reporting having been 'really drunk' in their lifetime, compared with just 5.2% of 13-year-olds. Prevalence of lifetime drunkenness was slightly higher among girls across all ages. This is the first time since the HBSC began collecting data that girls have reported higher rates of lifetime drunkenness than boys. This finding is of concern, as research indicates that girls may be more susceptible to the neurotoxic effects of alcohol on the adolescent brain than boys.[33]

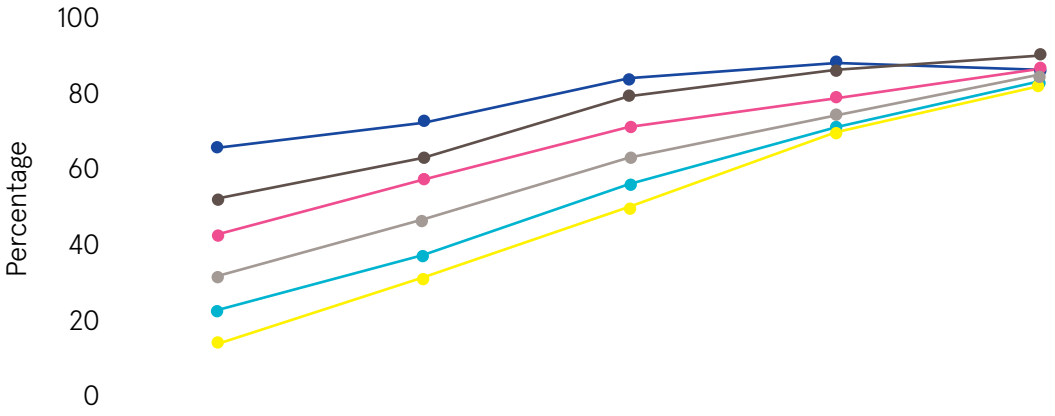
Figure 20 Percentage of schoolchildren reporting that they had ever been 'really drunk', by age and gender



Trends in lifetime alcohol use and drunkenness, 1998–2018

Since the first HBSC study in 1998, there has been a steady increase in the age of initiation of alcohol use among schoolchildren (Figure 21). In 1998, 65.6% of 13-year-olds and 72.0% of 14-year-olds had consumed alcohol in their lifetime, compared with 15.1% of 13-year-olds and 30.9% of 14-year-olds in 2018. However, alcohol use among 17-year-olds remained relatively consistent in each of the six studies conducted between 1998 and 2018 (Figure 21).

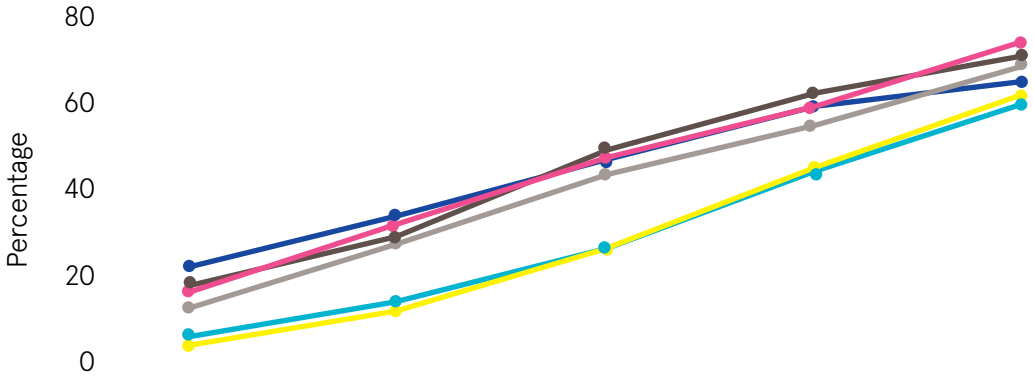
Figure 21 Trends in lifetime use of alcohol among school-aged children, 1998–2018



	13 years	14 years	15 years	16 years	17 years
1998	65.6	72.0	82.0	87.0	85.1
2002	52.1	63.0	78.5	85.6	89.5
2006	43.1	57.0	69.9	78.0	85.6
2010	32.0	47.0	63.0	73.7	84.7
2014	23.2	37.6	55.7	71.1	83.3
2018	15.1	30.9	49.6	70.0	81.9

Levels of lifetime drunkenness also steadily decreased between 1998 and 2018. As shown in Figure 22, this decrease is most evident among 13–15-year-olds, with a smaller decrease observed among 17-year-olds.

Figure 22 Trends in lifetime drunkenness among school-aged children, 1998–2018

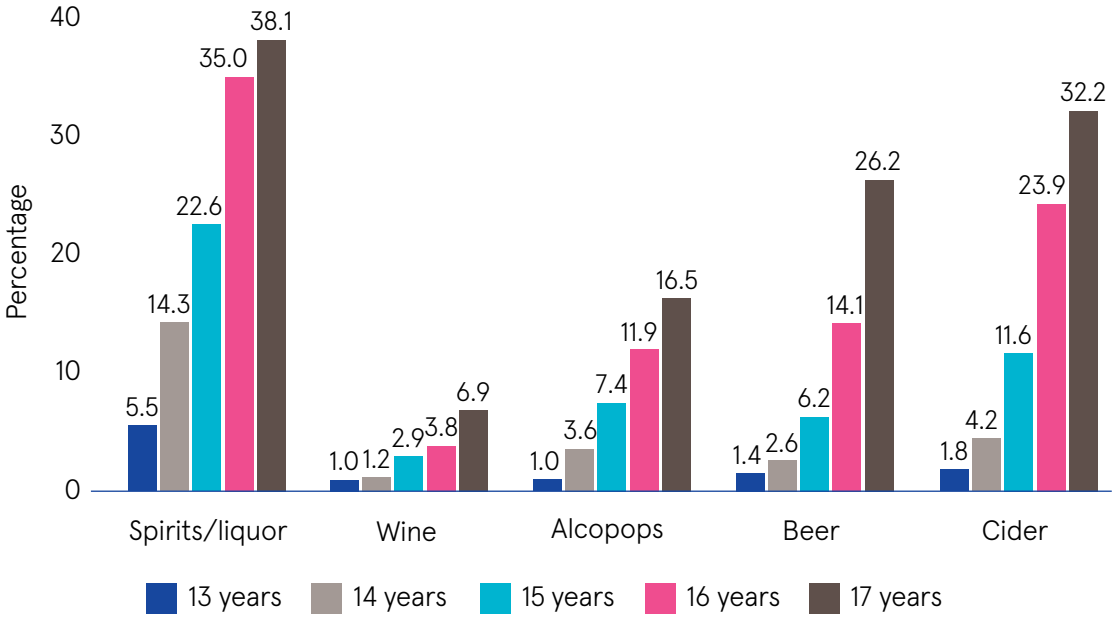


	13 years	14 years	15 years	16 years	17 years
1998	22.3	34.1	47.5	58.7	64.5
2002	17.9	30.2	49.2	62.2	70.9
2006	16.9	31.5	47.1	58.9	72.8
2010	13.1	27.4	43.9	54.7	68.8
2014	5.7	13.8	26.5	44.4	60.5
2018	5.2	11.7	26.2	45.6	62.0

Type of alcohol consumed

In the 2018 HBSC survey, children were asked about the frequency at which they consumed five types of alcoholic drink: spirits/liquor, wine, beer, cider, and alcopops. Figure 23 shows the proportion of 13–17-year-olds who reported drinking each of these types of drinks on a monthly basis. Spirits/liquor was the most popular type of alcoholic drink among all age groups. Almost two-fifths of 17-year-olds (38.1%) reported drinking spirits or liquor on a monthly basis. A considerable minority of younger children, including 5.5% of 13-year-olds and 14.3% of 14-year-olds, also reported monthly consumption of spirits/liquor. Beer and cider were the next most commonly consumed alcoholic drinks among teenagers, followed by alcopops. The high consumption of spirits among children in Ireland is of concern, given that spirits have the highest alcohol by volume content of any alcoholic beverage. Given children's increased vulnerability to the acute effects of alcohol, consuming high-strength alcohol products such as spirits, even in small quantities, may greatly increase a child's risk of acute alcohol harms including injuries, falls, and alcohol poisoning.[82]

Figure 23 Type of alcohol consumed by school-aged children on a monthly basis

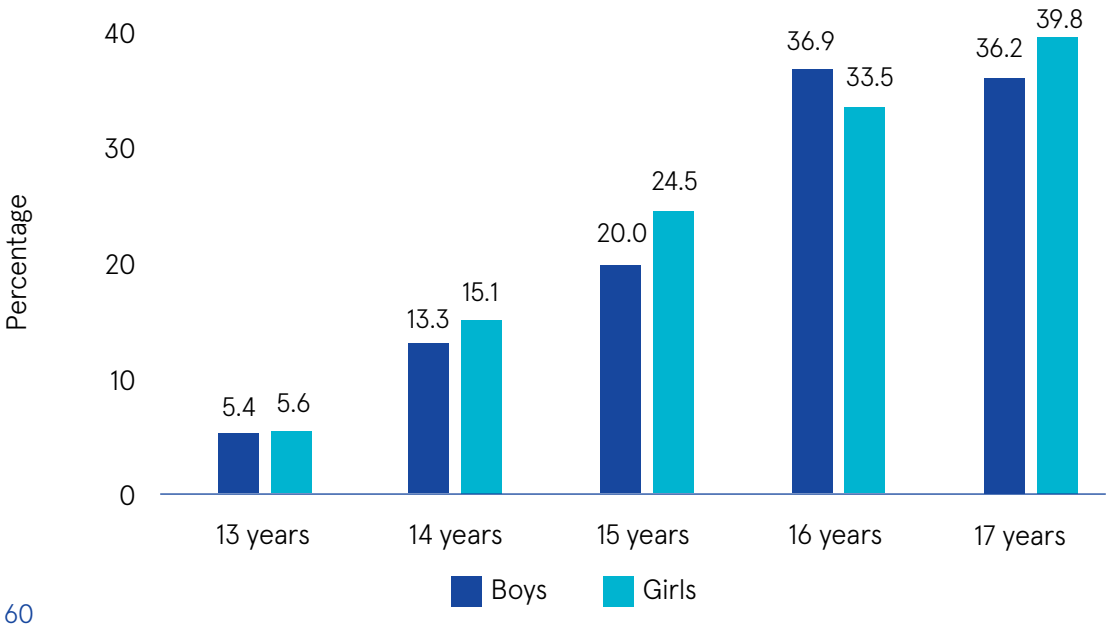


Gender differences across beverage types

Spirits/liquor

Monthly consumption of spirits/liquor was relatively similar between boys and girls (Figure 24). Consumption was highest among 17-year-old girls, with almost two-fifths (39.8%) reporting drinking spirits or liquor monthly.

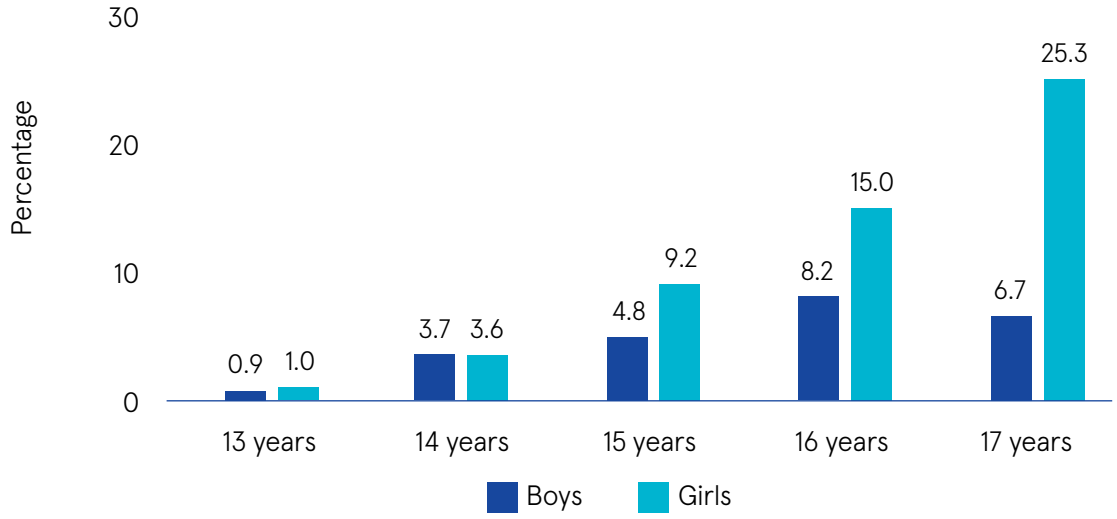
Figure 24 Proportion of school-aged children who reported drinking spirits/liquor on a monthly basis, by age and gender



Alcopops

Alcopops were considerably more popular among girls than boys (Figure 25). One-quarter (25.3%) of 17-year-old girls reported drinking alcopops monthly, compared with just 6.7% of 17-year-old boys.

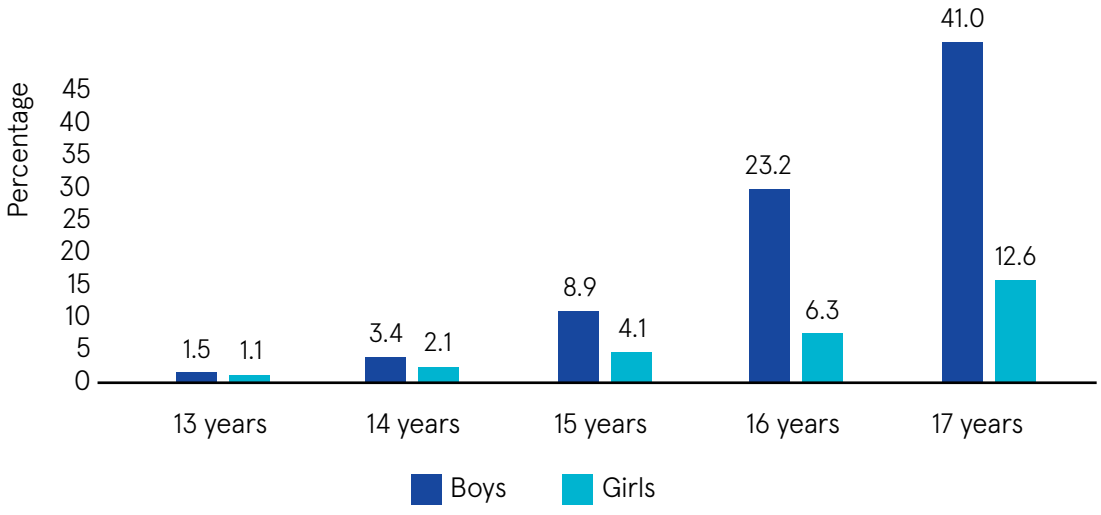
Figure 25 Proportion of school-aged children who reported drinking alcopops on a monthly basis, by age and gender



Beer

Beer was considerably more popular among boys in every age group than among girls (Figure 26). Four in ten (41.0%) 17-year-old boys reported drinking beer on a monthly basis compared with just one in ten (12.6%) 17-year-old girls.

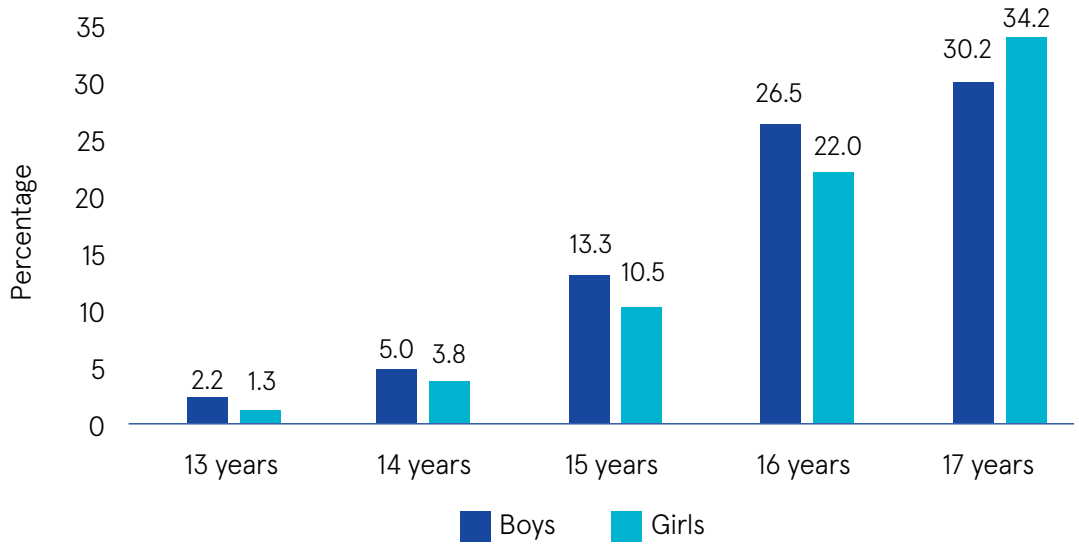
Figure 26 Proportion of school-aged children who reported drinking beer on a monthly basis, by age and gender



Cider

Overall, girls and boys reported drinking cider at similar levels (Figure 27). Among 17-year-olds, cider consumption was slightly higher among girls, with 34.2% of 17-year-old girls reporting drinking cider on a monthly basis compared with 30.2% of boys.

Figure 27 Proportion of school-aged children who reported drinking cider on a monthly basis, by age and gender



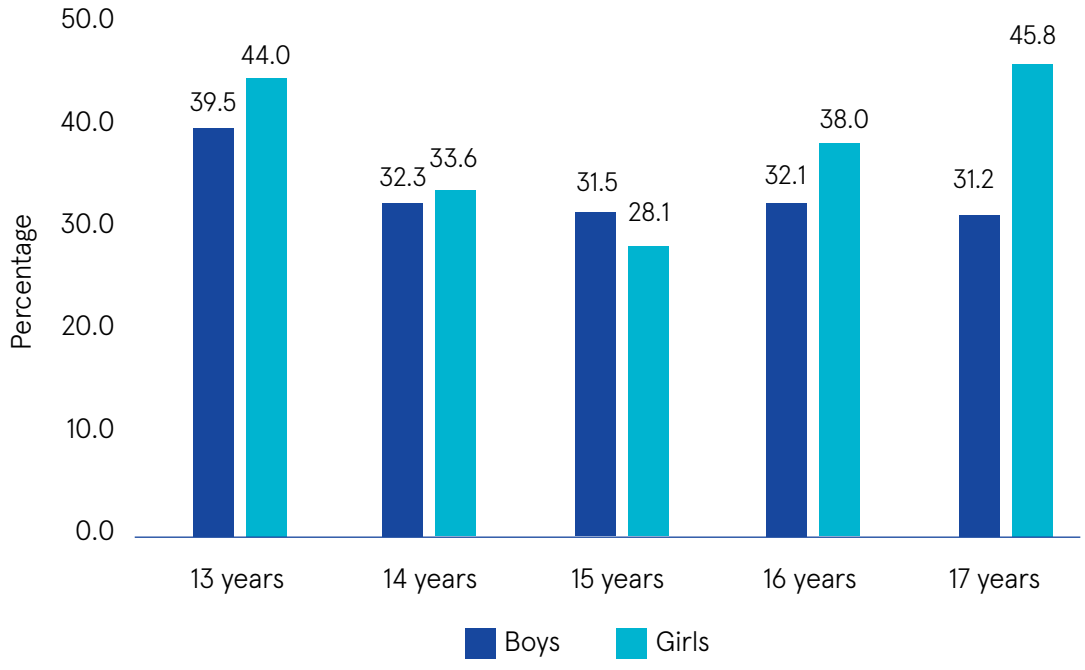
Although spirits were the most popular choice of alcohol overall among both girls and boys, there were some gender differences observed in the choice of different types of alcohol, particularly in terms of greater consumption of alcopops among girls and beer among boys. However, girls and boys were more or less equal in terms of their cider consumption. Although it is unclear exactly what mechanisms are underlying these gender differences in choice of alcoholic beverage, gendered alcohol marketing may play a role. Alcopops – pre-mixed spirits, often in colourful packaging – have been developed to target females specifically, as have new ciders with sweet and fruity flavours.[83] Research exploring young women's drinking suggests that girls have a clear perception of which drinks are marketed as 'feminine' and may choose their drinks accordingly.[84] Further research on young people's display of drinking on social media, carried out in the UK,[70,84] found that being seen with the 'right' alcoholic drink for one's gender was important for social status. This may partially explain the popularity of alcopops and cider among young girls in Ireland. Although beer was considerably more popular among boys than among girls, cider was equally popular across both genders. Further research is needed in Ireland to explore if this is due to increased marketing of fruity flavoured ciders in colourful packaging, which are intended to appeal to a female audience.

Alcohol procurement

In the 2018 HBSC survey, children were asked where they got alcohol from on their last drinking occasion. This is the first time that this question has been included in the HBSC survey. For all ages, with the exception of 15-year-olds, getting alcohol from parents and guardians was the most common way children obtained alcohol. Getting alcohol from a friend was also common among all age groups, as was getting someone to buy alcohol on their behalf (see Table 16).

Figure 28 shows that girls, especially older girls, were more likely than boys to report receiving alcohol from their parents. A considerable number of younger teenagers also reported being provided alcohol by their parents. Of 13-year-olds who drank, 42% reported having been given alcohol by a parent or guardian on their last drinking occasion (Table 16). Although parental provision of alcohol may be an attempt to introduce children to alcohol in a 'safe' environment, there is robust evidence to indicate that parental provision of alcohol is linked to earlier initiation of alcohol use, drunkenness, and alcohol misuse among adolescents.[39,56] In the UK, guidelines from the Chief Medical Officer advise parents that they should not give alcohol to children under the age of 15 years. [85] However, no such guidance exists in Ireland. Given both the acute and long-term harms associated with drinking in adolescence, the trend towards parental provision of alcohol is of concern. Supply of alcohol to girls and younger adolescents is particularly concerning, given that these groups are more susceptible to the adverse effects of alcohol on the developing brain.[33]

Figure 28 Percentage of 13–17-year-olds who got their last alcoholic drink from their parents/ guardians, by age and gender



Purchasing alcohol in licensed premises was common among older teenagers (Table 16). One-fifth (19.4%) of 16-year-olds and almost two-fifths (38.1%) of 17-year-olds reported that they last drank alcohol at a bar, pub, or disco. Some 12% of 17-year-olds and 8% of 16-year-olds reported purchasing alcohol in supermarkets and shops the last time they consumed alcohol. A smaller proportion of 16-year-olds (6%) and 17-year-olds (7%) reported buying alcohol in off-licences. The proportion of children purchasing alcohol online was less than 1% for all age groups. These findings highlight that a considerable share of children are consuming and purchasing alcohol in licensed premises, which is against the law in Ireland.

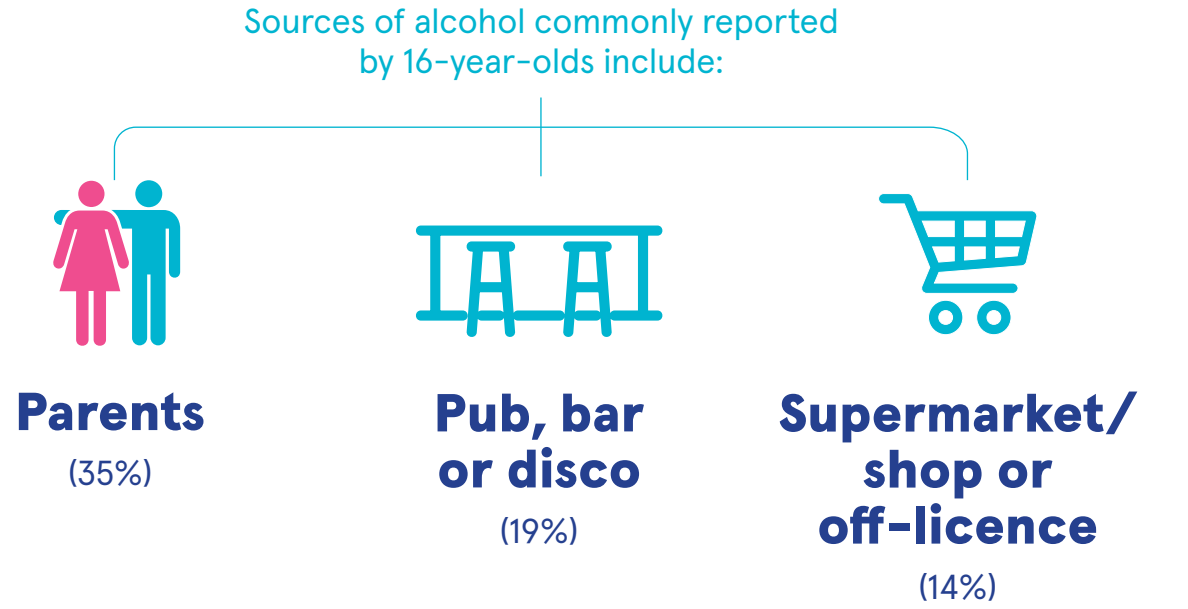


Table 16 Source of alcohol procurement, by age and gender

Boys

	13 years	14 years	15 years	16 years	17 years
Parent/guardian	39.5	32.3	31.5	32.1	31.2
Took it from home	4.7	17.2	8.1	8.0	8.6
Supermarket/shop	2.3	2.5	3.7	8.0	15.4
Garage shop	0.0	1.0	0.6	1.1	1.8
Bought at off-licence	2.3	1.5	3.1	6.3	10.8
Pub/bar/disco	2.3	3.0	9.0	18.7	42.7
Ordered online and had it delivered	0.0	1.0	0.3	0.8	1.4
Friend gave to me	27.9	26.3	32.4	26.1	24.0
Brother(s)/sister(s)	11.6	8.6	8.1	8.2	4.3
I gave someone money to buy it	7.0	11.6	22.1	22.0	13.3
Some other way	14.0	19.7	10.3	6.9	3.9

Girls

	13 years	14 years	15 years	16 years	17 years
Parent/guardian	44.0	33.6	28.1	38.0	45.8
Took it from home	18.0	17.0	13.3	10.4	7.2
Supermarket/shop	0.0	0.4	3.9	7.3	9.6
Garage shop	0.0	0.0	0.7	1.9	0.9
Bought at off-licence	0.0	2.0	3.4	5.7	4.2
Pub/bar/disco	2.0	0.8	7.0	20.0	34.3
Ordered online and had it delivered	0.0	0.0	0.2	0.5	0.0
Friend gave to me	24.0	36.4	37.0	32.3	25.0
Brother(s)/sister(s)	10.0	10.7	9.7	11.8	9.0
I gave someone money to buy it	14.0	15.8	29.3	26.9	21.9
Some other way	12.0	8.7	8.5	3.8	1.2

All					
	13 years	14 years	15 years	16 years	17 years
Parent/guardian	41.9	33.0	29.6	35.3	39.1
Took it from home	11.8	17.1	11.0	9.3	7.9
Supermarket/shop	1.1	1.3	3.8	7.6	12.3
Garage shop	0.0	0.4	0.7	1.5	1.3
Bought at off-licence	1.1	1.8	3.3	6.0	7.2
Pub/bar/disco	2.2	1.8	7.9	19.4	38.1
Ordered online and had it delivered	0.0	0.4	0.3	0.6	0.7
Friend gave to me	25.8	31.9	35.0	29.4	24.5
Brother(s)/sister(s)	10.8	9.8	9.0	10.2	6.9
I gave someone money to buy it	10.8	14.0	26.2	24.6	17.7
Some other way	12.9	13.5	9.3	5.2	2.5

Ease of access to alcohol

Children, especially those aged 15–17 years, were likely to report that it would be easy or very easy to get someone to buy alcohol for them (Figure 29). Children were less likely to perceive buying alcohol themselves as easy or very easy. Girls aged 16 (31.1%) and 17 (38.9%) were most likely to think that it would be easy or very easy to buy alcohol themselves (Figure 30).

Figure 29 Proportion of school-aged children who thought it would be easy or very easy to get someone to buy alcohol for them, by age and gender

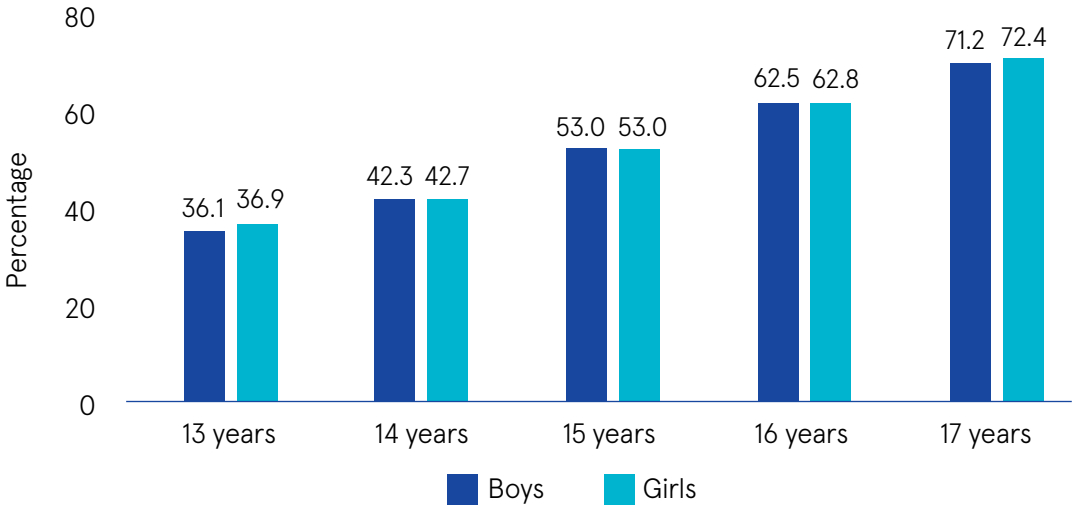
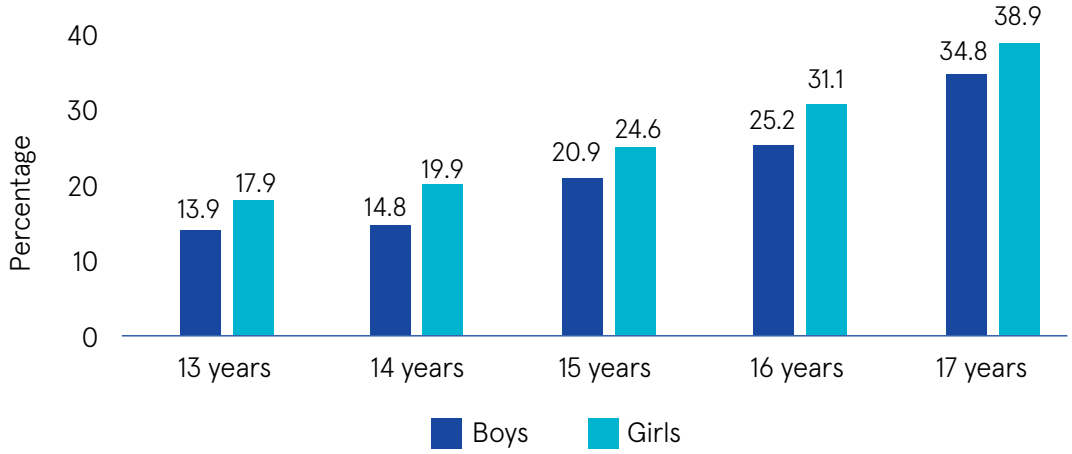


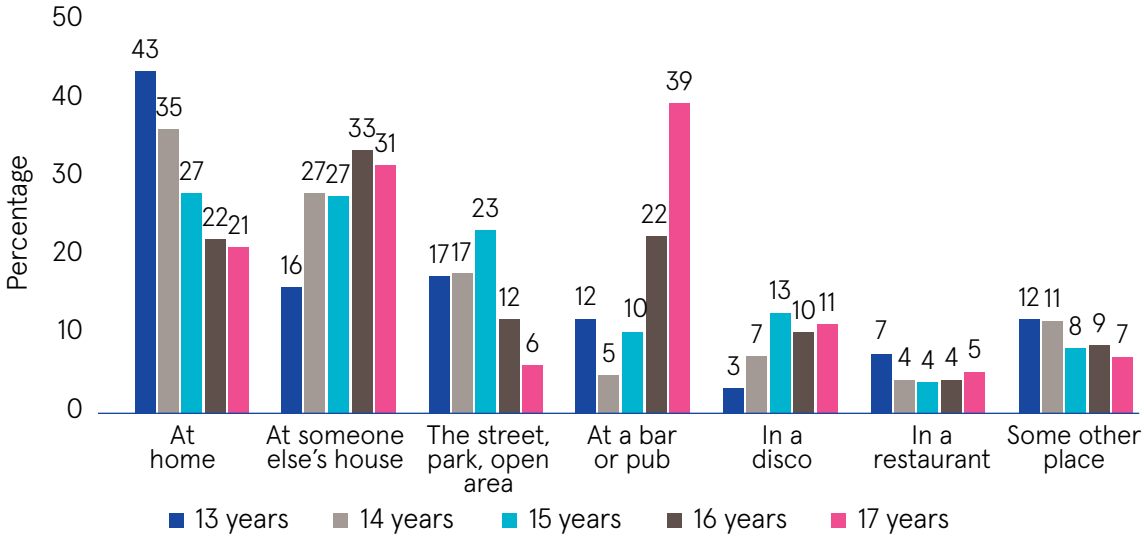
Figure 30 Proportion of school-aged children who thought it would be easy or very easy to buy alcohol themselves, by age and gender



Location of alcohol consumption

As presented in Figure 31, with the exception of 17-year-olds, drinking at home or in someone else's house were the most commonly reported locations of alcohol consumption among children. A higher proportion of younger children who drink reported drinking alcohol at home compared with older teenagers. Drinking alcohol in a bar or pub was more commonly reported among older children than among younger children. Two-fifths (39.1%) of 17-year-olds who drink alcohol reported drinking in a pub or bar on the last occasion they consumed alcohol, compared with 11.8% of 13-year-olds who drink alcohol.

Figure 31 Location of most recent alcohol consumption, by age



Alcohol and adolescent mental health

Alcohol use in adolescence has been found to co-occur with the development of mental health disorders which also tend to emerge during late adolescence.[50] The relationship between alcohol use and mental health disorders is complex, and it is not clear whether alcohol use predisposes people to develop mental health problems, or if people begin drinking in order to alleviate symptoms of existing anxiety or depression. Longitudinal studies indicate that the relationship may be largely due to shared risk factors[86] rather than being a causal relationship.

Alcohol has also consistently been related to increased risk of self-harm and suicide, particularly among young males experiencing depression.[87] Alcohol may decrease inhibition and increase impulsivity, while at the same time exacerbating feelings of hopelessness and despair, indicating a plausible causal role of alcohol in suicide.[88] However, as with other mental health disorders, heavy alcohol use and suicide share common risk factors, including adverse childhood experiences and diagnosis of a psychiatric condition, which may account for some of the increased risk of suicidality among heavy drinkers.[89]

Finally, alcohol use has been linked to polysubstance use among young people. Adolescents who initiate substance use early and regularly use any substance, including alcohol, are much more likely to use other substances.[34] For example, in high-income countries, young people who begin consuming alcohol and tobacco in mid-adolescence are much more likely to use cannabis; and early, regular cannabis users are more likely to use amphetamines, cocaine, and heroin.[90]

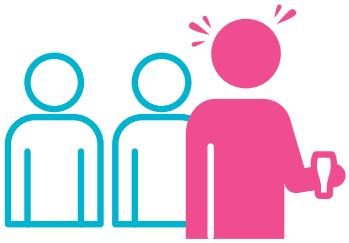
Alcohol use and mental health among young people in Ireland

The My World Survey

The My World Survey is a comprehensive study of youth and adolescent mental health and well-being in Ireland, developed by the University College Dublin (UCD) School of Psychology together with Jigsaw, the youth mental health charity. The My World Survey is a cross-sectional survey and has been carried out at two time points. My World Survey 1 (MWS-1) was published in 2012, and My World Survey 2 (MWS-2), a follow-up to MWS-1, was published in 2019. The survey population for MWS-2 was made up of 10,459 adolescents (aged 12–19 years) from 83 secondary schools and 8,290 young adults aged 18–25 years in third-level education or employment.[80] A seldom-heard group – consisting of 314 young people in Youthreach, 292 young people in colleges of further education/community training, and 52 young people with physical disabilities – was also recruited. Altogether, 19,407 young people and adolescents took part in the survey. Females made up 56% of the adolescent participants and 69% of the young adult participants. The Alcohol Use Disorders Identification Test (AUDIT), a 10-item tool used to screen for hazardous and harmful drinking,[91] was used to classify young people into one of four categories of drinkers: low risk, problem drinking, hazardous drinking, and possible alcohol dependence. This overview summarises some of the key findings from MWS-2 in relation to adolescents' and young people's alcohol behaviours and their association with mental health and well-being.

Adolescent findings

Findings from the MWS-2 indicate a clear link between harmful and hazardous levels of alcohol consumption and psychological distress among adolescents.[80] Adolescents classified as low-risk drinkers were most likely to fall within the normal range for depression (55%). In contrast, those classified as problem drinkers or hazardous drinkers were most likely to fall within the severe category for depression (17%), and those classified as having possible alcohol dependence were most likely to be in the very severe category for depression (33%). A similar pattern emerged for anxiety. One-half (50%) of those identified as low-risk drinkers fell within the normal range for anxiety, compared with just one-fifth (22%) of those with possible alcohol dependence. Some 16% of those identified as low-risk drinkers reported very severe anxiety compared with 37% of those with possible alcohol dependence. Alcohol use was also related to negative outcomes in other domains. Those in the problem drinking, hazardous drinking, and possible alcohol dependence categories were more likely to report absenteeism from school. They also showed significantly higher levels of avoidance-based coping compared with low-risk drinkers. Adolescents in the problem drinking, hazardous drinking, and possible alcohol dependence categories also displayed significantly lower levels of school connectedness, peer connectedness, optimism, family support, adult support, and family cohesiveness than those in the low-risk category. Hazardous drinkers and possible dependent drinkers also reported lower levels of personal competence, friend support, and self-esteem relative to low-risk drinkers. Those who reported having very low or low levels of support from a special adult were more likely to fall into the possible alcohol dependence category.



There is a clear link between harmful and hazardous levels of alcohol consumption and psychological distress among adolescents in Ireland

37% of those with possible alcohol dependence reported **very severe anxiety** compared with

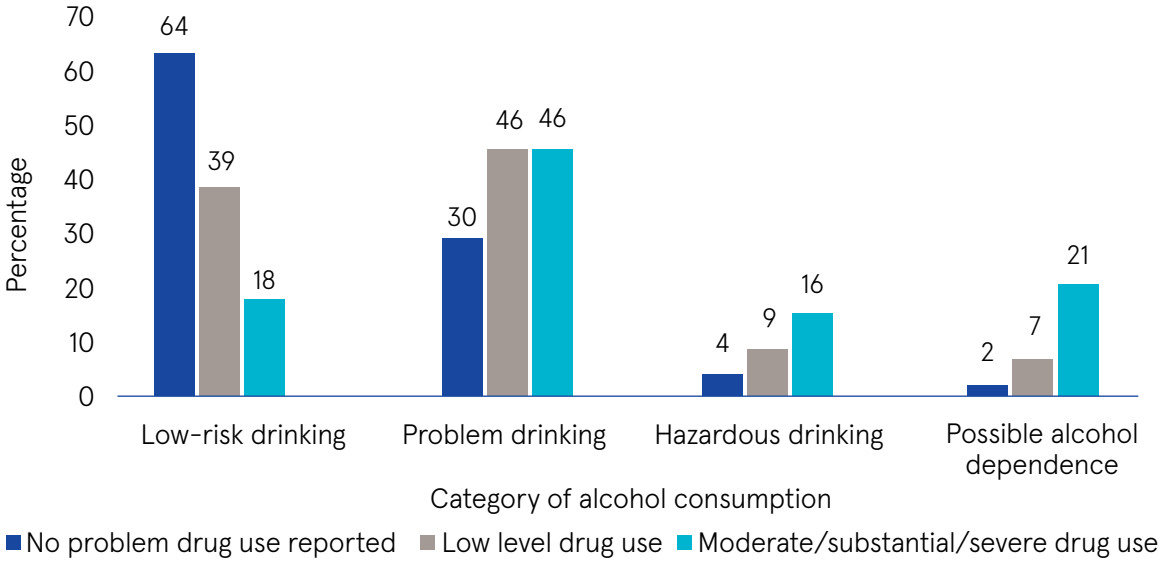
16% of low-risk drinkers

Young adults

A similar link between alcohol use and psychological distress was found among young adults in the MWS-2. [80] Young adults classified as having possible alcohol dependence were more likely than those in any of the other alcohol behaviour groups to be in the very severe category for anxiety. Furthermore, young adults who were in the problem drinking and hazardous drinking categories were more likely to be in the moderate range for anxiety. Similarly, young adults in the possible alcohol dependence category were more likely to be in the moderate, severe, and very severe ranges of depression than those in any other drinking behaviour category. Young adults who had made a suicide attempt were also more likely to be in the possible alcohol dependence category.

Young males who reported having attempted suicide were most likely to be in the hazardous drinking category. Alcohol use was strongly associated with drug use in young adults, indicating polysubstance use among young adults. Young adults classified in the moderate/substantial/severe category for drug use were more likely to be in the problem drinking, hazardous drinking, or possible alcohol dependence categories for alcohol use than young people who did not report any drug problems (Figure 32).

Figure 32 Drug use among young adults, by AUDIT drinking category



Harms to children from others' drinking

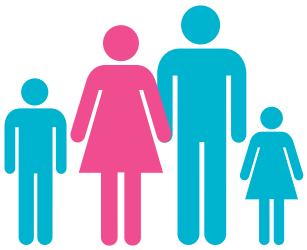
Research shows that children may be particularly vulnerable to harms from others' drinking, including within families, among peers, and in the wider community.[92] A recent Irish study of 2,005 adults explored harms experienced due to others' drinking.[93] The study found that one in six carers (16%) reported that children for whom they had parental responsibility experienced harm as a result of someone else's drinking. The most common specific harm to children reported was that a child was negatively affected (12%), followed by verbal abuse (9%), a child witnessing serious violence in the home (4%), there not being enough money for the child's needs (3%), and a child protection agency or family services having to be called (1%). Carers from the lowest household weekly income group (under €385/week) and carers who were separated were more likely to report harm to children due to others' drinking. The most common person mentioned as being responsible for harm to children was a parent/step-parent (64%), followed by a relative (19%), others (15%), and a family friend or person the children encounter such as a sports coach, teacher, or priest (2.5%).

Harms to children from a parent's dependent drinking

The acute and chronic outcomes of growing up with a parent who has an alcohol use disorder (AUD) have been well documented in the literature. Children of parents with an AUD are more likely to misuse substances, develop psychiatric problems, have poor-quality relationships with their parents, have lower self-esteem, and have emotional difficulties compared with young people of parents without AUDs.[94-98] Having a parent with an AUD often co-occurs with other developmental risk factors, including family conflict or violence as well as physical, verbal, and sexual abuse, further increasing a child's vulnerability to adverse outcomes.[92,99]

Harms to children from non-dependent parental drinking

Harm to children associated with parental drinking that does not reach clinical significance has been the focus of less research. However, the impact of parental drinking at harmful (but not dependent) levels is important, as these patterns may be highly prevalent in the general population.[100] Research from the UK indicates that children are aware of their parent's drinking from an early age, including episodes of heavy drinking.[101] Non-dependent parental drinking is associated with earlier alcohol use initiation, drunkenness, adolescent alcohol misuse,[39] and alcohol-related hospitalisation later in life.[60] However, parental alcohol use may result in other negative outcomes for children. Findings from almost 1,000 children and their parents in the UK indicated that 35% of children aged 10–17 years had experienced at least one negative outcome from their parents' drinking, including unpredictable parenting, less attention, missing a family event, and increased family conflict. Witnessing a parent drunk or tipsy and having a parent who reported mostly negative drinking motivations were associated with increased likelihood of children reporting negative outcomes.[40]



At least one in three children in Ireland live with

one parent who binge drinks or is dependent on alcohol

One in six carers (16%)

reported that children for whom they had parental responsibility experienced harm as a result of someone else's drinking

Children living with parents with harmful drinking patterns in Ireland

We analysed data from the 2014/2015 General Population Survey on Drug Use and Gambling to estimate the number of children in Ireland living with a parent who regularly binge drinks or who is dependent on alcohol. This survey was nationally representative, with a sample size of 7,005 individuals aged 15 years and over living in private households in Ireland. Of the 7,005 survey participants, 34.7% (n=2,428) had children under the age of 18 living in the same household. Data on drinking patterns were available for 2,411 parents of 4,834 children.

Parents were categorised as non-drinkers, low-risk drinkers, regular heavy episodic drinkers (HED), and dependent drinkers according to their drinking patterns. Dependent drinkers were classified as drinkers who met (DSM-IV) criteria for alcohol dependence. Regular heavy episodic drinkers were defined as those consuming six or more standard drinks in a single sitting, on a monthly basis. Low-risk drinkers were defined as those who drank in the past year, but did not meet the criteria for regular HED or alcohol dependence. Population estimates were calculated using 2019 population estimates from the Central Statistics Office (CSO).[2]

Drinking patterns of parents in the survey are presented in Table 17. One-fifth (19.6%) of parents were non-drinkers, and almost half (47.5%) were low-risk drinkers. More than one-quarter of parents (27.6%) engaged in regular HED, while 5.2% were classified as dependent on alcohol (Table 17). Table 17 shows the number of children who had a parent in each drinking category. This was multiplied up to the population level using the CSO's 2019 population estimates of the number of children aged 17 years and under.[2] As seen in Figure 33, most children in Ireland are living with parents who are non-drinkers or low-risk drinkers. However, there are an estimated 325,291 children living with at least one parent who binge drinks regularly, and a further 56,745 children living with at least one parent who is dependent on alcohol. These figures indicate that almost one-third (31.7%) of children in Ireland are living with at least one parent who is either a regular binge drinker or dependent on alcohol. Considering that general population surveys often fail to capture the heaviest drinkers[102] and that survey respondents tend to under-report their alcohol consumption, the true number of children living with at least one parent who is dependent on alcohol or is a regular binge drinker is likely higher than the figures reported here.

Table 17 Number of parents in the survey by drinker type, and total number of children by parent drinker type

	Non-drinker (n=473)	Low-risk drinker (n=1,146)	Regular binge drinker (n=666)	Dependent drinker (n=126)
Percentage of parents	19.6	47.5	27.6	5.2
Number of children	983	2,316	1,307	228
Percentage of children	20.3	47.9	27.0	4.7

Figure 33 Population estimate of number of children in Ireland living with a parent in each drinking category

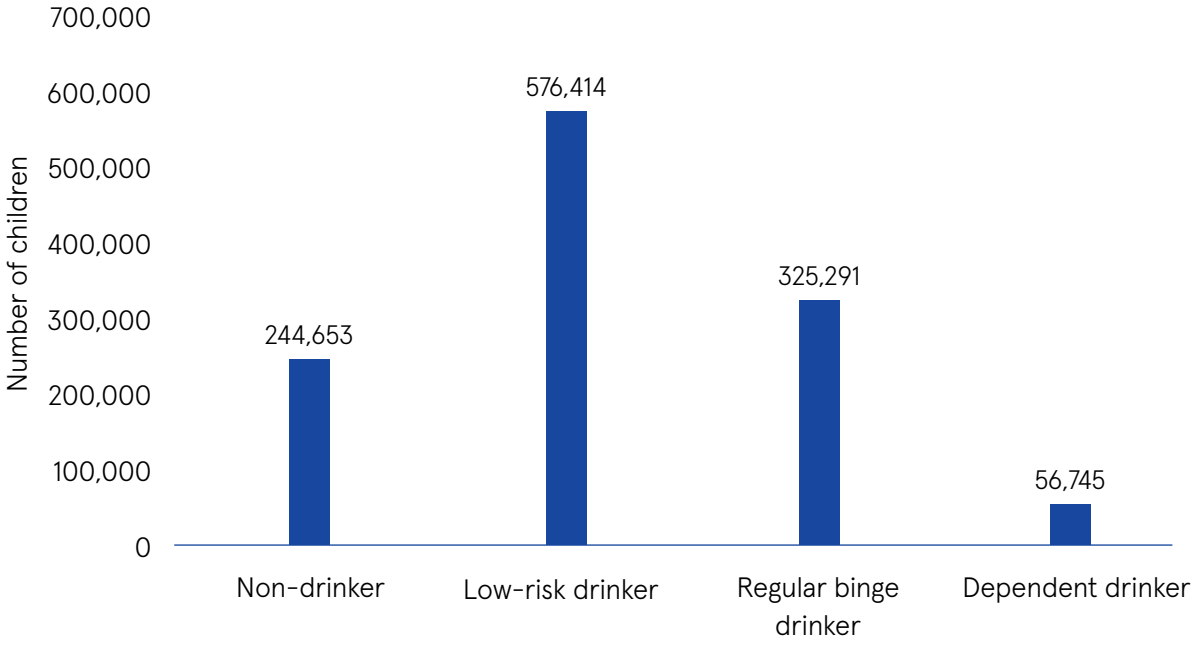


Table 18 shows the characteristics associated with each parental drinking type. Parents who were dependent on alcohol were younger, more likely to be single or separated, and more likely to be from a lower socioeconomic class compared with parents in the lower-risk drinking categories. There was also a higher prevalence of smoking and illicit drug use among parents who were dependent on alcohol. Parents who reported binge drinking regularly were also more likely to smoke and use illicit drugs compared with low-risk drinkers and non-drinkers. These findings indicate that children who are living with parents who are dependent on alcohol or who regularly binge drink are more likely to be exposed to additional risk factors, including illicit drug use and social deprivation. Given the estimates that there are more than 55,000 children living with an alcohol-dependent parent in Ireland and a further 325,000 children living with a parent with a hazardous pattern of drinking, early intervention and prevention for these children should be an important priority. The introduction of population-based measures in the Public Health (Alcohol) Act 2018, such as minimum unit pricing and structural separation of alcohol products, may also reduce parental drinking and harm to children through an overall reduction in population-level alcohol consumption.

Table 18 Characteristics of parents living with children aged 17 years or under, by drinker type

	Non-drinker (n=473)	Low-risk drinker (n=1,146)	Regular binge drinker (n=666)	Dependent drinker (n=126)
Parent				
Father	33.7	33.6	64.0	52.7
Mother	66.3	66.4	36.0	47.3
Age group				
15–34	36.4	26.3	31.8	41.3
35–44	34.7	45.4	38.7	40.3
45+	28.9	28.4	29.5	18.4
Marital status				
Single/never married	11.1	7.5	10.2	21.4
Married/cohabiting	84.7	88.8	86.4	70.4
Divorced/separated/ widowed	4.2	3.7	3.4	8.2
Social class				
ABC1	39.1	54.5	48.3	38.2
C2DE	57.5	42.0	49.3	61.8
F	3.4	3.5	2.4	0.0
Housing tenure				
Owned	53.4	71.0	72.7	50.6
Rented	45.2	27.8	24.9	36.1
Living with friends/family	1.2	0.7	2.1	11.5
Other	0.3	0.5	0.3	1.8
Smoking				
Yes	24.5	18.0	31.3	54.0
Illicit drug use				
Yes	1.3	1.9	6.5	20.9

Alcohol and older people

As we grow older, it takes our bodies longer to eliminate alcohol from the blood due to physiological changes, including decreases in body water composition, hepatic function, and blood flow.[103-106] Older adults may experience an increased duration and peak ethanol concentration from alcohol consumption. High rates of HED reported among older men in the Healthy Ireland Survey are therefore a concerning public health issue. This is especially true given that age-related increases in health morbidities are exacerbated by alcohol use[107] and alcohol may interact adversely with prescription drugs commonly taken by older adults.[108] Taken together, these factors suggest that older adults may benefit most from a reduction in alcohol consumption.[106]

As older adults tend to drink less than younger drinkers, the impact of alcohol consumption among older people is often overlooked in research studies.[106] However, findings from the Healthy Ireland Survey outlined earlier in this report indicate high levels of hazardous drinking patterns among adults aged 65 years and over in Ireland. In the 2016 Healthy Ireland Survey, one-third (33.5%) of those aged over 65 years were classified as hazardous drinkers according to the WHO's AUDIT-C screening tool. Two-fifths (40.4%) of males aged 65 years and over engaged in monthly HED, which is associated with increased risk of both acute and chronic conditions from alcohol.

There is also evidence to indicate that older adults in Ireland continue to drink even when taking medications with adverse alcohol-related drug interactions. A 2014 Irish study based on data from The Irish Longitudinal Study on Ageing (TILDA), a longitudinal study of older adults in Ireland, found that 72% of participants (aged 60 years and over) were exposed to alcohol-interactive medications.[109] Of these, 60% reported concomitant alcohol use. Three in ten (28%) of those taking antihistamines were classified as heavy drinkers. Almost one in five combined heavy drinking with anticoagulants/antiplatelets and cardiovascular agents. A further 16% combined heavy drinking with central nervous system agents, including psychotropic medication. The study authors noted that the concurrent use of psychotropic medication and alcohol is of particular concern, given that this combination can lead to the most serious alcohol-related adverse drug reactions.[110] The findings indicate that concurrent use of alcohol with alcohol interactive medication or conditions which are known to be exacerbated by alcohol is common among older adults in Ireland. As the proportion of older people in Ireland continues to grow, alcohol consumption among older people should be an area of priority when aiming to reduce alcohol consumption and related harm in Ireland.

Alcohol use in pregnancy

There is a robust body of literature demonstrating an association between heavy alcohol use during pregnancy and adverse pregnancy and childhood outcomes, including stillbirth, spontaneous abortion, premature birth, intrauterine growth restriction, and low birthweight.[111-113] One of the most detrimental consequences of heavy maternal alcohol use is foetal alcohol spectrum disorder (FASD). FASD refers to a range of mental, physical, and neurological deficits directly caused by heavy alcohol consumption during pregnancy.[114,115] The umbrella term of FASD refers to several conditions, including foetal alcohol syndrome (FAS), partial foetal alcohol syndrome (pFAS), neurobehavioural disorder associated with prenatal alcohol exposure (ND-PAE), and alcohol-related birth defects.[115] FAS accounts for only 10–15% of all cases of FASD.[116] Many children who are diagnosed with the other disorders on the spectrum have no physical dysmorphia and, as a result, there is a concern that their condition may go undiagnosed.

For example, Gill and Sherrif[117] explored the self-reported knowledge and practice of doctors working in paediatrics in Ireland with regard to FASDs and alcohol consumption during pregnancy. An online survey was completed by 179 paediatric doctors who were either enrolled in specialist training programmes or registered as trainers. Almost one-third (31.1%) of the paediatricians who responded to the survey were unaware of the existence of FASDs. One-third (34.6%) thought that most patients with FASDs have dysmorphic features. Just two-fifths (40.8%) of the doctors in the study reported that they routinely ask questions about alcohol consumption during pregnancy in the context of developmental delay. Almost one-fifth (17.3%) of the doctors surveyed believed that mild alcohol consumption in the third trimester of pregnancy is safe. These findings suggest that paediatricians do not routinely screen for alcohol use as a potential contributory factor in the context of developmental delay, and may be unaware of non-dysmorphic features of FASDs. Given that approximately 75% of children with FASDs may not have dysmorphic features or growth restrictions,[116] FASDs may routinely go undiagnosed in Ireland.

There is currently no reliable evidence regarding the incidence of FASD in Ireland. A recent systematic review and meta-analysis of FASD estimated that the global prevalence of FASD among children and youth is 7.7 per 1,000 population. The WHO European Region had the highest prevalence (19.8 per 1,000 population), and the study estimated that Ireland had the third-highest rate of FASD globally, at 47.5 per 1,000 population.[118] Given the low awareness of FASD features among paediatricians in Ireland, these findings raise concerns over under-diagnosis of FASD in Ireland. However, it is important to note that this is based on estimated figures, and that the true extent of FASD in Ireland remains unknown.

Prevalence of alcohol consumption during pregnancy in Ireland

Varying prevalence rates of alcohol consumption during pregnancy have been reported in Ireland, likely due to varying methodological characteristics across studies.[119] Data from the Growing Up in Ireland study indicated that one-fifth (19.4%) of 10,593 mothers reported consuming alcohol during pregnancy in a questionnaire administered 9 months post-partum.[120] A study of mothers at two-seven months post-partum who had attended

Cork University Hospital found that almost half of new mothers (46%) reported drinking during pregnancy.[119] Finally, of 1,776 mothers who were part of the Screening for Pregnancy Endpoints (SCOPE) study, a prospective cohort study with the aim of developing screening tests to predict adverse pregnancy outcomes, 82% reported alcohol consumption during pregnancy.[121] However, rates of alcohol consumption (90%) and binge drinking (59%) were higher in this group pre-pregnancy than have been reported for women in the general Irish population.[119] A global study of alcohol consumption during pregnancy that was published in *The Lancet* estimated that Ireland had the highest rate of alcohol consumption during pregnancy globally, at 60.4%.[122]

However, a recent Irish study by Reynolds ***et al.*** indicated very low levels of alcohol consumption among pregnant women in Ireland.[123] The authors analysed data from a total of 68,925 women who had delivered a baby weighing 500 g or more between 2010 and 2018 at Ireland's largest maternity hospital, the Coombe Women & Infants University Hospital. Of the women surveyed, one-third (33.6%) abstained from alcohol before pregnancy and 98.4% were abstaining by the time of their first antenatal visit. At the first antenatal visit, 1.2% reported light consumption (defined as one or two standard alcoholic drinks per week) and 0.4% reported heavy drinking (defined as three or more standard alcoholic drinks per week) at least once since conception. Mothers were not asked what they drank between the period of becoming pregnant and their first antenatal visit, which likely accounts for the lower prevalence of maternal alcohol consumption reported in this study. However, the findings from the study suggest that once Irish mothers are aware that they are pregnant, the vast majority choose to abstain from alcohol.[123]

Consequences of light or moderate alcohol consumption during pregnancy

A recent systematic review explored the association between light drinking (defined as <32 g of pure alcohol per week/three standard drinks or fewer) and outcomes for pregnancy and early childhood using data from 26 studies.[124] The researchers found that light alcohol consumption was associated with an 8% greater risk of having a baby small for gestational age compared with abstainers. Light alcohol consumption was found to have no significant effect on the likelihood of low birthweight in six studies, or premature birth in nine studies. Seven studies also found no significant difference in the average infant birthweight between light drinkers and non-drinkers. For all other outcomes, there were insufficient data to combine the results or reach firm conclusions. The most striking finding from the review was the limited number of studies examining the effects of low levels of alcohol consumption during pregnancy. Given the association between light drinking and small for gestational age, the review authors concluded that guidelines for drinking during pregnancy should continue to advise abstention. Although this review did not find associations between light alcohol consumption and adverse pregnancy outcomes, the authors note that no evidence of harm does not equate to no harm, and no beneficial effects of alcohol consumption during pregnancy were found.[124] Another systematic review and meta-analysis of 24 studies, including data from 231,808 pregnant women, found that alcohol use during pregnancy was associated with a dose-responsive increase in miscarriage risk.[125] For consumption of five or fewer alcoholic drinks per week, each additional drink per week was associated with a 6% increase in miscarriage risk. Findings from both of these reviews reaffirm the HSE's guidelines for Ireland, which state that alcohol consumption at any level is not safe during pregnancy.

04

Alcohol-related harm to health

Although half of the world's population does not drink, alcohol use is the seventh leading risk factor for both deaths and disability-adjusted life years globally, and the leading risk factor among those aged 15–49 years.[10] Alcohol is a modifiable risk factor; reductions in alcohol consumption would lead to an associated reduction in the burden of disease, not only from conditions such as alcohol dependence and alcoholic liver disease, but also from commonly reported health conditions including cardiovascular disease and cancer,[12] and injury.

The relationship between alcohol and health is complex. Harm from alcohol is determined not only by the volume of alcohol consumed, but also by patterns of drinking, in particular occasions of HED (consuming 60 g or more of pure alcohol in a single sitting). Adding to this complexity, there are multiple mechanisms through which alcohol use affects health: toxic effects on organs and tissues through cumulative alcohol consumption; acute intoxication leading to poisoning or injuries; and alcohol dependence leading to impairments in behaviour.[21] Estimating the health harm caused by alcohol requires careful consideration of all these factors.[10]

Alcohol-related health conditions

Wholly alcohol-attributable health conditions

There are two categories of health conditions caused by alcohol: wholly alcohol-attributable conditions and partially alcohol-attributable conditions. Wholly alcohol-attributable conditions are caused solely by alcohol consumption, i.e. they would not exist if people did not consume alcohol. There are more than 30 wholly alcohol-attributable conditions listed in the WHO's International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10). Examples of wholly alcohol-attributable conditions include alcoholic liver disease, alcohol-induced pancreatitis, alcohol poisoning, and AUDs. For a complete list of wholly alcohol-attributable conditions included in this overview, see Appendix 2. The relationship between alcohol and some of the major wholly alcohol-attributable conditions is presented in Table 19.

Table 19 Major wholly alcohol-attributable health conditions

Alcohol use disorders (AUDs)	AUDs are the most prevalent mental health disorders globally, affecting 8.6% of men and 1.7% of women.[126] In Ireland, 7% of the total population (including non-drinkers) is estimated to be dependent on alcohol.[26] People with an AUD tend to have impaired control over their drinking behaviour, despite the detrimental effect of their drinking on their health, occupational activities, and relationships. AUDs significantly increase a person's risk of disease and mortality, as well as having detrimental social consequences, both for the person with the AUD and for their family and wider community.[126]
Alcoholic liver disease	Alcoholic liver disease (ALD) is the most prevalent type of liver disease globally. In 2016, an estimated 21.5 million years of life were lost due to ALD.[126] There are several forms of liver disease listed in the ICD-10 (which are considered as stages) that range from relatively mild and reversible fatty liver disease and alcoholic hepatitis to alcoholic fibrosis and sclerosis of the liver, and finally to severe and irreversible stages, such as alcoholic liver cirrhosis and alcoholic hepatic failure.[126] Although many factors may play a role in the development of ALD, volume and duration of alcohol use is the most important factor. Women are more prone to the hepatotoxic effect of alcohol than men and tend to develop liver cirrhosis at a lower level of alcohol consumption. Chronic alcohol use of approximately 20–50 g/day for women or 60–80 g/day for men has been found to increase the risk for alcoholic liver cirrhosis.[127]
Maternal and perinatal conditions	Foetal alcohol spectrum disorder (FASD) refers to a range of mental, physical, and neurological deficits directly caused by heavy alcohol consumption during pregnancy. The umbrella term FASD refers to a range of conditions, including foetal alcohol syndrome, partial foetal alcohol syndrome (pFAS), neurobehavioural disorder associated with prenatal alcohol exposure (ND-PAE), and alcohol-related birth defects. Foetal alcohol syndrome is characterised by hearing disabilities, restricted growth, and heart disorders, together with facial abnormalities.[115] However, foetal alcohol syndrome accounts for only 10–15% of all cases of FASD. Many children who fall under the other disorders on the spectrum have no physical dysmorphia and there is a concern that, as a result, their condition may go undiagnosed.[117]

Partially alcohol-attributable conditions

Partially alcohol-attributable conditions are conditions for which alcohol may be a contributory causal factor but not the sole cause of the condition. These conditions would still exist if people did not consume alcohol, but there would be fewer cases. Examples of partially alcohol-attributable conditions include cardiovascular disease, type 2 diabetes, and certain types of cancer. A complete list of partially alcohol-attributable conditions included in this overview is set out in Appendix 1.

The relationship between alcohol and burden of disease from partially alcohol-attributable conditions is complex, with the magnitude of risk varying across health conditions.[12] Most partially alcohol-attributable conditions show a dose-response relationship with volume of alcohol use: the more alcohol consumed, the higher the risk of disease.[12] Some conditions, including ischaemic heart disease and diabetes, show a curvilinear relationship, with protective effects at low to moderate levels of consumption and detrimental effects at higher levels of consumption.[128,129] Protective effects indicate that alcohol lowers a person's risk of getting the disease, i.e. if no one drank alcohol at low to moderate levels, there would be more cases of the disease. However, the protective effect of alcohol consumption is contentious; it has been argued that the inclusion of former drinkers in the comparative abstention category may cause protective effects of alcohol to be overestimated.[130] Former drinkers have been found to have poorer self-reported health and increased risk of mortality than never-drinkers, therefore protective effects found among light drinkers may be a consequence of the inappropriate pooling of never-drinkers and former drinkers in the comparison group, referred to as the "sick-quitter effect".[131,132] Several meta-analyses have found that when former drinkers are excluded from the analyses, the protective effects of alcohol have either been significantly lower or disappeared completely.[128,133]

It has also been argued that it is insufficient to remove former drinkers from the reference group; lifetime drinking patterns need to be considered so that drinking levels of former drinkers are assessed and they are actually allocated to drinking risk groups, which further moderates the appearance of protection. [134] Moreover, there is evidence that lifetime abstainers start out with compromised health and disability [135]. There is also supportive evidence that cardio protection vanishes if young cohorts are used and then followed up to old age [136]. This all points to a range of potentially confounding and systematically biasing factors that are not controlled in observational studies that are particularly important with a condition that generally affects people in later life e.g. ischaemic heart disease [137].

For certain partially alcohol-attributable conditions, risk is associated not only with average volume of alcohol consumed, but also with patterns of drinking,[12] especially episodes of HED (consuming 60 g or more of pure alcohol in a single sitting). This is particularly true in the case of acute health conditions such as injuries, where risk is measured by blood alcohol concentration rather than volume of alcohol consumed over time.[12] Occasions of HED may also exacerbate harms caused by regular drinking. For example, all-cause mortality in male drinkers consuming fewer than two drinks per day is about twice as high if they also engage in occasional HED.[32] Table 20 summarises the relationship between alcohol use and major partially alcohol-attributable health conditions.

Table 20 Major partially alcohol-attributable health conditions

Cancer	Alcohol is classified as a group 1 carcinogenic agent (the highest level of evidence for carcinogenicity)[138] and plays a causal role in cancer of the oral cavity, pharynx, larynx, oesophagus (limited to squamous cell carcinoma (SCC)), liver, colon, rectum, and female breast.[139] There is also some evidence for a probable relationship between alcohol and cancers of the stomach and pancreas.[138] All alcohol-related cancers show a dose-response relationship with alcohol use on an exponential scale, i.e. the risk of developing cancer increases with increasing volume of alcohol consumed.[12] However, the magnitude of the risk varies by cancer site. There is evidence that alcohol may increase risk of cancer even at very low levels of consumption.[12] For example, women are at greater risk of developing breast cancer from consuming <21 g of pure alcohol (approximately two standard drinks or more) per day.[140]
Digestive conditions	Liver disease is a major cause of death globally and has been clearly linked to alcohol use.[10] There is a dose-response relationship on an exponential scale between alcohol use and liver cirrhosis. There is also evidence that patterns of drinking may play a role. For example, when overall level of alcohol exposure is equal, those with alcohol-free days are at lower risk of liver cirrhosis than daily drinkers are.[12] Alcohol has also been established as a causal factor in the development of both acute and chronic pancreatitis. There is a linear dose-response relationship between chronic pancreatitis and alcohol consumption for both males and females. For men, the risk of acute pancreatitis also increases with increasing volume of alcohol consumption. However, alcohol consumption below the threshold of 40 g per day is associated with a decrease in the risk of acute pancreatitis for women. Consumption above this level is increasingly detrimental for both types of pancreatitis in females.[141]
Epilepsy	There is a dose-response relationship between the amount of alcohol consumed daily and the probability of the onset of epilepsy. Studies suggest that the effect may only hold in moderate to heavy drinkers (40 g/daily), and studies indicate that many alcohol users with epilepsy would meet criteria for an AUD.[142] The most plausible biological pathway hypothesis proposes that repeated alcohol withdrawals, even subclinical, may lead to gradual lowering of the seizure threshold, and eventually to the development of epilepsy or unprovoked seizures.[12]
Cardiovascular disease	The relationship between alcohol use and cardiovascular disease is complex. Chronic heavy drinking (60 g of pure alcohol or more per day for men, 40 g of pure alcohol or more per day for women) is associated with increased risk of several cardiovascular diseases, including stroke and hypertension. Irregular heavy drinking episodes (60 g of pure alcohol or more on a single occasion), even among light to moderate drinkers, have also been found to increase risk of cardiovascular disease. Low to moderate alcohol use may, however, have some protective effects against heart disease, including haemorrhagic stroke.[129] Alcohol at any level of consumption has been associated with a reduction in risk for ischaemic heart disease, with the exception of monthly HED.[143] However, protective effects may be overestimated due to biased comparison groups used in many epidemiological studies.[129]

Injuries	There is robust evidence establishing alcohol as a causal factor for an extensive range of injuries. This is primarily due to a higher blood alcohol concentration (BAC) which impairs vision, psychomotor skills, reaction time, and judgements about risk-taking. These impairments may start as low as 0.03% BAC. In general, there is an exponential dose-response relationship between acute alcohol use and injury, although this may vary slightly by type of injury.[144] Alcohol has also been causally implicated in suicide. However, the link between alcohol and suicide is different from other types of injury. Risk of suicide appears to be related more to long-term drinking patterns, including chronic heavy drinking and AUDs, even though there are also acute effects of alcohol use, such as on judgement and impulsiveness.[12]
Diabetes mellitus (type 2 diabetes)	Several meta-analyses and systematic reviews have reported a beneficial effect of low to moderate alcohol consumption on diabetes mellitus.[128,145] A systematic review of 38 studies encompassing 1,902,605 participants reported that relative to non-drinkers, protective effects of alcohol on diabetes mellitus were present at all levels of alcohol intake less than <63 g per day, with risk of diabetes increasing above this threshold. However, the authors concluded that the protective effects may only apply to women and non-Asian populations.[128] Protective effects may also be overestimated by using comparison groups which include less healthy former drinkers. [132]
Respiratory conditions	Alcohol affects the immune system, increasing vulnerability to infectious diseases, including tuberculosis (TB) and lower respiratory tract infections. There is a dose-response relationship between alcohol consumption and TB, with some indication that, for lower levels of consumption, the increase is less steep than for higher levels.[146,147] Alcohol exposure also specifically impairs the immune defences and functioning of the lower respiratory tract, increasing the risk of both viral and bacterial pneumonia. Heavy and prolonged alcohol use and AUDs have been linked to increased risk of lower respiratory tract infections, but risk of lower alcohol use is unclear.[12]

Alcohol-related hospitalisations in Ireland

This section presents information on the number of hospital discharges in Ireland related to conditions that can be attributed to alcohol consumption. Analyses for partially alcohol-attributable and wholly alcohol-attributable conditions are presented separately.

Hospital In-Patient Enquiry scheme

In order to estimate the number of alcohol-related hospitalisations in Ireland, hospitalisation data from the Hospital In-Patient Enquiry (HIPE) scheme were used. HIPE is a computerised health information system designed to collect clinical and administrative data on discharges (including deaths) from acute Irish hospitals and is managed by the Healthcare Pricing Office (HPO) in the Health Service Executive (HSE). Each HIPE discharge record represents one episode of care; patients may be admitted to hospital(s) more than once with the same or different diagnoses. HIPE uses discharges, which can be considered a proxy for admissions, to measure each patient contact. Emergency department (ED) and outpatient data are not collected. The records therefore facilitate analysis of hospital activity rather than epidemiological analysis of disease.

The use of HIPE for epidemiological purposes has some limitations. The HIPE system records the number of inpatient events rather than the number of patients and, as these records do not carry a unique personal identifier, it is not possible to determine accurately how many times an individual patient was admitted for the same condition. Using HIPE to assess the burden of alcohol use on acute hospital services can lead to an underestimation of the real impact of alcohol, as ED attendances are not recorded. A recent study carried out in all 29 EDs in Ireland found that approximately 6% of recorded ED admissions were alcohol related. Furthermore, during the early hours of Sunday morning, alcohol-related presentations accounted for almost one-third (29.0%) of all ED presentations.[148]

The analysis in this overview relates to the period 1995–2018, and there have been several changes in HIPE's coding during this time. From 1995 to 2004, diagnoses and procedures performed were coded using the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM). Since 2005, the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM) has been used. This revision resulted in numerous changes; for example, in ICD-10-AM, there is no diagnosis of alcohol abuse. From 1995 to 2001, HIPE recorded the primary diagnosis and up to five secondary diagnoses; this increased to 9 secondary diagnoses in 2002, 19 in 2005, and 29 in 2011. Since 2012, HIPE has recorded up to 29 secondary diagnoses. As the HIPE system counts each patient contact and not the number of patients, it is not possible to ascertain the incidence of alcohol-related morbidity. As an alternative, for wholly alcohol-attributable conditions, the number of alcohol-related discharges per 100,000 population aged 15 years or over was calculated. The numerators used were obtained from the CSO.

Hospitalisations due to wholly alcohol-attributable conditions

HIPE analyses on discharges with wholly alcohol-attributable conditions were provided to the HRB by the HPO. Data were available for the years 1995–2018. A full list of wholly alcohol-attributable conditions included in the analysis is provided in Appendix 2. Analyses of wholly alcohol-attributable discharges and partially alcohol-attributable discharges are presented separately. Partially alcohol-attributable discharges are based on estimates which were calculated using 2016 data on alcohol consumption patterns in Ireland. It therefore would not be appropriate to apply these fractions as far back as 1995, as drinking patterns in Ireland have changed considerably since then. Analysis of partially alcohol-attributable hospitalisations relates to the years 2012–2017, as both overall per capita consumption and patterns of drinking have remained relatively stable over this time period.

Trends in wholly alcohol-attributable discharges, 1995–2018

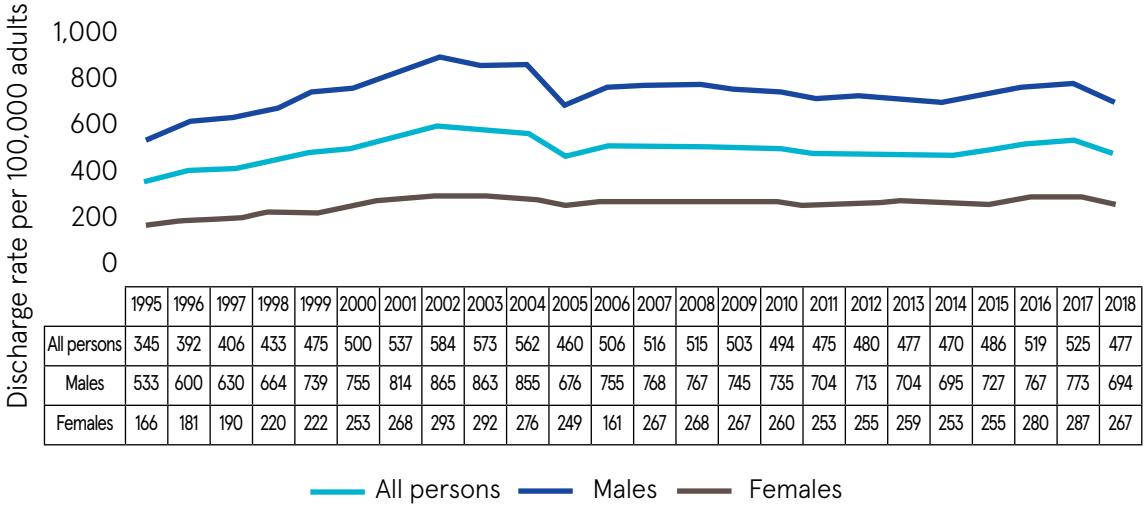
Trends in discharges due to wholly alcohol-attributable conditions between 1995 and 2018 are presented in Table 21 and Figure 34. Between 1995 and 2018, there were 391,622 discharges with a fully alcohol-attributable diagnosis. Males accounted for 73.8% of all discharges during this period, while females accounted for 26.2%. There has been a general upward trend in the number of alcohol-related hospitalisations since 1995. The number of wholly alcohol-related discharges increased from 9,420 in 1995 to 18,348 in 2018, an increase of 94.8%. There was a considerable dip (–2,888) in the number of discharges in 2005, which may be explained by the introduction of ICD-10-AM coding that year. From 1995 to 2018, the number of bed days accounted for by alcohol-related conditions increased by 216%, from 56,264 to 177,892 (Table 21). This is likely due to the higher number of discharges, combined with an increasing average length of stay, for cases with an alcohol-related condition. The length of stay for alcohol-related conditions increased by 71.6%, from a mean of 6.0 days in 1995 to a mean of 10.3 days in 2018. This indicates that presentations of alcohol-related conditions may be becoming more complex and taking longer to treat. Patients with an alcohol-related condition are also staying in hospital for longer periods than those without an alcohol-related condition. For example, in 2018, the mean length of stay for an alcohol-related condition (10.3 days) was almost twice as long as the mean length of stay for a non-alcohol-related condition (5.7 days).[149]

Table 21 Number and length of stay of alcohol-related discharges, 1995–2018

Year	All persons	Males	Females	Mean length of stay	Median length of stay	Number of bed days
1995	9,420	7,124	2,296	6.0	2	56,264
1996	10,842	8,289	2,553	5.6	2	61,107
1997	11,445	8,727	2,718	6.0	2	68,485
1998	12,421	9,366	3,055	6.3	2	78,433
1999	13,860	10,579	3,281	6.0	2	83,098
2000	14,807	11,007	3,800	5.9	2	87,353
2001	16,219	12,109	4,110	6.1	2	99,506
2002	18,057	13,471	4,586	6.6	2	119,510
2003	18,035	13,378	4,657	6.5	2	117,325
2004	17,976	13,505	4,471	6.9	3	124,836
2005	15,088	10,971	4,117	7.9	3	118,569
2006	17,053	12,629	4,424	8.1	3	138,307
2007	18,024	13,344	4,680	8.0	3	144,836
2008	18,400	13,579	4,821	8.8	3	161,016
2009	18,109	13,254	4,855	8.6	3	156,464
2010	17,755	13,015	4,740	9.1	3	160,991
2011	17,078	12,457	4,621	9.4	3	159,725
2012	17,225	12,552	4,673	9.2	3	158,074
2013	17,120	12,398	4,722	10.1	4	160,211
2014	17,139	12,435	4,704	9.9	4	159,664
2015	17,917	13,128	4,789	10.8	4	175,750
2016	19,392	14,063	5,329	10.3	4	181,229
2017	19,892	14,359	5,533	10.4	4	186,378
2018	18,348	13,124	5,224	10.3	4	177,892

Figure 34 presents the rate of alcohol-related discharges per 100,000 adults aged 15 years and over from 1995 to 2018. The rate of alcohol-related discharges increased steadily from 1995 until its peak in the early 2000s, discharges decreased in 2004 and 2005 and have remained steady since. Since the last HRB overview on alcohol was published in 2016, there has been a general upward trend in alcohol-related discharges, with alcohol-related discharges per 100,000 in 2016 and 2017 reaching the highest levels since 2004. The overall increase in alcohol-related discharges per 100,000 population between 1995 and 2018 was 37.9%. This was more pronounced among women (60.8%), albeit from a lower base, compared with men (30.2%).

Figure 34 Rate of alcohol-related discharges per 100,000 adults, 1995–2018



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
All persons	345	392	406	433	475	500	537	584	573	562	460	506	516	515	503	494	475	480	477	470	486	519	525	477
Males	533	600	630	664	739	755	814	865	863	855	676	755	768	767	745	735	704	713	704	695	727	767	773	694
Females	166	181	190	220	222	253	268	293	292	276	249	161	267	268	267	260	253	255	259	253	255	280	287	267

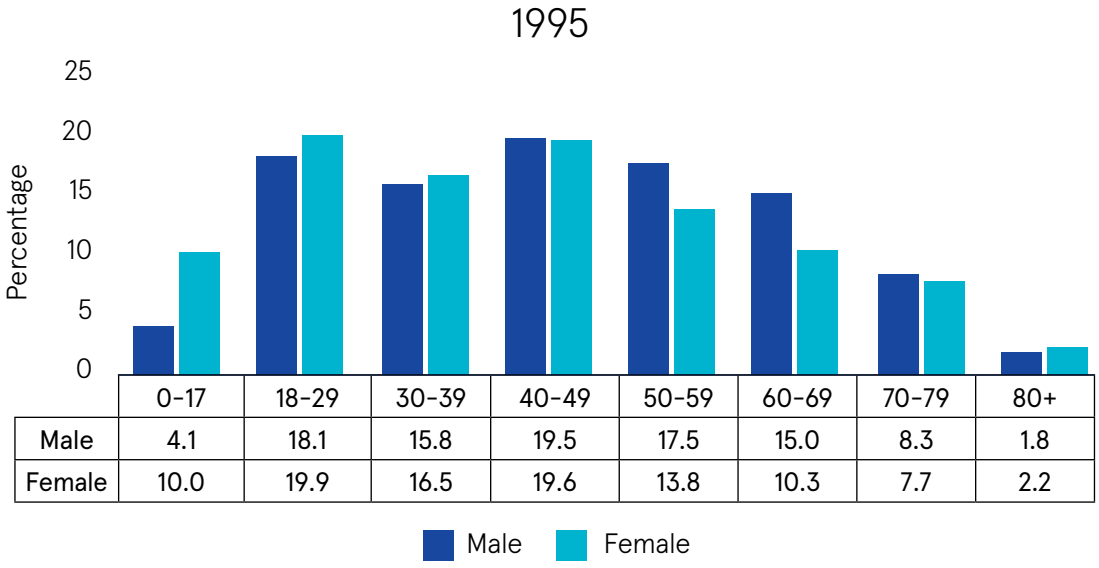
Age and gender profile

Figure 35 shows the age and gender profile of alcohol-related discharges in 1995 and 2018. In general, female discharges tend to be younger. In 2018, males accounted for 71.5% of total discharges, while females accounted for 28.5% of total discharges. However, for discharges aged 17 years or under, females accounted for almost half (45.8%) of total discharges. One explanation for this may be that health complications arising from alcohol tend to manifest themselves earlier in the drinking lifetime of women than in men. These trends may also be due to lower levels of alcohol consumption among older women, compared with younger women and men, and to the fact that older women are also more likely to abstain from alcohol altogether.[29]

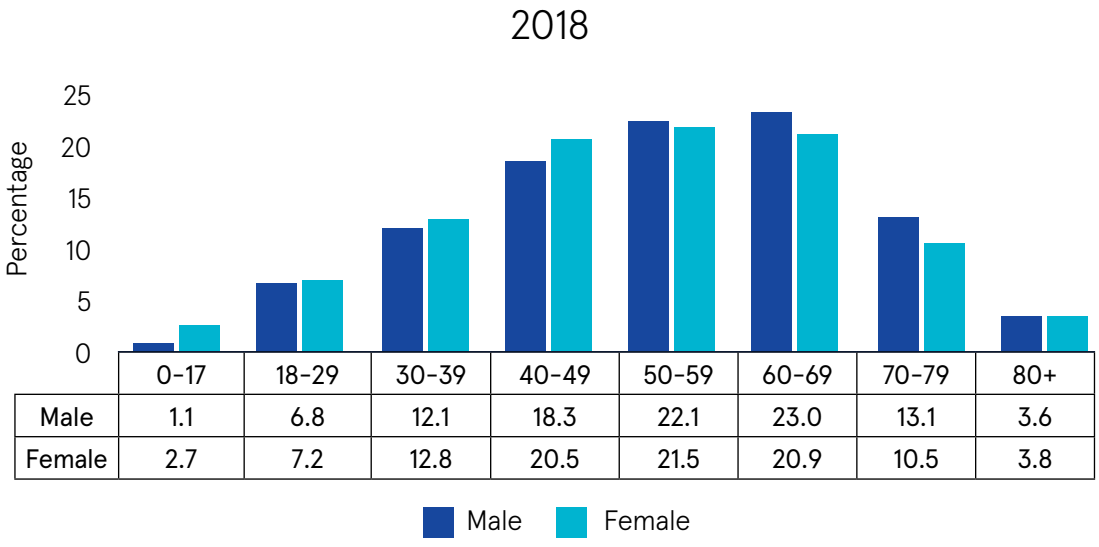
In general, the age profile of alcohol-related discharges increased between 1995 and 2018. In 1995, 38.0% of male alcohol-related discharges and 46.4% of female alcohol-related discharges were under the age of 40, whereas in 2018, this decreased to 20.0% of male alcohol-related discharges and 22.7% of female alcohol-related discharges. In 1995, 14.1% of alcohol-related discharges were accounted for by those aged 17 years and under, whereas

in 2018 those aged 17 years and under accounted for just 1.4% of alcohol-related discharges. This is reflected in the decrease in the number of alcohol-related discharges from acute conditions between 1995 and 2018; such conditions are typically more common among young people. It is unclear why these trends are emerging, given that overall per capita alcohol consumption has increased since 1995, and young people have been reported to have the highest rates of harmful and hazardous drinking.[29] It may be the case that younger people are more likely to present with an acute alcohol condition at hospitals, and these cases may be increasingly dealt with within EDs and do not result in these patients being admitted to hospital.

Figure 35 Age and gender profile of hospital discharges for wholly alcohol-attributable conditions, 1995 and 2018



	0-17	18-29	30-39	40-49	50-59	60-69	70-79	80+
Male	4.1	18.1	15.8	19.5	17.5	15.0	8.3	1.8
Female	10.0	19.9	16.5	19.6	13.8	10.3	7.7	2.2



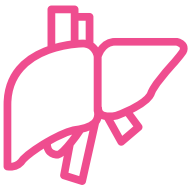
	0-17	18-29	30-39	40-49	50-59	60-69	70-79	80+
Male	1.1	6.8	12.1	18.3	22.1	23.0	13.1	3.6
Female	2.7	7.2	12.8	20.5	21.5	20.9	10.5	3.8

Discharges by diagnosis

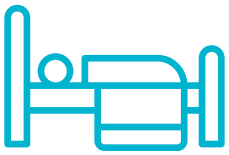
Due to the changeover to ICD-10-AM coding in 2005, it was not possible to analyse conditions since 1995, as not all codes are comparable between ICD-9-AM and ICD-10-AM. This analysis is therefore limited to discharges from 2005 onwards. Due to low numbers, discharges with a diagnosis relating to foetal alcohol syndrome (FAS) are not presented. Discharges were classified into one of the following categories: acute condition, chronic disease, and other chronic condition (Appendix 3). If a case had both an acute and a chronic alcohol-related diagnosis, the chronic condition was selected. For cases with a chronic disease and a chronic condition, the disease was selected.

Figure 36 shows the number of acute conditions, chronic diseases, and other chronic conditions between 2005 and 2018. In 2018, acute conditions accounted for 12.4% of wholly attributable alcohol-related discharges, chronic diseases accounted for 23.2% of such discharges, and other chronic conditions accounted for 64.4%. There was a gradual decrease in the presentation of acute alcohol-related conditions between 2005 and 2010, with acute alcohol-related discharges remaining relatively stable from 2010 onwards. Between 2005 and 2018, discharges of cases with acute alcohol-related conditions decreased by 42.9%. This trend in acute alcohol-related discharges reflects alcohol consumption during this time, which peaked in the early 2000s, decreased considerably in 2008, and has remained relatively stable from 2010 onwards. It is possible that the decrease in alcohol consumption since 2008 has led to a decrease in hospitalisations due to acute alcohol-related harms. On the other hand, the number of chronic diseases and other chronic conditions increased by 44.8% between 2005 and 2018. Unlike acute alcohol-related conditions, chronic alcohol-related conditions may require years of heavy drinking before they develop. The high volume of alcohol consumption in the early 2000s may explain why chronic conditions continue to increase despite slightly lower per capita alcohol consumption.

There are at least
40,000+
alcohol-related hospital discharges each year



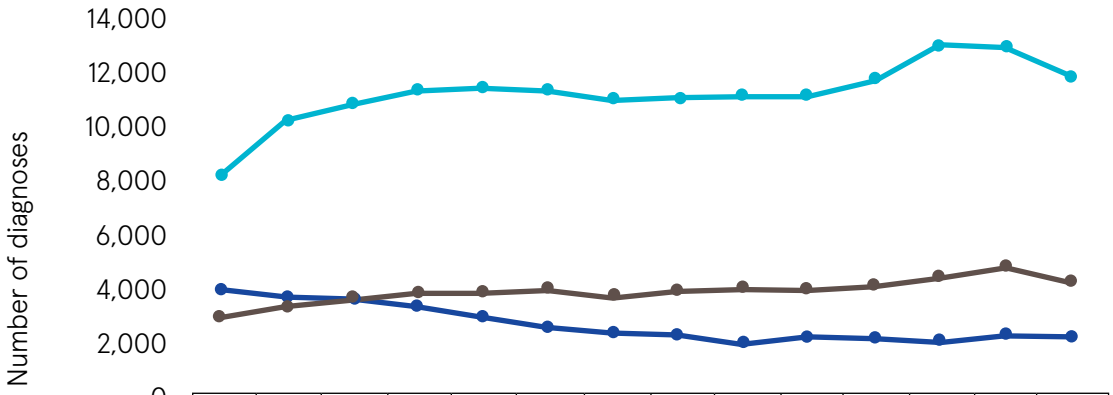
Alcoholic liver disease discharges have
increased by 221%
since 1995 (from 28.3 to 90.8 discharges per 100,000 persons)



The mean length of stay for an alcohol-related condition (10 days) is longer than the mean length of stay for a non-alcohol-related condition (6 days)

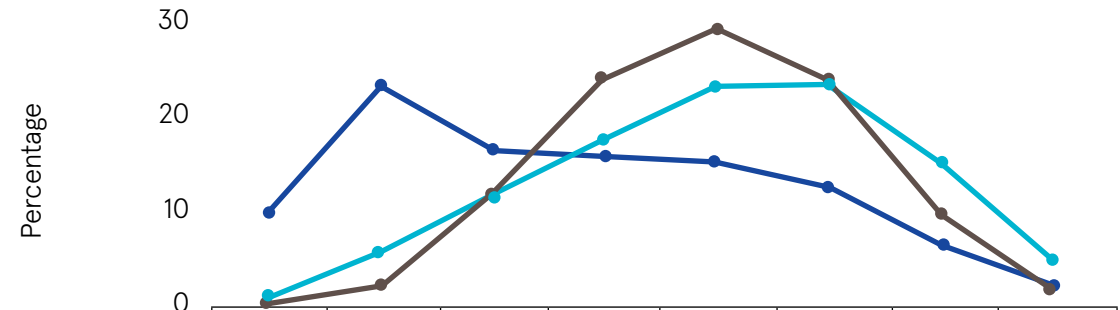
Figure 37 shows the age-related profile of alcohol diagnoses for 2014–2018. Age-related admissions prior to 2014 are presented in the previous HRB overview published in 2016.[5] Acute alcohol-related conditions were more common among younger people, whereas chronic alcohol-related conditions were more prevalent among the older age groups. Those under 30 years of age accounted for one-third (32.5%) of all discharges related to acute alcohol-related conditions. The high rate of acute alcohol-related conditions among young people is likely reflective of the high rate of HED reported among young people in Ireland. HED has been reported to greatly increase the risk of experiencing an acute alcohol-related harm, including poisoning and alcohol-related injuries.[12]

Figure 36 Number of alcohol-related discharges, 2005–2018



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Acute conditions	3,983	3,650	3,637	3,319	2,968	2,572	2,371	2,295	2,003	2,125	2,177	2,067	2,241	2,274
Chronic diseases	2,956	3,299	3,629	3,827	3,770	3,856	3,710	3,933	3,964	3,914	4,116	4,383	4,711	4,243
Chronic - other	8,142	10,096	10,754	11,247	11,350	11,312	10,956	10,977	11,100	11,090	11,606	12,930	12,934	11,815

Figure 37 Diagnoses of alcohol-related discharges, by age, 2014–2018



	0-17	18-29	30-39	40-49	50-59	60-69	70-79	80+
Acute conditions	9.5	23.0	16.4	15.5	15.0	12.2	6.2	2.1
Chronic diseases	0.0	2.0	11.2	23.5	29.0	23.4	9.3	1.6
Chronic - other	0.5	5.5	11.5	17.2	22.6	23.3	14.8	4.6

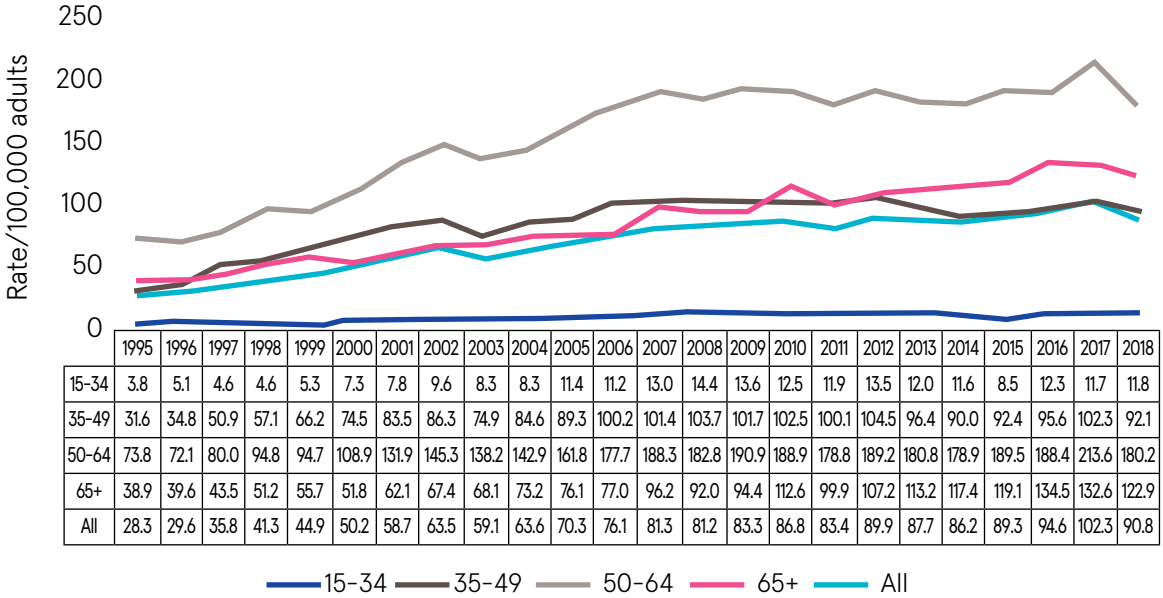
Alcohol-related liver disease

Figure 38 presents the rate of alcoholic liver disease (ALD) per 100,000 persons from 1995 to 2018. The number of discharges has increased steadily over the past 23 years, with the rate of ALD discharges in 2017 reaching the highest it has ever been since recording began, at 102.3 discharges per 100,000 persons, representing a 261% increase from 1995. ALD discharges decreased slightly between 2017 and 2018 to 90.8 per 100,000 persons, a 221% increase from 1995.

In terms of age, this increase was most pronounced, albeit from a lower base, among those aged 15–34 years (211%) and those aged 65 years or over (216%), compared with 35–49-year-olds (191%) and 50–64-year-olds (144%). ALD discharges increased among males from 37.3 discharges per 100,000 in 1995 to 129.3 per 100,000 in 2018, an increase of 247%. Female discharges increased by 175% during this time, from 19.5 discharges per 100,000 in 1995 to 53.7 per 100,000 in 2018.

There has been a steady increase in ALD from 1995 to 2018, despite decreases in per capita alcohol consumption since the early 2000s. This may be due to a time-lag effect of alcohol consumption earlier in life now manifesting as a chronic condition among middle-aged and older drinkers. However, there has also been a considerable increase in ALD among younger age groups. In addition to chronic heavy drinking, instances of HED may also increase risk of developing ALD, which may explain the rise in cases among younger age groups. Younger men in particular report high levels of HED, with two-thirds (62.8%) of young males in Ireland engaging in monthly HED, according to findings from the 2016 Healthy Ireland Survey.[129]

Figure 38 Rate of ALD discharges per 100,000 adults, by age, 1995–2018



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
15-34	3.8	5.1	4.6	4.6	5.3	7.3	7.8	9.6	8.3	8.3	11.4	11.2	13.0	14.4	13.6	12.5	11.9	13.5	12.0	11.6	8.5	12.3	11.7	11.8
35-49	31.6	34.8	50.9	57.1	66.2	74.5	83.5	86.3	74.9	84.6	89.3	100.2	101.4	103.7	101.7	102.5	100.1	104.5	96.4	90.0	92.4	95.6	102.3	92.1
50-64	73.8	72.1	80.0	94.8	94.7	108.9	131.9	145.3	138.2	142.9	161.8	177.7	188.3	182.8	190.9	188.9	178.8	189.2	180.8	178.9	189.5	188.4	213.6	180.2
65+	38.9	39.6	43.5	51.2	55.7	51.8	62.1	67.4	68.1	73.2	76.1	77.0	96.2	92.0	94.4	112.6	99.9	107.2	113.2	117.4	119.1	134.5	132.6	122.9
All	28.3	29.6	35.8	41.3	44.9	50.2	58.7	63.5	59.1	63.6	70.3	76.1	81.3	81.2	83.3	86.8	83.4	89.9	87.7	86.2	89.3	94.6	102.3	90.8

Of all discharges (including deaths) with a diagnosis of ALD, 8.4% died while in hospital. The proportion of ALD discharges who died was similar across the study period (1995–2018),

which suggests that there has been little improvement in the prognosis of patients with ALD since 1995. As HIPE is a case-based database and it is not possible to determine the number of repeat discharges, we can assume that the number of actual patients is less than the number of discharges. This indicates that the true percentage of ALD discharges who died while in hospital is probably higher. The ALD mortality rate per 100,000 population aged 15 years and over who died while in hospital was 2.6 in 1995 and 6.7 in 2018, an increase of 158%.

Partially alcohol-attributable conditions

Estimating the number of hospital discharges from partially alcohol-attributable conditions

In order to calculate the number of partially alcohol-attributable conditions that are caused by alcohol consumption, we use alcohol-attributable fractions (AAFs). An AAF is defined as the proportion of cases of a partially alcohol-attributable disease or injury that would be prevented if exposure to alcohol were eliminated. AAFs thus allow us to estimate the number of cases of a partially alcohol-attributable condition that are caused directly by alcohol. For example, the AAF for breast cancer for women aged 35–44 years in Ireland is 0.02. This means that 2% of all breast cancer cases for women in this age group are caused by alcohol. To calculate the proportion of breast cancer cases caused by alcohol among 1,000 women with breast cancer, we simply multiply 1,000 by 0.02 (1,000 × 0.02=20). Therefore, among 1,000 women with breast cancer, 20 cases are caused by alcohol. For wholly alcohol-attributable conditions, the AAF is always 1.0 because these conditions are 100% attributable to alcohol. It is therefore not necessary to apply AAFs to wholly alcohol-attributable conditions.

To estimate the number of partially alcohol-attributable hospitalisations in Ireland, we applied AAFs for 29 partially alcohol-attributable conditions to the HIPE data. AAFs used for this analysis were calculated for the HRB by the University of Sheffield School of Health and Related Research. The AAFs were calculated using the most up-to-date international evidence on the relative risk of developing specific health conditions from alcohol use, combined with data on volume and patterns of alcohol consumption in Ireland. Unique AAFs were calculated for each of the 29 partially alcohol-attributable health conditions listed in Appendix 4, stratified by age and gender. These AAFs were then applied to HIPE data in order to estimate the number of hospital discharges from partially alcohol-attributable conditions in Ireland between 2012 and 2017. A more detailed description of the methodology used to calculate these AAFs has previously been published by the University of Sheffield.[150]

AAFs differ across countries, as the burden of alcohol-related disease depends on the extent of alcohol consumption in each country's population.[12] The estimates in this overview are therefore based on Irish alcohol consumption data. This is the first time that AAFs have been calculated using Irish alcohol consumption data for a comprehensive range of partially alcohol-attributable conditions. They are therefore not comparable to previous estimates of partially alcohol-attributable hospitalisations in Ireland, as these AAFs were not based on Irish alcohol consumption data. The AAFs used in this overview are based on self-reported alcohol consumption from the 2016 Healthy Ireland Survey data. Under-reporting of alcohol consumption is a well-documented limitation of self-report surveys on alcohol use.[25] Analysis

of a 2013 Irish household survey indicated that alcohol consumption in the survey accounted for just 39% of alcohol sold in Ireland in the same year.[26] The AAFs are therefore likely an underestimate of the proportion of partially alcohol-attributable health conditions for which alcohol is a contributory cause. The number of partially alcohol-attributable hospital discharges reported in this overview thus represent the minimum number of hospital discharges caused by alcohol; the true number is likely considerably higher.

Trends in partially alcohol-attributable hospitalisations, 2012–2017

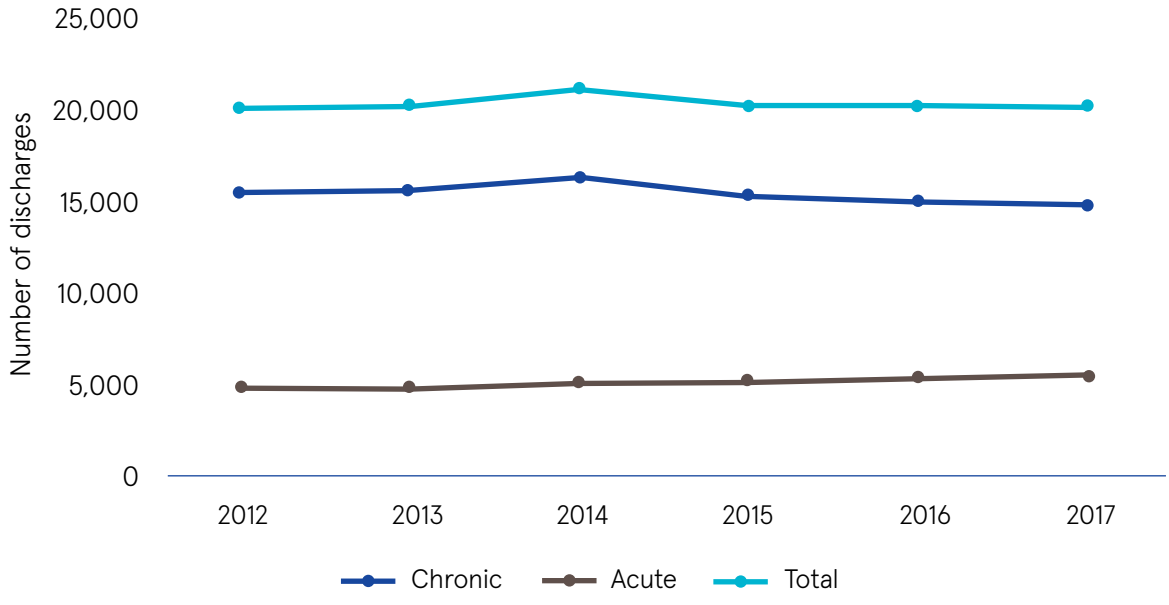
Between 2012 and 2017, there were 121,919 hospital discharges with a partially alcohol-attributable condition (Table 22). Chronic conditions accounted for three-quarters (75.6%) of all partially alcohol-attributable discharges during this period. The number of partially alcohol-attributable discharges remained relatively stable over the study period (see Figure 39).

Table 22 Total number of chronic and acute hospital discharges from partially alcohol-attributable conditions

	2012	2013	2014	2015	2016	2017	Total 2012–2017
Chronic	15,441	15,631	16,197	15,224	14,946	14,775	92,214
Acute	4,623	4,611	4,865	4,954	5,227	5,425	29,705
Total	20,064	20,241	21,062	20,178	20,173	20,201	121,919

Numbers may not add up to the column totals because of rounding

Figure 39 Number of partially alcohol-attributable hospital discharges, 2012–2017



Partially alcohol-attributable discharges by diagnosis

Between 2012 and 2017, there were 55,097 partially alcohol-attributable discharges due to cancer, accounting for 45.2% of all partially alcohol-attributable discharges during this period. The number of alcohol-related cancer discharges increased by 31.9% between 2012 and 2017. This is reflective of an overall increase in hospitalisations due to cancer during this time period. Cardiovascular disease accounted for just over one-quarter (27.9%) of all partially alcohol-attributable discharges from 2012 to 2017. Due to the protective effects of alcohol on type 2 diabetes for women, there were an estimated 9,708 fewer cases of type 2 diabetes between 2012 and 2017 due to the consumption of alcohol. However, the protective effects of alcohol on diabetes are likely to be overestimated in this analysis. Firstly, protective effects of alcohol are contentious due to the inclusion of less healthy former drinkers in the reference abstention group in many epidemiological studies.[126,128] Secondly, the AAFs used to calculate alcohol-related discharges are based on survey data, which are prone to under-reporting. It is likely that many people may have underestimated their alcohol consumption, leading to some heavy drinkers being categorised as low to moderate drinkers based on their self-reports.

Table 23 Total number of partially alcohol-attributable conditions, by diagnosis, 2012–2017

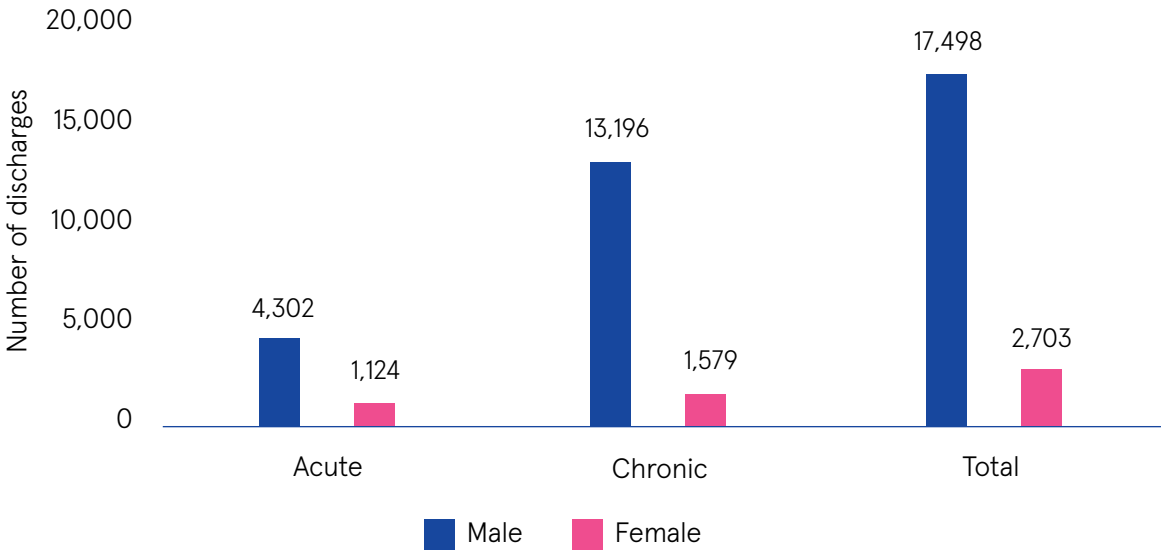
	2012	2013	2014	2015	2016	2017
Cancer	8,088	7,805	8,045	10,042	10,450	10,667
Cardiovascular	6,500	6,781	7,056	4,774	4,480	4,469
Digestive	900	1,024	1,010	1,133	1,189	1,185
Diabetes (type 2)	−1,057	−990	−966	−1,804	−2,268	−2,623
Injuries	4,623	4,611	4,865	4,954	5,227	5,425
Epilepsy	611	604	656	654	591	579
Respiratory	399	407	396	426	503	497
Total	20,064	20,241	21,062	20,178	20,173	20,201

Numbers may not add up to the column totals because of rounding

Profile of partially alcohol-attributable discharges, 2017

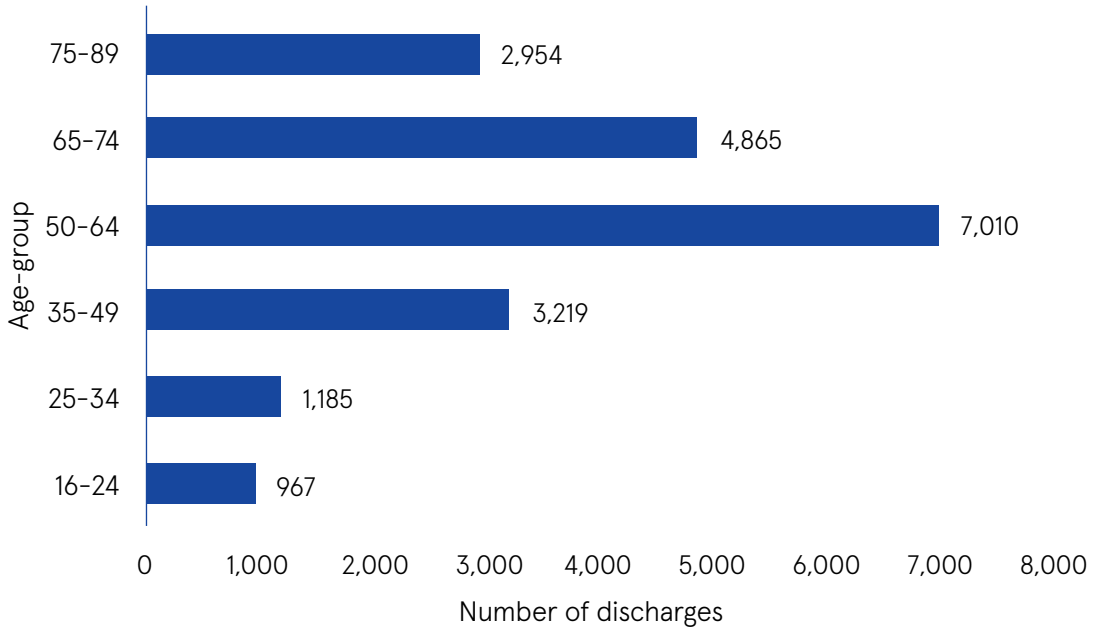
In 2017, there were 20,201 hospital discharges due to partially alcohol-attributable conditions. A total of 14,775 discharges (73.1%) related to chronic conditions, while the remaining 5,426 discharges related to acute conditions. Males accounted for 86.6% of partially alcohol-attributable hospital discharges (Figure 40). Almost eight in ten (79.3%) partially alcohol-attributable acute discharges were males, as were nine in ten (89.3%) partially alcohol-attributable chronic discharges.

Figure 40 Total chronic and acute partially alcohol-attributable hospital discharges in 2017, by gender



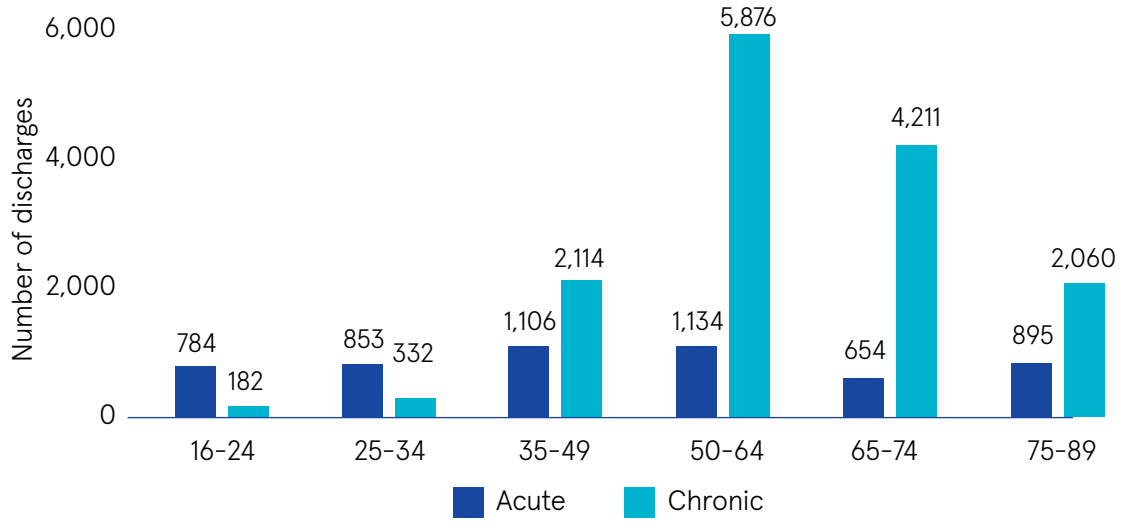
Partially alcohol-attributable discharges were most prevalent among those aged 50–64 years, who accounted for just over one-third (34.7%) of these discharges in 2017. Hospitalisations for partially alcohol-attributable conditions were least prevalent among those aged under 35 years (Figure 41).

Figure 41 Total number of partially alcohol-attributable hospitalisations in 2017, by age



Following a similar trend as wholly alcohol-attributable discharges, discharges due to acute conditions were more common than discharges due to chronic conditions in the youngest age groups (Figure 42). For those aged under 35, more than three-quarters (76.1%) of partially alcohol-attributable discharges were due to acute conditions, such as poisoning and injuries. This is likely reflective of the high binge-drinking pattern of alcohol consumption reported among younger age groups in Ireland,[29] which increases the risk of experiencing acute harms from alcohol. For those aged 35 years or over, the opposite trend was observed. Four-fifths (79.0%) of partially alcohol-attributable hospital discharges among those aged 35–89 years were due to chronic conditions, including cancer and cardiovascular conditions.

Figure 42 Total acute and chronic partially alcohol-attributable hospital discharges in 2017, by age



Gender and age profile of partially alcohol-attributable conditions

Figure 43 shows the number of partially alcohol-attributable conditions by diagnosis for 2017, broken down by gender. Although females accounted for just 13.4% of all partially alcohol-attributable hospital discharges in 2017, more than one-third (36.6%) of alcohol-attributable cancer discharges were female. This is primarily due to the high number of breast cancer discharges related to alcohol. Breast cancer discharges accounted for more than one-quarter (28.8%) of all alcohol-related cancer discharges in 2017. The highest percentage of partially alcohol-attributable discharges were due to cancer (52.8%), followed by injuries (26.9%) and cardiovascular disease (22.1%). Alcohol consumption had a protective effect on both diabetes and cardiovascular conditions for women, but not for men. Among women, there were 2,623 fewer cases of type 2 diabetes due to protective effects of alcohol consumption. This trend was observed across women in all age groups but was highest among women aged 50–64 years (see Table 24), likely due to lower levels of alcohol consumption among this age group. Alcohol consumption has been found to have a protective effect among women at levels of consumption under 63 g/day. However, as outlined above, it is likely that this protective effect may be overestimated due to inappropriate inclusion of less healthy former drinkers in the reference abstainer groups.[141]

Among men, there were an estimated 256 hospital discharges for type 2 diabetes caused by alcohol use.

Figure 43 Number of partially alcohol-attributable discharges in 2017, by diagnosis and gender

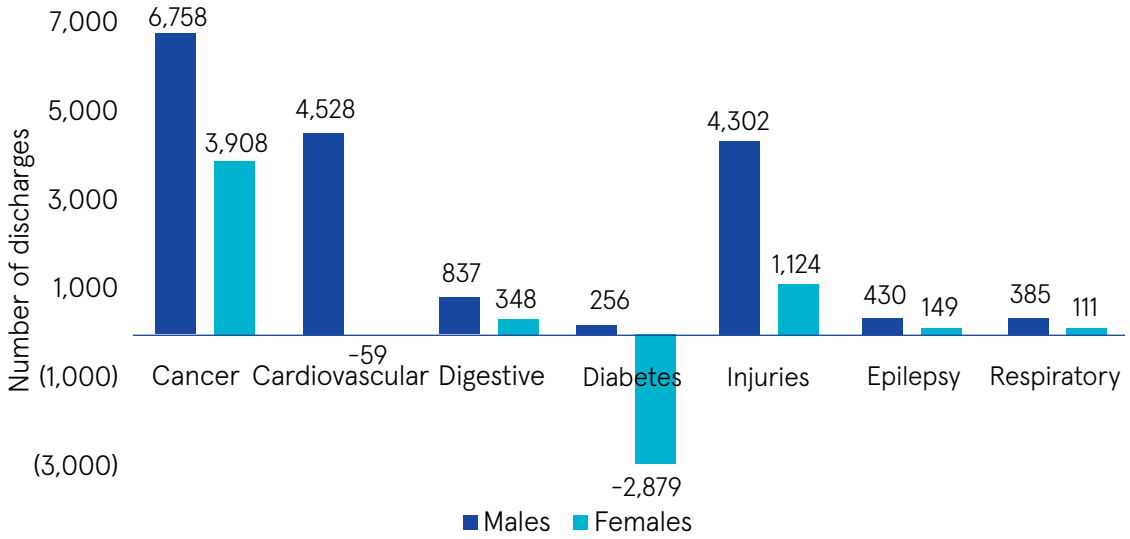


Table 24 Number of partially alcohol-attributable discharges, by age, gender, and diagnosis, 2017

Males

	Total	16–24	25–34	35–49	50–64	65–74	75–89
Cancer	6,758	3	36	527	3,150	2,261	783
Cardiovascular	4,528	28	54	413	1,239	1,499	1,296
Digestive	837	36	66	158	266	199	113
Diabetes	256	0	2	20	105	130	0
Injuries	4,302	610	685	916	876	528	686
Epilepsy	430	51	50	100	116	69	46
Respiratory	386	10	27	57	90	96	105

Females

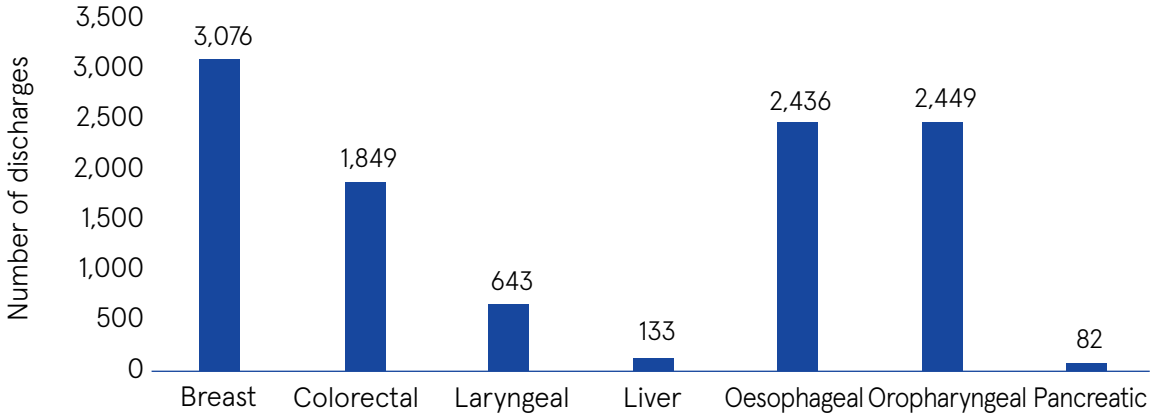
	Total	16–24	25–34	35–49	50–64	65–74	75–89
Cancer	3,908	8	92	1,065	1,881	633	229
Cardiovascular	−59	11	6	−28	−96	−16	64
Digestive	348	15	14	47	128	102	43
Diabetes	−2,879	−12	−47	−297	−1,067	−792	−664
Injuries	1,124	174	168	190	257	127	208
Epilepsy	149	28	24	35	39	14	10
Respiratory	111	6	10	18	25	17	36

Numbers may not add up to the row totals because of rounding

Alcohol-related cancer discharges

The number of alcohol-related cancer discharges in 2017 is presented in Figure 44. In 2017, a total of 10,667 partially alcohol-attributable discharges were due to cancer. The biggest proportion of alcohol-attributable cancer discharges was due to breast cancer (28.8% of alcohol-related cancer discharges), followed by cancer of the oesophageal tract (22.8%) and oropharyngeal cancer (23.0%).

Figure 44 Number of alcohol-related cancer hospital discharges, 2017



As shown in Figure 45, the number of alcohol-related cancer discharges was highest among the 50–64-year-old age group, and this was consistent for all types of alcohol-related cancer (see Table 25). Alcohol has been found to be a contributory factor in female breast cancer, but not male breast cancer; as such, there were no cases of male breast cancer attributable to alcohol in 2017. For all other cancers, the number of discharges was considerably higher among males than among females (Figure 46).

Figure 45 Alcohol-related cancer discharges in 2017, by age

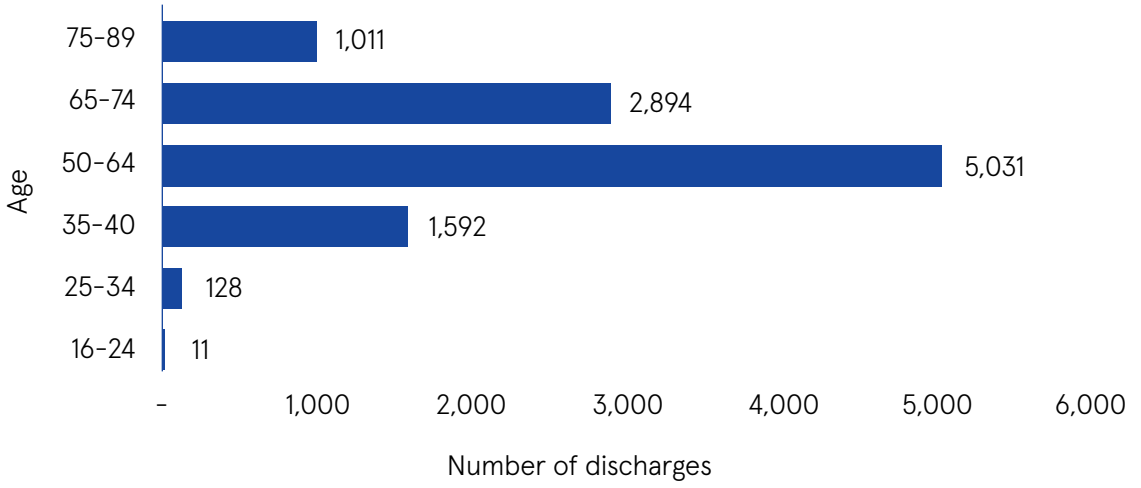


Figure 46 Alcohol-related cancer discharges in 2017, by gender

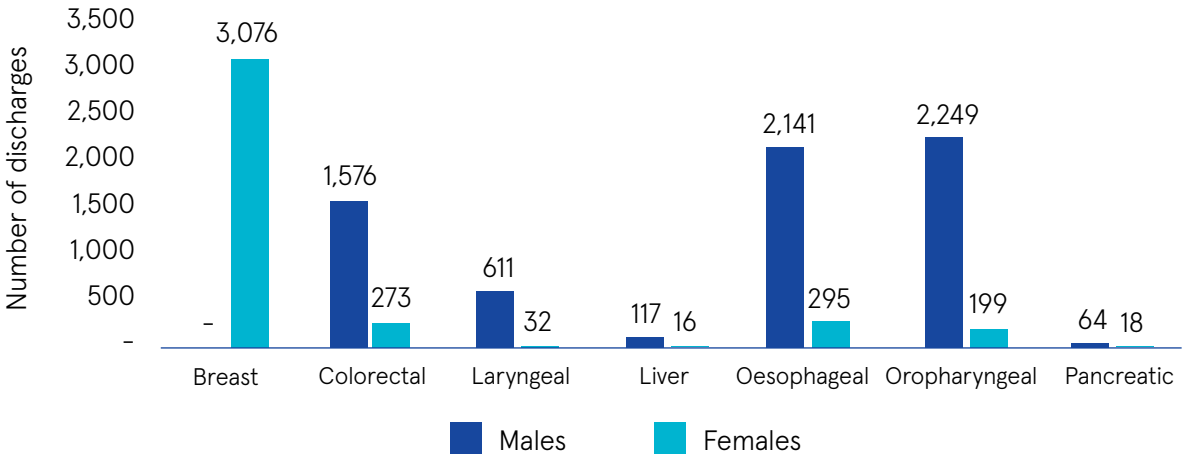


Table 25 Alcohol-related cancer discharges in 2017, by gender and age

Males

	16–24	25–34	35–49	50–64	65–74	75–89	Total
Colorectal	0	7	127	667	551	224	1,576
Laryngeal	0	1	46	298	208	59	611
Liver	1	2	8	48	40	18	117
Oesophageal	0	25	124	866	769	357	2,141
Oropharyngeal	2	1	218	1,246	666	116	2,249
Pancreatic	0	0	5	25	26	8	64

Females

	16–24	25–34	35–49	50–64	65–74	75–89	Total
Breast	3	84	963	1,472	407	146	3,076
Colorectal	0	5	42	134	70	21	273
Laryngeal	0	0	2	23	1	6	32
Liver	0	0	2	8	4	3	16
Oesophageal	0	2	19	132	95	46	295
Oropharyngeal	4	1	35	105	47	7	199
Pancreatic	0	0	2	7	8	0	18

Numbers may not add up to the row totals because of rounding

Conclusion

Between 2012 and 2017, there were at least 121,919 hospital discharges from partially alcohol-attributable conditions. When this is combined with wholly alcohol-attributable conditions, alcohol was responsible for at least 230,604 discharges from Irish hospitals over that six-year period. It is important to note that the burden of partially alcohol-attributable conditions from alcohol consumption is likely underestimated in this analysis. The AAFs used to calculate partially alcohol-attributable hospital discharges were based on self-reported Irish alcohol consumption. Previous research in Ireland has shown that self-report surveys account for less than 40% of Irish alcohol sales.[26] Therefore, the figures reported in this analysis represent the minimum number of discharges due to partially alcohol-attributable conditions; the true number is likely considerably higher. Alcohol is a preventable risk factor,[10] meaning that the burden placed on Irish hospitals by alcohol-related admissions could be greatly reduced by an overall reduction in alcohol consumption in the Irish population. This is not to mention the costs to a person's health, quality of life, and relationships that can arise due to alcohol use.[151]

Alcohol and the emergency department

There is anecdotal evidence that alcohol-related presentations constitute a significant burden to emergency departments in Ireland, however, these data are not routinely collected. A 2015/16 study sought to determine the prevalence of alcohol-related presentations in all 29 emergency departments in Ireland across four specified 6-hour periods, and to compare these presentations with non-alcohol-related presentations. Across the four time periods 5.9% of presentations were alcohol-related, varying from 29.0% in the early hours of Sunday morning to 1.2% on Monday morning. The alcohol-related presentations were more likely to be men, attend on early hours of Sunday morning, arrive by ambulance, leave before being seen by a doctor or leave against medical advice; and they were less likely to be admitted to hospital. Injuries were common among the alcohol-related presentations – 46.6% had unintentional injuries, and 11.6% had intentional injuries caused by a third party who was affected by alcohol.[148]

There are no official statistics in Ireland on the number of emergency department admissions due to alcohol use. Data from England indicates that alcohol-related conditions accounted for one in ten (11.7%) emergency department admissions in England [152], indicating that the burden that alcohol places on Irish hospitals is greatly under-estimated due to the omission of emergency department figures. Hope and colleagues (2005) investigated the prevalence of alcohol-related injuries presenting at emergency departments in six major acute hospitals in Ireland over a 14-month period using probability sampling. They found that one-quarter (28%) of patients in attendance with an injury at an emergency department had consumed alcohol prior to the injury. This represented a total of 618 patients, of whom 478 (22%) reported drinking in the 6 hours prior to their injury, an additional 96 (4%) who were too intoxicated to complete interview and a further 44 (2%) patients reported their injury was caused by another person who was drinking at the time of them sustaining their injury. [152] [153]

Harm to others from drinking

Alcohol-related harm can also affect those other than the drinker, including children and family members, co-workers, strangers, neighbourhoods and communities, and society. The harms experienced as a result of someone else's drinking include, but are not confined to, intentional and non-intentional injury arising from assault, domestic violence, drink driving and workplace accidents; harm to family members in the form of psychological distress and suffering from child neglect and/or abuse, poverty, and marital separation and divorce; property damage; reduced work-related performance; loss of public amenity or peace of mind through public disturbances; and fetal alcohol syndrome.

In 2018, the Health Service Executive (HSE) launched the results of the first dedicated Irish survey on alcohol's harm to others, which was undertaken in 2015. In the 12 months prior to the survey, 51% reported experiencing harm due to strangers' drinking; these harms included being kept awake at night by drunken noise (26%), harassed on the street (23%), and feeling unsafe in public places (19%). Two in five (44%) reported experiencing harm from known drinkers in their life. The most common of these harms were being stressed or anxious (22%), called names or insulted (16%), and harassed in private (16%). More women than men reported the psychological harm items of stress, family problems, feeling threatened at home, feeling depressed, and having financial trouble due to the drinking of known drinkers, while more men reported the tangible harm items of being a passenger with a drunk driver and of ruined belongings. Among respondents who were in paid employment, 14% reported harm due to co-workers' drinking. The specific harms most often mentioned were reduced productivity (7%) and having to cover for co-workers due to their drinking (7%). Overall, one in six carers (16%) reported that children for whom they had parental responsibility experienced harm as a result of someone else's drinking. The most common specific harms were a child negatively affected (12%), followed by verbal abuse (9%), and a child witnessing serious violence in the home (4%). Carers from the lowest household weekly income group and those separated were most likely to report harm to children due to others' drinking.

The total estimated cost of alcohol's costs to others was €863 million, with the authors stating that a conservative approach was used in estimating costs. This cost estimate only includes tangible costs and not the intangible cost (fear, pain, suffering, lost quality of life) of alcohol's harm to others, which are likely to be substantial. It also excludes information from health and social agencies, including police data, road crash mortality and morbidity, deaths statistics, hospital records, child protection agency data, alcohol and drug services and helpline data.

The 2016 Healthy Ireland Survey asked all respondents (including non-drinkers) if they had experienced any of five harms arising from others' drinking (Tables 26 and 27). The overall prevalence of experiencing at least one of the five harms as a result of someone else's alcohol use was 12%, with men more likely to report such harm (14.9%) than women (9.2%). The likelihood of experiencing one or more alcohol-related harms, as a result of others' drinking, decreased somewhat with age. One in five (19.2%) of 15–24 year olds had experienced at least one harm in the 12 months prior to the survey; one in ten (11.2%) had been assaulted by a person who had been drinking and 7.2% had been a passenger with

a drunk driver. Those who engaged in regular HED (binge drinking) were most likely to experience each of the five harms. Of note, 7.1% of non-drinkers and 6.3% of non-binge drinkers experienced at least one harm, highlighting that alcohol-related harm is not just confined to those who drink in a hazardous or harmful manner. [93]

Table 26 Negative consequences from others' alcohol consumption in the previous year, by gender and age

		Gender		Age group				
	All	Male	Female	15–24	25–34	35–49	50–64	65+
Had property vandalised	5.0	5.7	4.3	8.4	5.8	5.7	3.5	2.1
Passenger with drunk driver	4.4	6.1	2.8	7.2	5.0	5.0	3.1	1.9
Assaulted by person who had been drinking	5.3	7.4	3.3	11.2	7.2	5.3	2.9	1.5
Money problems	3.4	4.0	2.9	3.2	4.6	4.4	2.5	1.9
Family problems	6.0	6.1	5.9	7.3	7.5	7.0	4.8	3.1
Any harm	12.0	14.9	9.2	19.2	14.7	12.9	8.9	5.4

Table 27 Negative consequences from others' alcohol consumption in the previous year, by drinking pattern

	Non-drinker	Non-binge drinker	Occasional binge drinker	Regular binge drinker
Had property vandalised	3.1	3.0	4.4	8.4
Passenger with drunk driver	1.7	1.8	3.5	9.2
Assaulted by person who had been drinking	2.3	2.5	4.0	10.9
Money problems	2.6	2.3	2.4	5.5
Family problems	4.2	3.6	5.9	9.0
Any harm	7.1	6.3	11.5	20.7

Public awareness of alcohol-related health conditions

Despite the growing evidence regarding the contribution of alcohol to the global burden of disease and mortality, the available research demonstrates poor public knowledge of the association between alcohol and a range of alcohol-related health conditions, including cancer.[154,155] For example, a population-based study of adults in England[155] indicated that, unprompted, only 12.9% of respondents identified cancer as a potential health risk associated with alcohol use. This rose to just under half of respondents (47.0%) when they were prompted with the knowledge of the link between cancer and alcohol, with the proportion of respondents identifying the contribution of alcohol to specific types of cancer varying from 18% (breast) to 80% (liver). Respondents also identified associations between alcohol consumption and bladder (54%), brain (32%), and ovarian (17%) cancers, despite no evidence existing to support an association between alcohol and any of these cancers. Similarly, in a study of more than 2,000 adults in New South Wales, Australia, less than one-half of respondents identified alcohol consumption as a risk factor for developing cancer.[154]

With the exception of liver disease,

awareness of the link between alcohol and alcohol-related conditions is low

21% of the public including 27% of women, are aware of the link between alcohol and breast cancer

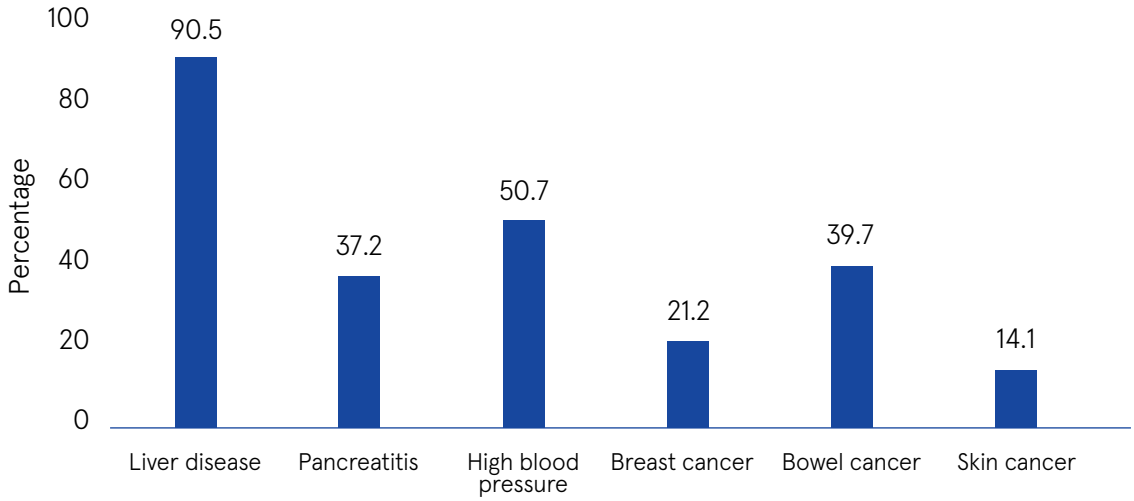
Public awareness of alcohol-related health conditions in Ireland

We used data from Wave 2 of the Healthy Ireland Survey to explore public awareness of the association between alcohol use and the risk of developing five alcohol-related health conditions: liver disease, pancreatitis, high blood pressure, female breast cancer, and bowel cancer. Respondents were also asked if there was an association between skin cancer and alcohol consumption, despite no such relationship existing. Healthy Ireland is a nationally representative cross-sectional survey of adults aged 15 years and over in Ireland. Respondents were selected using a probability-based methodology, and face-to-face, computer-assisted interviews were carried out in respondents' homes. A total of 7,498 respondents took part in Wave 2 of the survey, with interviews completed between September 2015 and May 2016. More details on the sample and the sampling process can be found in the Healthy Ireland Survey 2016 – Technical Report.[30]

Findings

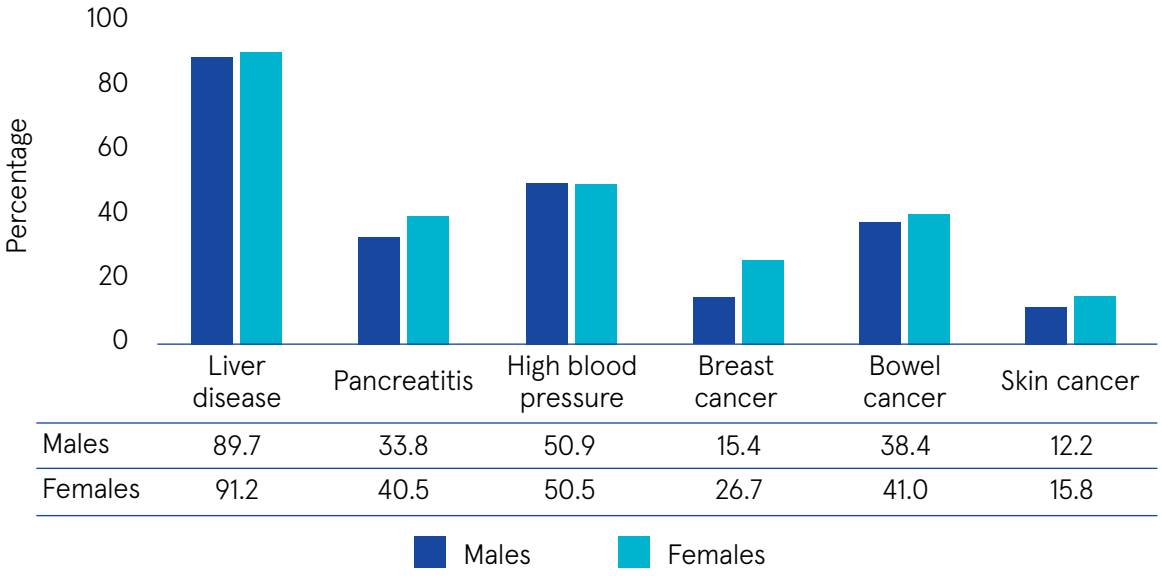
Respondents' awareness of the six alcohol-related health conditions is displayed in Figure 47. With the exception of liver disease (90.5%), knowledge of the link between alcohol and the other four alcohol-related conditions was poor, ranging from 21.2% for breast cancer to 50.7% for high blood pressure. Some 14% of respondents identified alcohol consumption as a risk for developing skin cancer, despite no evidence existing to support such a link.

Figure 47 Proportion of respondents who believe selected health conditions are related to consuming more than the recommended number of standard alcoholic drinks in a week



The gender breakdown of respondents' knowledge of the selected alcohol-related conditions is presented in Figure 48. With the exception of high blood pressure, females' awareness of alcohol-related conditions was slightly better than that of males. However, a higher proportion of females also incorrectly reported an association between alcohol consumption and skin cancer.

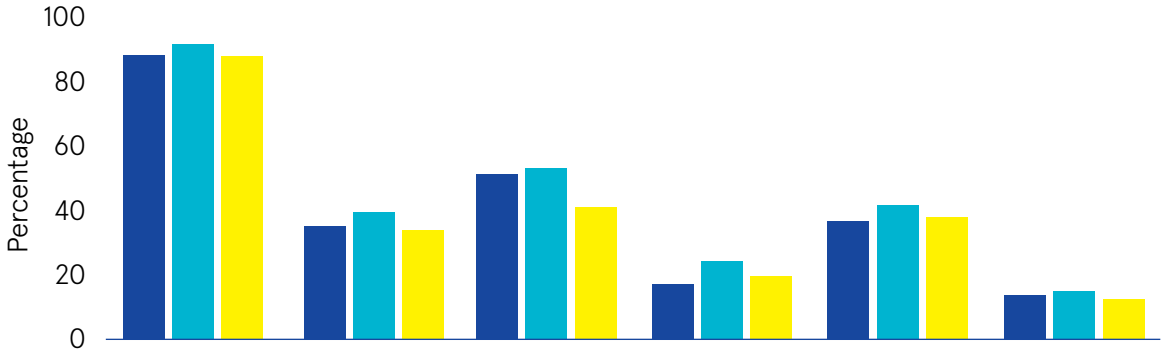
Figure 48 Proportion of respondents who believe selected health conditions are related to consuming more than the recommended number of standard alcoholic drinks in a week, by gender



	Liver disease	Pancreatitis	High blood pressure	Breast cancer	Bowel cancer	Skin cancer
Males	89.7	33.8	50.9	15.4	38.4	12.2
Females	91.2	40.5	50.5	26.7	41.0	15.8

The age breakdown of responses is presented in Figure 49. For all alcohol-related health conditions awareness was highest among those aged 35–64. Overall, the differences in awareness across age brackets were relatively small. [29]

Figure 49 Proportion of respondents who believe selected health conditions are related to consuming more than the recommended number of standard alcoholic drinks in a week, by age



	Liver disease	Pancreatitis	High blood pressure	Breast cancer	Bowel cancer	Skin cancer
15-34	89.2	35.2	51.7	17.3	37.0	13.6
35-64	91.9	39.6	53.2	24.4	42.0	14.9
65+	88.5	34.0	41.2	19.5	38.3	12.6

With the exception of liver disease, public awareness that alcohol can increase the risk of developing a variety of health conditions is low. Awareness varied greatly across specific conditions, with approximately half of the public being aware that increased alcohol consumption is linked to high blood pressure, compared with less than one-quarter being aware of the link between alcohol consumption and female breast cancer. The poor public awareness of the link between alcohol consumption and the selected conditions, particularly in terms of alcohol-related cancers, is of concern. Between 2012 and 2017, there were 55,097 discharges from Irish hospitals due to alcohol-related cancers. Despite these figures, it is clear that the general public is not aware of the potential risks associated with increased alcohol consumption. These findings provide support for the timely implementation of health warning labels on alcohol products as set out in the Public Health (Alcohol) Act 2018.

05

Alcohol-related mortality, morbidity and treatment in Ireland

Data on alcohol-related deaths in Ireland are collected by the National Drug-Related Deaths Index.

The National Drug-Related Deaths Index

The National Drug-Related Deaths Index (NDRDI) is a census of drug- and alcohol-related poisoning deaths (deaths due to the toxic effects of one or more substances on the body), and of deaths among people who used drugs and/or people who were alcohol dependent in Ireland. Data are collected from four sources:

- The Coroner Service
- The General Register Office (accessed via the Central Statistics Office (CSO))
- Acute hospital records (accessed through the Hospital In-Patient Enquiry (HIPE) scheme), and
- The national methadone treatment register, the Central Treatment List (CTL).

Cases from the different data sources are cross-matched on a selection of variables – including name, gender, county of residence, date of birth, and date of death – in order to avoid duplication and to ensure that information on each death is complete.

An alcohol-related death is only recorded when it meets one of the following criteria:

- Alcohol is implicated on the death certificate or in the verdict by the coroner.
- It is mentioned (in the data files) that the deceased was 'an alcoholic', 'addicted to alcohol' or 'alcohol dependent', or had 'alcohol dependence syndrome' (exact terms only).
- It is mentioned that the deceased suffered from 'chronic alcohol use/abuse' (exact terms only).
- The pathologist or other medical professional states that the deceased had an alcohol-related condition, such as alcoholic liver disease, alcoholic cirrhosis, alcoholic steatosis, alcoholic fatty liver, alcoholic hepatitis, alcohol-induced pancreatitis, alcoholic cardiomyopathy, liver disease due to alcohol abuse, etc. For any cases entered solely on the basis of 'alcoholic steatosis', 'alcoholic fatty liver', or 'alcoholic ketoacidosis', particular attention is given to the details surrounding the event, as these conditions can also be the result of acute alcohol consumption.
- The deceased has a recorded history of treatment for alcohol use; for example, the deceased:
  - Went through detoxification
  - Was given detoxification drugs, e.g. Antabuse (disulfiram) or Librium (chlordiazepoxide) (it must be stated in the file that the drug was administered in relation to alcohol (including alcohol withdrawal)), or
  - Attended, or was recommended to attend, Alcoholics Anonymous.

The cause of death is recorded as per the text on the death certificate. The cause of death is then re-coded by NDRDI staff using International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10) coding. A full list of ICD-10 codes used

for this purpose is provided in Appendix 3. The NDRDI does not record all deaths that are partially attributable to alcohol, or deaths where the term 'alcohol misuse' or 'alcohol abuse' is recorded in the data sources, and so the data presented here are likely to be an underestimate of alcohol-related mortality in Ireland.

Trends in alcohol-related mortality

The analyses of alcohol-related mortality presented in this overview relate to the years 2008–2017. The analyses were kindly carried out and provided to us by NDRDI staff. Alcohol-related deaths from 2008 to 2017 are presented in Table 28. During this 10-year period, a total of 10,803 alcohol-related deaths were recorded, accounting for 3.7% of all deaths in Ireland during this time. There were 8,000 male and 2,803 female deaths, accounting for 5.4% of all male deaths and 2.0% of all female deaths in Ireland during this time period.

The number of alcohol-related deaths has remained relatively stable over time, peaking in 2016. As presented in Figure 50, the gender profile of alcohol-related deaths has also remained similar over time. Between 2008 and 2017, just over seven in ten alcohol-related deaths were males, while just under three in ten were females. The age profile of alcohol-related deaths from 2008 to 2017 is presented in Figure 51. Alcohol-related deaths of 15–34-year-olds remained relatively constant from 2008 to 2013, when they reached a modest peak, and deaths in this age group almost halved between 2013 and 2017 (declining from 92 to 53). The 50–64-year-old age group consistently accounts for the highest number of alcohol-related deaths each year, and accounted for two-fifths (39.1%) of all alcohol-related deaths between 2008 and 2017. Deaths among those aged 65 years and over have shown an increase over time, increasing by 22.6% between 2008 and 2017. Overall, seven in ten deaths (70.3%) occurred in persons aged under 65 years, highlighting the level of premature mortality associated with alcohol.

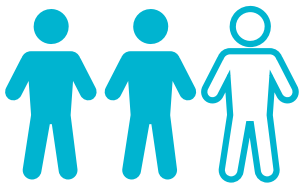
In 2017, there were

1,094 deaths,

which is an average of three deaths per day.

This corresponds to

4% of all deaths



Two in three

people who die in Ireland of alcohol-related causes are aged

under 65 years

Figure 50 Alcohol-related deaths, by gender, 2008–2017

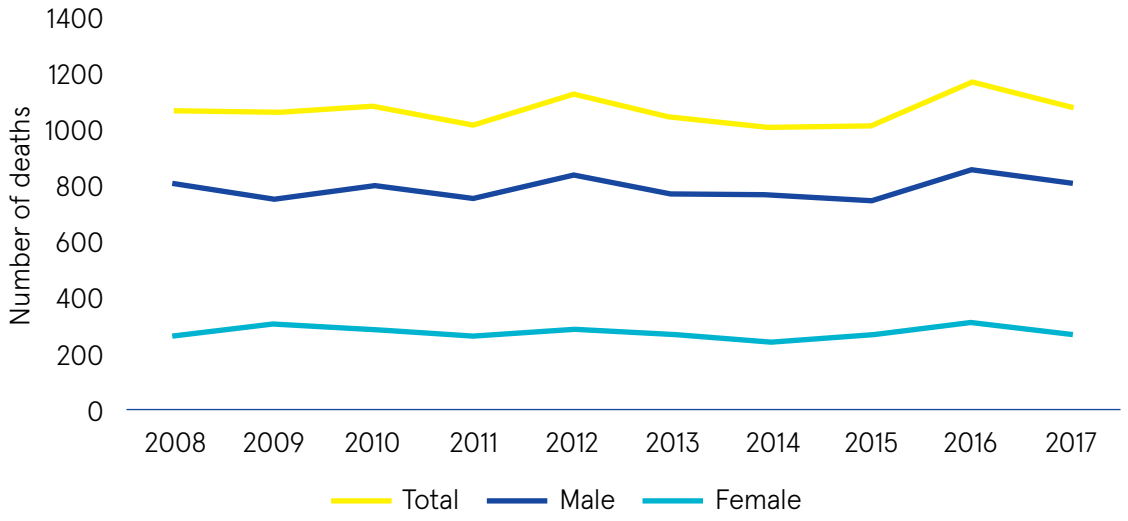
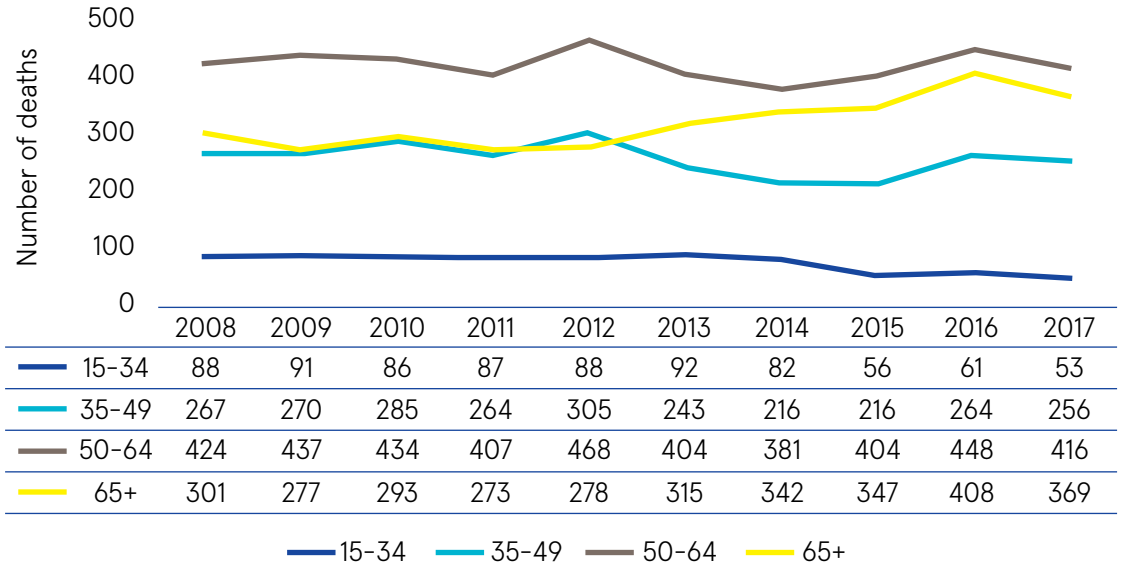


Table 28 Alcohol-related deaths, by gender, 2008–2017

	Total	Male	Female	Percentage of total deaths
2008	1,080	814	266	3.8
2009	1,075	764	311	3.8
2010	1,099	807	292	3.9
2011	1,031	765	266	3.6
2012	1,139	849	290	3.9
2013	1,055	784	271	3.6
2014	1,021	776	245	3.5
2015	1,027	756	271	3.4
2016	1,182	865	317	3.9
2017	1,094	820	274	3.6
Total	10,803	8,000	2,803	3.7

Figure 51 Alcohol-related deaths, by age, 2008–2017



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
15-34	88	91	86	87	88	92	82	56	61	53
35-49	267	270	285	264	305	243	216	216	264	256
50-64	424	437	434	407	468	404	381	404	448	416
65+	301	277	293	273	278	315	342	347	408	369

Alcohol-related mortality by diagnosis

The NDRDI collects detailed information on the cause of each death. For the purposes of this overview, we have classified the cause of death into three categories: medical causes (e.g. alcoholic liver disease, cancer, cardiac conditions), poisonings, and traumatic causes (e.g. falls, choking, drowning). In 2017, there were 1,094 alcohol-related deaths in Ireland. Of these, 125 deaths (11.4%) were due to poisoning, 159 (14.5%) were due to traumatic causes, and 810 (74.0%) were due to medical causes. As seen in Figure 52, similar proportions of males and females were classified as dying from medical, poisoning, and traumatic causes. The cause of death varied considerably between age groups. As seen in Figure 53, almost two-fifths (37.7%) of deaths among those in the youngest age group were due to poisonings. However, for those in the 50–64-year-old age group, the share of deaths due to poisonings decreased to 10.3%, and for those aged 65 years or over, just 2.2% of deaths were caused by poisonings. This trend is similar to that observed for the alcohol-related hospitalisations data and is probably to be expected, as people in the 15–34-year-old age group are most likely to engage in HED and risk-taking behaviour.[29] Six in ten (59.0%) of those aged 35–49 years had a medical cause of death, and the likelihood of dying of a medical cause increased with age.

Figure 52 Diagnosis of alcohol-related deaths in 2017, by gender

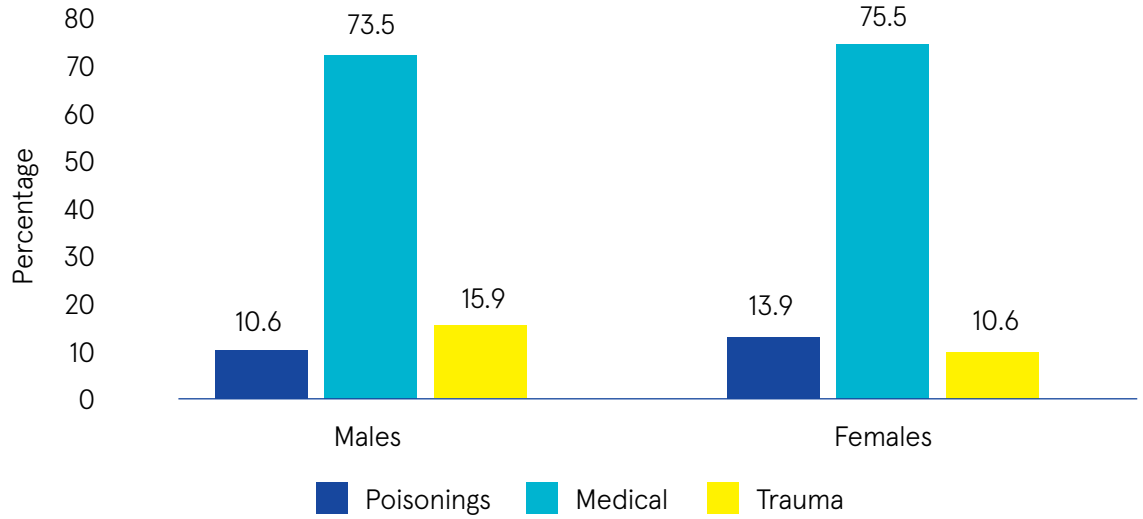
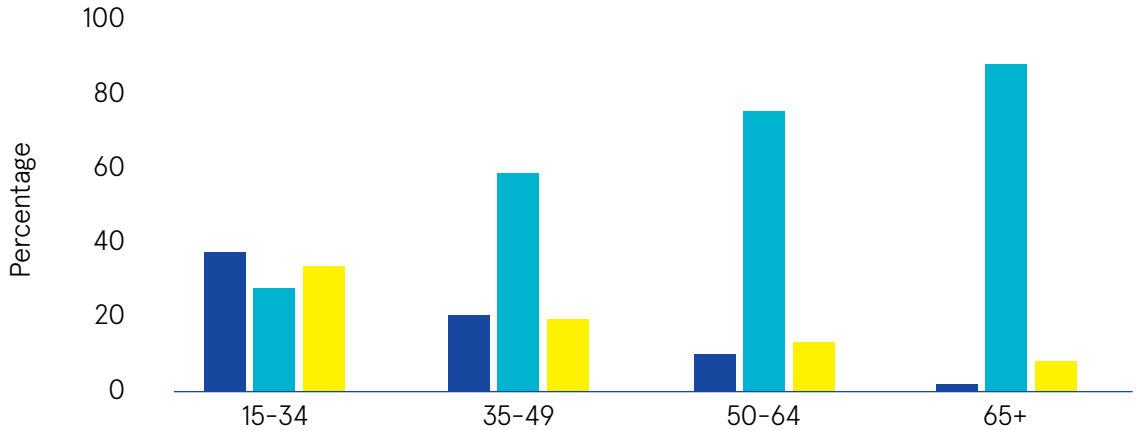


Figure 53 Diagnosis of alcohol-related deaths in 2017, by age



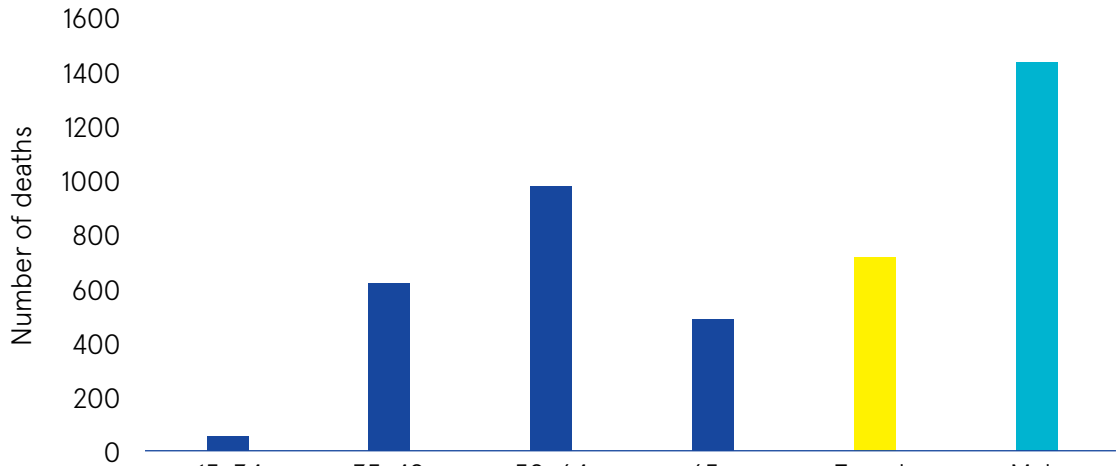
	15-34	35-49	50-64	65+
Poisonings	37.7	21.1	10.3	2.2
Medical	28.3	59.0	76.2	88.6
Trauma	34.0	19.9	13.5	9.2

Liver disease

In the 10-year period from 2008 to 2017, there were 2,173 deaths with a diagnosis of liver disease. The gender and age profile of deaths from liver disease are presented in Figure 54. One-third (33.4%) of these were females, while two-thirds (66.6%) were males. Almost half (45.3%) of deaths from liver disease were among those in the 50–64-year-old age group. The number of deaths was lowest among those aged 15–34 years, with a total of 64 deaths for this

age group between 2008 and 2017. However, this number is still of concern, given that liver disease is a condition that may take years of heavy alcohol consumption before it develops. Considering the rising rates of hospitalisations due to alcoholic liver disease in Ireland, it will be important to continue to monitor mortality trends for liver disease in the future.

Figure 54 Alcohol-related deaths with a diagnosis of liver disease, by gender and age, 2008–2017



	15-34	35-49	50-64	65+	Female	Male
Total	64	630	984	495	726	1,447

Fire deaths

A recent study by the HRB[156] highlighted the role of alcohol in deaths from fires in Ireland. The study found that between 2014 and 2016, there were 101 fires with 106 fire-related fatalities recorded in closed inquest cases. Toxicology reports were available for the majority of those who died due to fires (n=91). Just over one-half (51%) of people who died in fires during this period had alcohol in their blood. Almost two-thirds (64%) of this group had a blood alcohol concentration (BAC) of 160 mg/100 ml (more than three times the legal driving limit of 50 mg/100 ml), at which point impaired balance and coordination, and possible loss of consciousness, would considerably reduce a person's ability to respond to fire. Fifty-four (46%) of those with alcohol recorded in their blood were aged 65 years or over. Men were more likely to have alcohol in their system and were more likely to have a higher BAC. Among men with a BAC of 160mg/100ml or higher, more than one-half (57%) were aged 35–59 years.

Suicide and self-harm

The link between alcohol use and both self-harm and suicide has been extensively documented in the research literature. According to the Global Burden of Disease Study, alcohol was the leading risk factor for mortality among those aged 15–49 years, with suicide being the third leading alcohol-related cause of death.[10] Both chronic heavy drinking and acute alcohol consumption have been shown to be associated with an increased risk of suicidal behaviour.[10,157] A systematic review of 92 studies, representing 167,894 people who died by suicide, found that 27% of all suicide decedents had alcohol in their blood at the time of death.[158] A separate systematic review of seven studies explored the association between suicide attempts and acute alcohol use found that acute alcohol use significantly increased the likelihood of suicide attempts, particularly when consumed at high levels.[159]

Heavy drinkers and those who are dependent on alcohol have also been shown to be at higher risk of suicidal behaviour.[160,161] The strength of the relationship between alcohol and risk of suicidality has been found to vary across cultures, with higher incidence of suicide reported in countries where intoxication and binge drinking are prominent features of the drinking culture.[161] There is also evidence to suggest that alcohol policies may have the potential to reduce suicide rates in these countries. For example, a study in the USA of 51,547 suicide deaths that occurred between 2003 and 2011 found that higher densities of both on- and off-trade alcohol premises were associated with a greater proportion of alcohol-related suicides among men.[162]

The relationship between alcohol and suicide, explained

The relationship between suicide and alcohol is complex and there are a number of mechanisms by which alcohol use may increase the risk of suicidality. Acute alcohol consumption may increase the risk of suicide through the cognitive effects it has on the brain. Drinking alcohol may increase feelings of despair and hopelessness, decrease inhibitions, and increase impulsivity, all the while narrowing one's cognitive ability to find alternative solutions to their problems.[88] The high risk of suicidal behaviour among those who abuse alcohol could then be explained by the interaction between these vulnerability factors and stressful life events.[88] The detrimental effects that alcohol abuse may have on social integration, including its effects on relationships in the workplace and with family members, may also increase a person's risk of suicide.[163]

It is also important to note that the elevated risk of suicidal behaviour and alcohol intoxication or alcohol use disorders may not be directly caused by alcohol. Harmful alcohol use and suicidal behaviour have common risk factors (e.g. psychiatric disorders, adverse childhood experiences, personality traits), and these common risk factors may account for some of the suicidality risk.[89] Therefore, when reporting the number of suicide cases in which alcohol was involved, we should note that some of these suicides may have occurred regardless, even in the absence of alcohol. Conversely, it is also possible that some suicides were alcohol related, even if they did not involve alcohol at the time of death. For example, one family member's alcohol abuse may increase suicidal thoughts or suicidal behaviour within other family members.[88]

Likely mechanisms include the adverse effects of alcohol misuse on other family members, such as physical or emotional abuse and financial problems, which in turn may increase the risk of suicidal behaviour in affected family members.[164]

Suicide and alcohol in Ireland

Suicide in Ireland, particularly among young males, remains an important public health issue. In 2019, there were 421 deaths from suicide in Ireland, of which 75% (317 deaths) were males.[2] Men aged between 45 and 54 years are more likely than any other group to die by suicide,[165] and suicide rates among young Irish men (aged 15–19 years) are among the highest in Europe.[166]

It is not clear what proportion of suicides in Ireland each year are alcohol-related. However, there is some information on alcohol-related suicide from the Cork region. The Suicide Support and Information System (SSIS) was established and piloted in the Cork region in 2008, and it collects information on risk factors associated with suicide and deaths classified as open verdicts in this region. Using data from the SSIS, Arensman ***et al.*** analysed 121 cases of individuals who had died by suicide between May 2007 and June 2012. Based on toxicological analysis of samples taken at post-mortem examination, 79.5% of the total sample had used either alcohol or drugs at the time of death. One-quarter (24.1%) had "alcohol only" written in their toxicology report, while the remainder had taken alcohol and other drugs. The authors found that younger persons (aged 15–24 years) who died at weekends were more likely to have had alcohol found in their toxicology. Younger people are more likely to consume alcohol at weekends, and it is possible that alcohol may increase the risk of suicide in this age group by exacerbating depressive thoughts and increasing disinhibiting thoughts and impulsive behaviour.[167]

There is also some evidence available from Northern Ireland regarding alcohol's association with suicide. O'Neill ***et al.*** analysed data from 1,671 deaths by suicide in Northern Ireland between 2005 and 2011 using information from the coroner's files on suicides and undetermined deaths. There was evidence of alcohol use in two-fifths (41%) of all cases. However, suicide rates and the characteristics of suicide may vary between the Republic of Ireland and Northern Ireland due to sociodemographic differences, varying prevalence of mental illness, and the unique historical context of Northern Ireland, which has been associated with high levels of intergenerational trauma.[168]

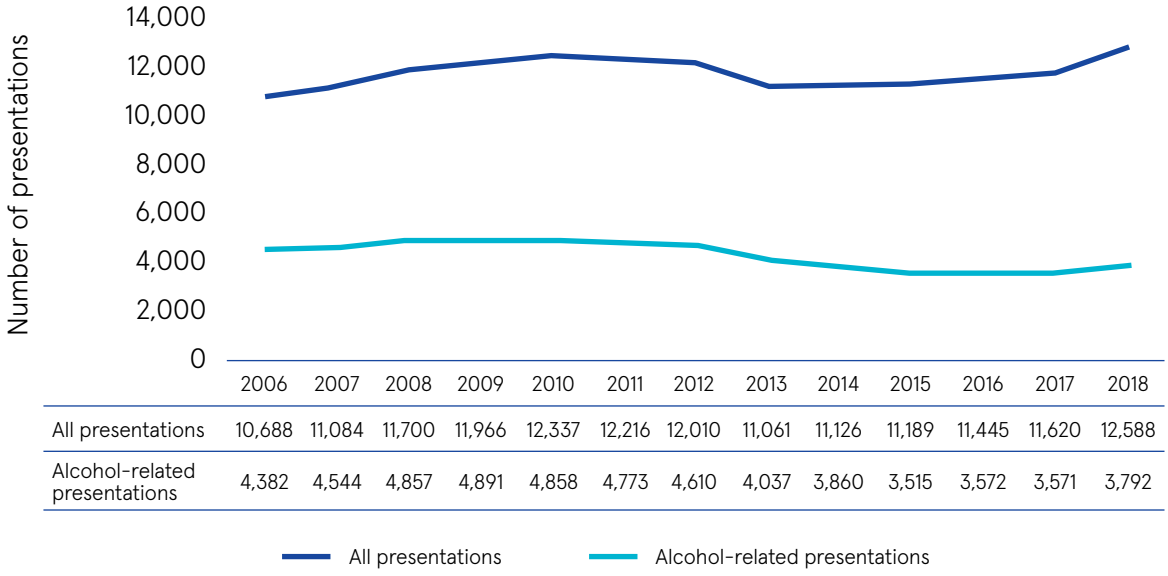
Self-harm and alcohol in Ireland

The National Self-Harm Registry Ireland (NSHRI) is a national system of population monitoring for the occurrence of hospital-treated self-harm, established by the National Suicide Research Foundation. The NSHRI collects data on all persons presenting to hospital EDs due to self-harm in the Republic of Ireland. Since 2006, all general and paediatric hospital EDs in the Republic of Ireland have contributed data to the NSHRI.

The numbers of self-harm presentations and alcohol-related self-harm presentations in Ireland are presented in Figure 55. In 2018, there were 12,588 recorded episodes of self-harm in Ireland. Alcohol-related self-harm presentations accounted for almost one-third (30%) of all cases.

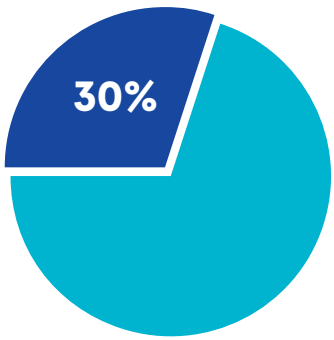
Alcohol was significantly more common in male presentations of self-harm (34%) compared with female presentations (27%). Alcohol was also associated with peaks in attendances at night, at weekends, and on public holidays.[169]

Figure 55 Number of deliberate self-harm presentations in Ireland, 2006–2018



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
All presentations	10,688	11,084	11,700	11,966	12,337	12,216	12,010	11,061	11,126	11,189	11,445	11,620	12,588
Alcohol-related presentations	4,382	4,544	4,857	4,891	4,858	4,773	4,610	4,037	3,860	3,515	3,572	3,571	3,792

A study of all self-harm presentations recorded by the NSHRI between 2012 and 2014 reported that intentional drug overdose was the most common form of self-harm resulting in hospitalisation. Between 2012 and 2014, the NSHRI recorded 18,329 presentations of intentional drug overdose to Irish EDs. Alcohol was implicated in 7,446 (40.6%) cases. It was more common in male presentations than in female presentations (44.7% versus 37.8%), and its occurrence was highest among those aged 25–34 years. Alcohol was most frequently consumed in presentations involving illegal drugs (47.8%) and anxiolytics (49.3%).[170]



In 2018, 30% of
self-harm
cases were
alcohol-related

Self-harm and public holidays

Griffin ***et al.*** looked at the types of self-harm presentations on public holidays in Ireland between 2007 and 2015. Over this nine-year period, a total of 104,371 self-harm presentations were recorded by the NSHRI. The mean number of self-harm presentations on public holidays was 32, with a mean of 44 presentations recorded on St Patrick's day. Alcohol was present in 43% of all self-harm presentations on public holidays, compared with 38% on other days. The authors reported that across all years, self-harm presentations on public holidays had a 24% increased risk of involving alcohol consumption compared with all other days, and the effect was more pronounced during the Christmas period. After controlling for other contributing factors, alcohol remained the most important factor in self-harm episodes on public holidays compared with all other days.[171] It is possible that these findings indicate that acute alcohol intoxication which often occurs around holiday periods may be a factor in episodes of self-harm.

Factors associated with alcohol-related self-harm in Ireland

A recent Irish study explored the factors associated with alcohol-related self-harm presentations to hospital EDs in the Republic of Ireland and Northern Ireland between April 2012 and December 2013.[172] It found that alcohol was present in 43% of all incidents of self-harm and was more prevalent in Northern Ireland than in the Republic of Ireland (50% versus 37%). Factors associated with alcohol being involved in self-harm incidents were being male, being aged between 25 and 64 years old, having engaged in a drug overdose, or attempted drowning. Out-of-hours presentations were more likely to have alcohol present, and these were most prevalent among females. This finding highlights the challenge of providing appropriate and timely care for those who are presenting with alcohol-related self-harm. Alcohol intoxication at the time of presentation to the ED may also provide additional challenges in providing care for patients, and may increase waiting times.[169]

Alcohol and domestic violence

In 2019 there were 20,763 contacts made with Women's Aid, during which there were 19,258 disclosures of domestic violence against women and 4,791 disclosures of abuse against children.[173] A 2005 survey[174] estimated that 1 in 7 Irish women have experienced severe physical, sexual or emotional abuse from a partner at some time in their lives. Findings from this survey also indicate that alcohol was involved 'some of the time' for 44% of respondents, 'always' for 27% of respondents and 'never' for 29%. There are no official statistics on alcohol use and the prevalence of domestic violence in Ireland. However, international research indicates that domestic violence is higher among women whose partners consume alcohol. A survey of violence against women in 28 European states, including Ireland, found that prevalence of physical and sexual violence by a current partner was significantly higher among partners of women who got drunk frequently. Prevalence of domestic violence among women whose partner doesn't drink or doesn't get drunk was 5%, compared to 23% amongst women whose current partner gets drunk at least once a month.[175]

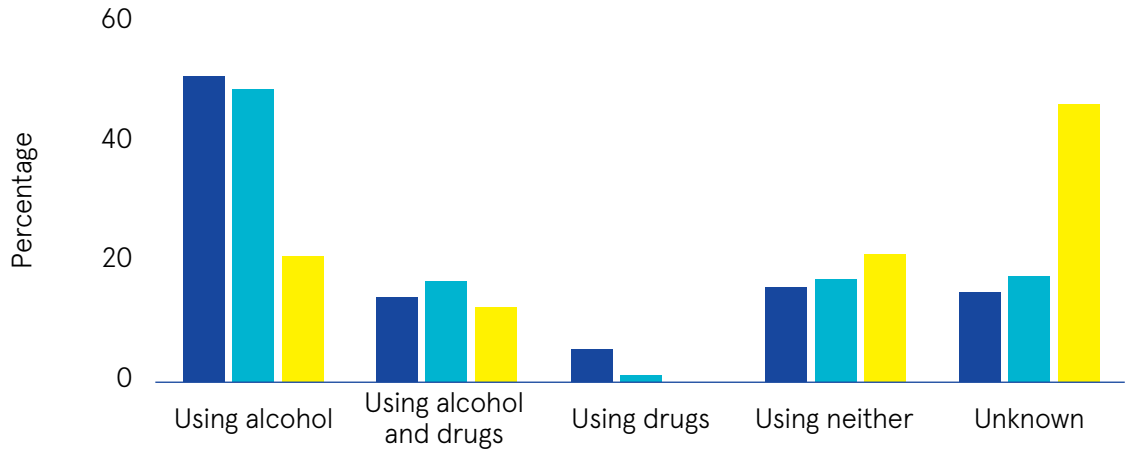
Alcohol and sexual assault in Ireland

The under-reporting of sexual assault makes it very difficult to estimate the extent of alcohol-related sexual violence and assault in Ireland. Central Statistics Office (CSO) crime reports have shown an increase in sexual crimes[176] but the only national-level Irish data regarding sexual violence and alcohol come from the 2002 Sexual Abuse and Violence in Ireland (SAVI) study of more than 3,000 Irish adults. It reported that 12% of men and 26% of women had experienced some level of sexual abuse in adulthood. Alcohol was involved in almost half of the cases of sexual abuse (53% for men and 45% for women).[177] Six sexual assault treatment units (SATUs) in Ireland provide clinical, forensic, and supportive care for those who have experienced sexual violence. In 2018, there were 941 attendances at the six SATUs in the Republic of Ireland. When recorded, 410 (44%) had consumed more than six standard drinks in the 24 hours prior to the incident, while 213 (23%) had not had any alcohol.

A recent survey conducted by the National University of Ireland, Galway and the Union of Students in Ireland investigated experiences of sexual assault among university students in Ireland.[178] Of the 6,026 students who completed the survey, 29% of females, 10% of males, and 28% of non-binary students reported non-consensual penetration through force or threat of force, or while incapacitated and unable to give consent. Of those students who indicated that they had experienced sexual misconduct (defined as non-consensual behaviour, including unwanted touching, attempted or completed penetration), alcohol was involved in the majority of cases (Figure 56). Two-thirds of males (64.4%) and females (64.6%) and one-third (33.3%) of non-binary students reported that their perpetrator had been consuming alcohol prior to the incident. Included in these figures, 13.9% of males, 16.4% of females, and 12.5% of non-binary students reported that their perpetrator had been using drugs alongside alcohol. Overall, two-thirds of the undergraduate students described their perpetrator as consuming alcohol, drugs, or both.

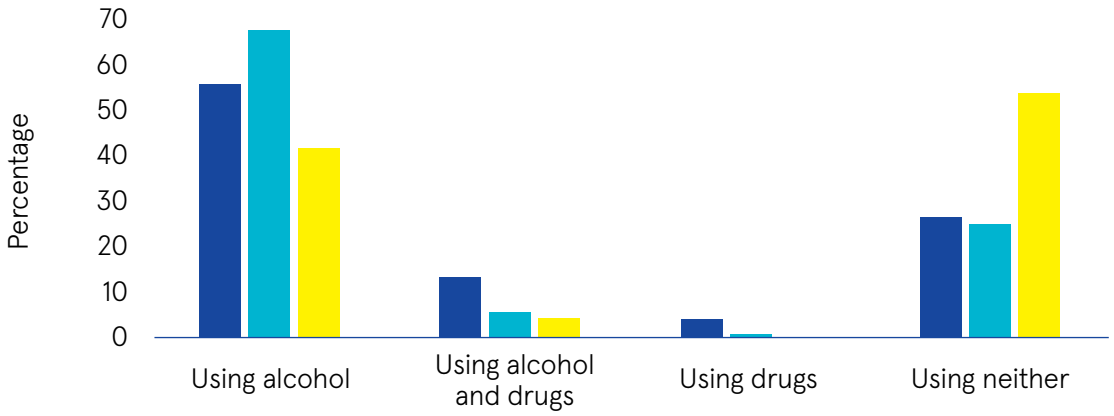
More than two-thirds (68.2%) of females, more than half (55.9%) of males, and two-fifths (41.7%) of non-binary students reported that they had been drinking alcohol at the time the incident occurred. A further 13.3% of males, 5.7% of females, and 4.2% of non-binary students reported using both drugs and alcohol at the time of the incident (Figure 57). These findings highlight that sexual violence is being perpetrated in the context of alcohol and drug use in Irish universities. Previous findings in Ireland indicate that women who have experienced sexual assault are less likely to report the assault for fear of being blamed.[179] Evidence from outside Ireland suggests that juries are also more likely to assign blame to sexual assault complainants who had been drinking at the time of the incident, and less likely to convict a defendant accused of sexually assaulting an intoxicated woman.[180] Underlying attitudes towards alcohol and sexual assault need to be urgently addressed in order to reduce victim-blaming and its associated harms, especially given the high involvement of alcohol in incidents of sexual assault in Ireland. It is also important to note, that the findings here relate to a student population, and are not representative of the younger population as a whole. International literature indicates that women from lower-socioeconomic backgrounds, who are less likely to attend third level education, are more vulnerable to sexual violence.[181, 175]

Figure 56 Use of alcohol and/or drugs by the perpetrator prior to the incident



Male	50.5	13.9	5.2	15.5	14.9
Female	48.2	16.4	1.1	16.9	17.3
Non-binary	20.8	12.5	0.0	20.8	45.8

Figure 57 Use of alcohol and/or drugs by the complainant prior to the incident



Male	55.9	13.3	4.1	26.7
Female	68.2	5.7	0.8	25.3
Non-binary	41.7	4.2	0.0	54.2

Attitudes towards sexual consent and alcohol use among young people in Ireland

Surveys of third-level students in Ireland reveal worrying attitudes regarding alcohol consumption and sexual consent among young people. In a study of attitudes towards consent among third-level students in Ireland,[182] a total of 753 students were given a vignette where two students, "Neil" and "Carol", went home together. The students were given a moderate drinking scenario and a heavy drinking scenario. In the moderate drinking scenario, the characters consumed approximately 14 standard drinks each, which is the equivalent of 7 pints of beer or 14 pub measures of vodka, before having sex. In the heavy drinking scenario, the characters consumed 28 standard drinks each – the equivalent of 14 pints of beer or a large bottle (one litre) of vodka. The majority of students (67%) did not think Carol was too drunk to give consent even after drinking 28 standard drinks. Alcohol may impact a person's capacity to make an informed, considered choice about whether to agree to engage in intimacy with another person. Alcohol consumption at the level at which the characters in the story were drinking would have led to significant cognitive and behavioural impairments.[182] These findings indicate a worrying attitude regarding consent and alcohol use among students. Achieving enhanced awareness among young adults in college of the impact of drinking on the capacity to give consent should be a matter of urgency.

Participants in the study were also asked five questions related to the consequences of alcohol consumption on their own sexual behaviour over the past year. In the 12 months prior to their participation in the study, participants' alcohol consumption had resulted in: regretted sexual experiences for 26% of females and 28% of males; neglecting to use contraception for 25% of females and 25.5% of males; having sex with someone they would not normally have sex with for 25.5% of females and 28.5% of males; being pressured or forced into having sex for 7% of females and 3% of males; and forcing or pressuring someone into sexual activity for 2% of both females and males (1.5% of females and 3% of males reported that they were not sure if they had done this).[183] Again, these findings highlight a complex relationship between sexual experiences, consent, and alcohol consumption among young people in Ireland. Enhancing awareness around the role of alcohol in consent and sexual behaviour among young people in Ireland should be considered an important priority.[182]

Alcohol treatment in Ireland

Treatment for problem use of alcohol in Ireland is provided by statutory and non-statutory services, including general hospitals, psychiatric hospitals, community-based services, and residential centres. Most treatment of problem alcohol use takes place in outpatient facilities. Treatment options for problem alcohol use include medication, psychiatric treatment, brief intervention, counselling (including cognitive behavioural therapy), medication-free therapy, family therapy, complementary therapy, and life skills training.

There are two information systems that record information on treatment for problem alcohol use in Ireland: the National Drug Treatment Reporting System (NDTRS) and the National

Psychiatric Inpatient Reporting System (NPIRS). The NDTRS is an epidemiological database on treated problem drug and alcohol use in Ireland. It is coordinated by staff in the National Health Information Systems Unit of the HRB on behalf of the Department of Health. For the purpose of the NDTRS, 'treatment' is broadly defined as any activity that aims to ameliorate the psychological, medical, or social state of individuals who seek help for their alcohol and other drug use problems. Compliance with the NDTRS requires that one form be completed for each new client coming for his/her first treatment and for each previously treated client returning to treatment for problem drug use (including problem alcohol use). Data are collected on annual episodes of treatment rather than on the individuals being treated. This means that the same person could be counted more than once in the reporting year if they had more than one treatment episode in that year.

The NPIRS is also managed by the HRB, and it provides detailed information on all admissions to and discharges from inpatient psychiatric services in Ireland. Data are collected from psychiatric hospitals, general hospital psychiatric units, private hospitals, children's centres, and the Central Mental Hospital. Each admission and discharge represents one episode or event, and not an individual patient; while a single individual may have several admissions in any given year, each one of these is recorded as a separate event. Diagnoses are categorised in accordance with the WHO's International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10) categories. NPIRS data are available in a series of interactive tables which are hosted on the CSO's website.[184] Using data from the NDTRS and the NPIRS, we will describe the incidence of treatment seeking, the sociodemographic features of those accessing treatment services, and the type of treatment provided to service users in Ireland.

In 2019,

7,546 cases

received treatment for their alcohol use

National Drug Treatment Reporting System

In 2019, the National Drug Treatment Reporting System (NDTRS) covered 70.0% of drug and alcohol services known to the NDTRS. The data presented here therefore likely underestimate the true extent of alcohol misuse treatment in Ireland.[185] Data presented in this overview are based on the latest alcohol treatment bulletin from the NDTRS, which covers alcohol treatment data for the seven-year period from 2013 to 2019. Table 27 presents trends in the number of cases attending treatment from 2013 to 2019 by treatment status. Between 2013 and 2019, 53,200 cases were treated for alcohol as the main problem drug. The number of cases decreased by 3.5% from 2013 (7,819 cases) to 2019 (7,546 cases). The share of new cases also decreased during this time, from 47.4% in 2013 to 43.7% in 2019. This may reflect a true decrease in the number of cases presenting for treatment, but may

also reflect reduced levels of participation or under-reporting to the NDTRS, or it may be a combination of all of these factors.[186] The proportion of new cases entering treatment that were classified as alcohol dependent increased from 50.7% in 2013 to 64.6% in 2019.

Table 29 Number of cases reported to the NDTRS, 2013–2019

	2013		2014		2015		2016		2017		2018		2019	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
All cases	7,819	–	7,760	–	7,618	–	7,643	–	7,350	–	7,464	–	7,546	–
New cases	3,708	47.4	3,772	48.6	3,553	46.6	3,678	48.1	3,500	47.6	3,230	43.3	3,296	43.7
Previously treated cases	3,932	50.3	3,807	49.1	3,948	51.8	3,783	49.5	3,652	49.7	3,705	49.6	3,400	45.1
Treatment status unknown	179	2.3	181	2.3	117	1.5	182	2.4	198	2.7	529	7.1	850	11.3
New cases rate/ 100,000 (incidence)	115.0	–	117.3	–	109.1	–	112.0	–	105.7	–	95.4	–	96.7	–
All cases rate/ 100,000 (prevalence)	243.1	–	242.1	–	234.8	–	232.8	–	222.3	–	219.8	–	221.7	–

Characteristics of cases entering treatment

Table 30 presents the characteristics of cases entering treatment between 2013 and 2019. In 2019, the majority of cases (64.1%) were men. The median age of first drinking among cases entering treatment was 16 years. The median age of cases in treatment in 2019 was 41 years, which was similar to that in previous years. A higher proportion of women (31.5%) was aged over 50 years than men (25.7%) entering treatment in 2019. The number of cases that were unemployed decreased between 2013 (55.7%) and 2019 (49.4%), as did the number of cases that were early school leavers. However, between 2013 and 2019, the proportion of cases that were homeless increased from 6.5% in 2013 to 8.7% in 2019. It is difficult to interpret whether long-standing alcohol problems lead to social disadvantage, or whether failure to secure or retain employment and accommodation and complete second-level education leads to a greater likelihood of developing chronic alcohol-related problems.

Table 30 Characteristics of cases entering alcohol treatment, 2013–2019

	2013		2014		2015		2016		2017		2018		2019	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
All cases	**7,819**	–	**7,760**	–	**7,618**	–	**7,643**	–	**7,350**	–	**7,464**	–	**7,546**	–
Median age (range)	40 (19–64)	–	40 (20–63)	–	41 (21–64)	–	41 (21–64)	–	41 (21–64)	–	41 (21–65)	–	41 (22–64)	–
Under 18	220	2.8	163	2.1	103	1.4	124	1.6	112	1.5	114	1.5	107	1.4
Male	5,072	64.9	4,966	64.0	4,961	65.1	4,884	63.9	4,769	64.9	4,812	64.5	4,835	64.1
Homeless	507	6.5	494	6.4	572	7.5	613	8.0	620	8.4	713	9.6	654	8.7
Traveller	144	1.8	208	2.7	141	1.9	161	2.1	118	1.6	145	1.9	178	2.4
Education ceased before 16 years	2,066	26.4	1,991	25.7	1,965	25.8	1,808	23.7	1,726	23.5	1,727	23.1	1,739	23.0
Employed	1,545	19.8	1,628	21.0	1,724	22.6	1,889	24.7	2,056	28.0	2,067	27.7	2,125	28.2
Unemployed	4,356	55.7	4,377	56.4	4,215	55.3	4,110	53.8	3,827	52.1	3,783	50.7	3,731	49.4
Retired/unable to work	986	12.6	912	11.8	925	12.1	964	12.6	887	12.1	958	12.8	1,004	13.3
New cases	**3,708**	–	**3,772**	–	**3,553**	–	**3,678**	–	**3,500**	–	**3,230**	–	**3,296**	–
Median age (range)	38 (18–64)		39 (19–63)		39 (20–64)		40 20–64		40 (19–64)		39 (19–65)		40 (20–65)	
Under 18	176	4.7	125	3.3	83	2.3	87	2.4	90	2.6	87	2.7	83	2.5
Male	2,368	63.9	2,420	64.2	2,279	64.1	2,290	62.3	2,234	63.8	2,087	64.6	2,080	63.1
Homeless	154	4.2	156	4.1	148	4.2	160	4.4	166	4.7	191	5.9	207	6.3
Traveller	73	2.0	104	2.8	60	1.7	78	2.1	50	1.4	59	1.8	73	2.2
Education ceased before 16 years	902	24.3	882	23.4	815	22.9	768	20.9	768	21.9	639	19.8	716	21.7
Employed	949	25.6	962	25.5	1,014	28.5	1,176	32.0	1,209	34.5	1,165	36.1	1,116	33.9
Unemployed	1,772	47.8	1,916	50.8	1,725	48.6	1,690	45.9	1,587	45.3	1,417	43.9	1,458	44.2
Retired/unable to work	451	12.2	410	10.9	384	10.8	404	11.0	367	10.5	354	11.0	390	11.8
Previously treated	**3,932**	–	**3,807**	–	**3,948**	–	**3,783**	–	**3,652**	–	**3,705**	–	**3,400**	–
Median age (range)	41 (22-64)	–	41 (22-63)	–	42 (23-64)	–	43 (24-64)	–	43 (24-64)	–	42 (23-65)	–	42 (24-65)	–
Under 18	42	1.1	33	0.9	19	0.5	20	0.5	17	0.5	20	0.5	15	0.4
Male	2,570	65.4	2,420	63.6	2,599	65.8	2,480	65.6	2,394	65.6	2,382	64.3	2,249	66.1
Homeless	342	8.7	325	8.5	405	10.3	433	11.4	432	11.8	473	12.8	378	11.1
Traveller	69	1.8	96	2.5	77	2.0	70	1.9	62	1.7	67	1.8	81	2.4
Education ceased before 16 years	1,129	28.7	1,072	28.2	1,124	28.5	1,003	26.5	912	25.0	957	25.8	847	24.9
Employed	570	14.5	638	16.8	688	17.4	674	17.8	804	22.0	778	21.0	744	21.9
Unemployed	2,485	63.2	2,357	61.9	2,423	61.4	2,331	61.6	2,145	58.7	2,109	56.9	1,914	56.3
Retired/unable to work	513	13.1	482	12.7	527	13.3	540	14.3	498	13.6	535	14.4	502	14.8
Treatment status unknown	179		181		117		182		198		529		850	

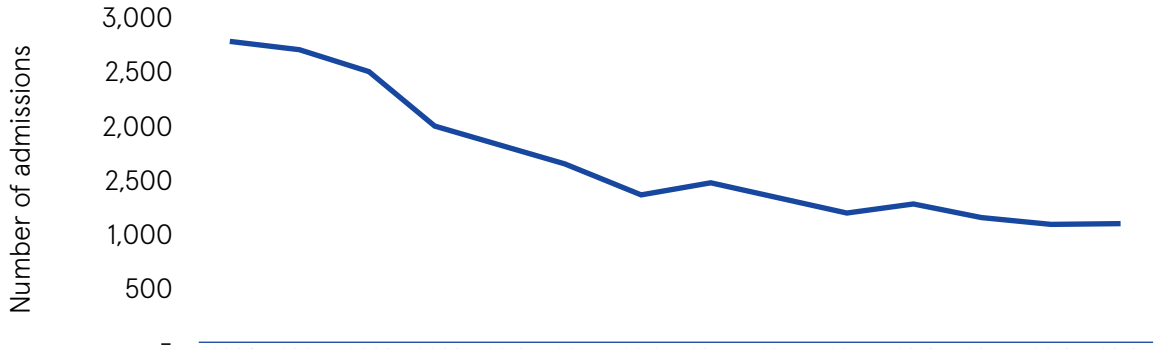
Travellers and alcohol use

There is little data available on alcohol consumption among ethnic minorities in Ireland. Irish Travellers are the largest ethnic group in Irish society. At the time of the most recent Irish census in 2016, there were 30,897 Irish Travellers living in Ireland, representing 0.7% of the Irish population.[3] Travellers have been recognized as one of the most marginalized groups in Irish society and have historically experienced structural and systemic discrimination. The Traveller community may be particularly susceptible to problematic alcohol use due to discrimination, social exclusion and barriers to engaging in healthcare and addiction treatment. A qualitative study of Travellers' alcohol use carried out in the West of Ireland found that Travellers, particularly Traveller men were presenting with increasingly problematic alcohol use due to their experiences of marginalization, discrimination, mental health issues and poverty. Dissipation of Traveller community was also cited as a factor associated with increased alcohol consumption. [187] Findings from the All-Ireland Traveller Health study (2010) indicate that almost four in ten (38%) of Travellers surveyed said that they never drank alcohol, considerably higher than the abstinence rate reported in the Irish population. Of Travellers who drank alcohol, two thirds of men (66%) and 42% of women engaged in HED on a typical drinking occasion (six or more standard drinks).[187,188]

National Psychiatric Inpatient Reporting System

Since the publication in 2006 of the mental health strategy,[189] ***A Vision for Change***, the emphasis has shifted from treating people with alcohol use disorders in psychiatric units to treating people in outpatient settings. However, there is still a considerable number of individuals receiving treatment in psychiatric units, and these people are recorded through the National Psychiatric Inpatient Reporting System (NPIRS). There has been a considerable decrease in the number of admissions to psychiatric hospitals for alcohol treatment since 2006. The total number of admissions to psychiatric hospitals with an alcohol-related diagnosis decreased by 60.6% between 2006 and 2019, from 2,767 to 1,090 (Figure 58).[184] One reason for the long-term decrease in the number of admissions to psychiatric hospitals is the move to outpatient settings for clients who do not require inpatient treatment. In 2006, ***A Vision for Change***, the report of the Expert Group on Mental Health Policy, stated that "individuals whose primary problem is substance abuse and who do not have mental health problems will not fall within the remit of mental health services".[189p.147] This has been accompanied by a considerable decrease in the number of alcohol-related inpatient admissions to psychiatric units in Ireland. The 2020 policy document, ***Sharing the vision: a mental health policy for everyone*** states that individuals' co-existing mental health difficulties and addiction to either alcohol or drugs should not be prevented from accessing mental health services.[190]

Figure 58 Number of admissions to psychiatric hospitals with an alcohol-related diagnosis 2006–2019



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Number of admissions	2,767	2,699	2,497	1,993	1,798	1,614	1,361	1,470	1,318	1,188	1,260	1,147	1,086	1,090

Number of admissions

06

Alcohol policy in Ireland

A detailed history of alcohol policy in Ireland is outlined in the most recent HRB overview, which was published in 2016.[5] Since 2016, the most important development in alcohol policy in Ireland has been the enactment of the Public Health (Alcohol) Act 2018, which was signed into law by the President of Ireland on 17 October 2018. The Act faced much opposition from various interest groups, and the three-year interval between publication of the Bill and enactment of the Act was the longest ever in Ireland. This Act is particularly significant because, for the first time in Ireland, alcohol is being treated as a public health issue. The aim of the Act is to reduce alcohol consumption in Ireland and the harms it causes at a population level. There is an emphasis on reducing harm to young people and children, who are most vulnerable to the negative consequences of alcohol consumption.

Summary of the Public Health (Alcohol) Act 2018

Table 31 summarises some of the main provisions in the Act, their rationale, the measures introduced thus far, and those yet to be commenced.

Table 31 Summary of provisions of the Public Health (Alcohol) Act 2018

Measure	Rationale	Commenced
Minimum unit price (MUP)		
An MUP for all products containing alcohol will be introduced and set at 10 cent per gram of alcohol in the product. Unlike a tax increase where a retailer can choose to absorb the increase in price, the MUP will be compulsory across all alcohol products. Under the new legislation: • A 750 ml bottle of wine with an ABV of 12% will cost a minimum of €7.10. • A 700 ml bottle of vodka with an ABV of a strength of 35% will cost a minimum of €20.71. • A 500 ml can of beer with an ABV of a strength of 5% will cost a minimum of €1.97.	Research conducted by the HRB and the Royal College of Surgeons in Ireland (RCSI) prior to the introduction of the MUP indicated that the heaviest drinkers and those with lower incomes, such as students, buy the cheapest alcohol and are likely to be most affected by an MUP. [36] Currently, it is possible for a man to consume his weekly low-risk guideline limit for €7.48, while a woman can consume hers for just €4.84. [191] Increasing the price of alcohol products reduces their affordability and is one of the most effective ways of reducing alcohol consumption and related harm. [192]	MUP has yet to be commenced.

Measure	Rationale	Commenced
Health warning labels		
Section 12 of the Act stipulates that all alcohol products to be sold in Ireland will be required to display: • A warning informing the public of the danger of alcohol consumption • A warning outlining the danger of alcohol consumption when pregnant • A warning informing the public of the direct link between alcohol and fatal cancers • The quantity in grams of alcohol contained in the container concerned • The calorie content in the container concerned, and • Details of a website, to be established and maintained by the HSE, providing public health information in relation to alcohol consumption.	Health warning labels ensure that the public has accurate information regarding the calorie content and the strength of alcohol products and that individuals are informed of the health risks associated with alcohol consumption. Findings from the Healthy Ireland Survey demonstrate that current public knowledge of the link between cancer and alcohol in Ireland is low. Just one-quarter of Irish women are aware of the direct link between alcohol and breast cancer, despite this being the most common type of cancer among women in Ireland.	This provision has yet to be commenced. Health warning labels on alcohol products are subject to scrutiny at European Union (EU) level.
Structural separation		
Section 22 of the Act provides for the structural separation of alcohol products in mixed retail outlets (e.g. supermarkets and grocery stores). Retailers must choose from one of three options: 1. Storing alcohol products in an area of the store that is separated by a physical barrier 2. Storing alcohol products in one or more closed storage units or cabinets, or 3. Storing alcohol products in no more than three open storage units in the premises.	Limiting the physical availability of alcohol is an important population-based measure to reduce alcohol consumption. Interventions targeting the availability of alcohol at a population level are effective in reducing alcohol-related harm and consumption. [21]	Structural separation was commenced on 12 November 2018. Since November 2020, all mixed-trade retailers are obliged by law to physically separate alcohol products from other grocery items.

Measure	Rationale	Commenced
Advertising		
A range of restrictions will apply to the advertisement of alcohol products, with a particular emphasis on protecting children and young people. The main restrictions include the following: • The content of advertisements will be restricted to specific information about the nature of the product. • Advertisements must contain health warnings regarding alcohol consumption, including during pregnancy, and a link to a public health website. • Advertisements in cinemas will be limited to films classified as over 18s. • There will be a 9.00pm broadcast watershed for advertisements on television and radio. • The marketing and advertising of alcohol in print media will be restricted in relation to volume and type of publication. There will be a ban on advertising alcohol products: • In or near a school • In or near an early years service (e.g. crèche) • In a park, open space, or playground owned or maintained by a local authority • On public transport, and • In a train or bus station, and at a bus or Luas stop. The Act will also restrict the sale of children's clothing which promotes alcohol consumption or bears the brand name or emblem, the corporate name or emblem, or the trade mark or logo, of an alcohol brand or product.	Advertising is related to initiation of alcohol consumption, especially among children and adolescents, who are particularly vulnerable to advertising and marketing campaigns. [67] Reducing children's and young people's exposure to alcohol advertising may delay initiation and reduce alcohol consumption among young people. Early initiation of alcohol use has been associated with a number of negative consequences later in life.[34]	Some of these measures have recently become law, including measures around advertising in the vicinity of children (Sections 14, 17, and 20). Important measures yet to be commenced are: Section 13 on the restriction of the content of alcohol advertisements; Section 18 regarding limitations of advertising in print media; and Section 19 regarding the broadcast watershed on alcohol advertising.

Measure	Rationale	Commenced
Sports sponsorship and sponsorship of other events aimed at children		
With the exception of motorsport, the Act does not ban alcohol sponsorship of sport. However, Section 15 of the Act prohibits advertising in sports grounds for events where the majority of competitors or participants are children, or directly on a sports area for all events (e.g. on the actual pitch, the race track, tennis court, etc.). Alcohol sponsorship of other events aimed at children, or where most of the participants are children, will also be prohibited under Section 16 of the Act.	As noted above, exposure to alcohol advertising and media has been associated with earlier initiation of drinking among adolescents and an increase in the volume of consumption among adolescents who already drink. [67] Prohibiting advertising at events aimed at children will further limit young people's exposure to alcohol advertising.	Both Section 15 and Section 16 were commenced in November 2018, with a three-year transition period.
Restrictions on the sale and supply of alcohol products		
Section 23 outlines a number of restrictions regarding the sale and availability of alcohol products. Several measures regarding limiting the sale and availability of alcohol products are outlined in the Act. One of the most important of these is the restriction of price-based promotions, to which young people may be particularly sensitive. Under Section 23, the Minister for Health will have the power to make regulations around: • The sale or supply of alcohol at a reduced price or free of charge to a certain target group • The sale or supply of alcohol at a reduced price to someone because they have already purchased a certain quantity of alcohol or another service • The sale or supply of alcohol during a limited time period (three days or fewer) that was less than the price charged for the same product the day before the offer was introduced, and • The promotion of a business or event in a way that is likely to encourage people to drink alcohol in a harmful manner.	Restricting the sale and supply of alcohol products, particularly restricting price-based promotions, will reduce the affordability and availability of alcohol. Reducing the affordability and availability of alcohol products is the most effective way of reducing alcohol consumption at a population level. [193]	Section 23 was commenced in November 2018.

Minimum unit pricing

A series of systematic reviews and meta-analyses have confirmed the effectiveness of policies which regulate the price and availability of alcohol.[10,194] Setting a minimum unit price (MUP) for alcohol is one of the most effective ways of regulating the price of alcohol and is one of the WHO's "best-buy" policies to reduce the burden of alcohol-related harm.[193] An MUP is the lowest price at which an alcoholic beverage can be sold. Under MUP, the Government sets the price of a container of alcohol based on the number of grams of alcohol contained in the beverage; consequently, the higher the number of grams of alcohol, the higher the MUP will be. This increases the price of cheap imported alcohol rather than the price of high-quality beer and wine. In Ireland, alcohol has become more affordable, particularly in the off-trade sector. And because the heaviest drinkers and young people tend to seek out the cheapest alcohol,[36] an MUP policy is beneficial in that it targets the drinkers causing the most harm both to themselves and to society, while having little effect on the spending of adult low-risk drinkers. Given the shift in people's drinking towards the off-trade sector during the COVID-19 pandemic, introducing MUP in Ireland should now be considered a particularly pressing priority.

The impact of MUP

In Scotland, the Alcohol (Minimum Pricing) (Scotland) Act 2012 was passed in June 2012. Following a legal challenge by the Scottish Whisky Association and a vote in the Scottish Parliament, MUP was eventually implemented on 1 May 2018. Early evaluation of the impact of MUP in Scotland indicates that it has already been effective in reducing alcohol consumption. An analysis of household alcohol purchases in Scotland pre- and post-introduction of MUP found that it led to a 9.5 g reduction in weekly purchases of alcohol per adult per household. The reduction in the purchased quantity of alcohol was greater in lower-income households and in households which purchased the greatest quantities of alcohol, indicating that MUP is effectively targeting the heaviest drinkers who are at greatest risk of harms.[195]

Findings from the Canadian province of British Columbia have also demonstrated the efficacy of MUP in reducing both alcohol consumption and alcohol-related harms, including deaths. An evaluation of MUP in British Columbia found that a 10% increase in MUP reduced consumption of spirits and liqueurs by 6.8%, wine by 8.9%, alcoholic sodas and ciders by 13.9%, beer by 1.5%, and all alcoholic drinks by 3.4%.[35] Furthermore, a 10% increase in average MUP for all alcoholic beverages was associated with a 31.7% reduction in wholly alcohol-attributable deaths, indicating that MUP reduces alcohol-related harm among the heaviest drinkers.[196]

In 2013, the Irish Department of Health commissioned the Sheffield Alcohol Research Group to model the impact of introducing an MUP per 10 grams of alcohol or per standard drink over a 20-year period in Ireland.[197] The pricing model found that with a €1 MUP per standard drink, the estimated per-drinker reduction in alcohol consumption for the overall population is 8.8%. As this is a targeted pricing policy, high-risk drinkers have larger estimated reductions in alcohol consumption than lower-risk drinkers. The estimated reductions in consumption from a 100 cent or €1 MUP are 15.1% for high-risk drinkers, 7.2% for increasing-risk drinkers,

and 3.1% for low-risk drinkers. These reductions correspond to an annual reduction of 57.2 standard drinks per drinker (494 standard drinks per year for high-risk drinkers, 83.2 standard drinks for increasing-risk drinkers, and 5.2 standard drinks for low-risk drinkers). A separate study based on the findings of a household survey on alcohol use in Ireland found that heavy drinkers, men, and those with low incomes were most likely to report paying below the proposed MUP of €1 per standard drink for alcohol.[36] These findings suggest that setting an MUP in Ireland would target the heaviest drinkers who are at greatest risk of the acute and chronic harms associated with alcohol.

Health warning labels on alcohol products

Alcohol has been shown to play a causal role in more than 60 health conditions[12] and is the seventh leading cause of premature death and disability worldwide.[10] Despite the extent of alcohol-related harms to health in Ireland, public awareness of alcohol-related health conditions, particularly the association between alcohol and cancer, remains low. The Public Health (Alcohol) Act 2018 provides for the introduction of health warning labels on alcoholic beverage containers, including warnings on the link between alcohol and certain cancers and on the risk of alcohol consumption during pregnancy. In 2019, a consultation on the effectiveness of health warnings on alcohol labels and in alcohol advertisements was undertaken by the Food and Drink Authority (FDA) on behalf of the Department of Health. However, this measure has yet to be introduced and requires scrutiny at the EU level.

There is limited research on the impact of health warning labels on population-level alcohol consumption and harms, and initial reviews have reported mixed findings.[21] More recent research has focused on the characteristics that may contribute to the effectiveness of labels, with clarity, salience, variety, size, colour, and graphic design all playing an important role[198] Based on this evidence,[199] a series of alcohol warning labels were developed for an experimental study on the impact of alcohol warning labels in Whitehorse, the capital and main population centre of the Yukon Territory in northern Canada. These labels temporarily replaced the existing warning labels on alcohol products in Whitehorse which outlined the risks of drinking during pregnancy and of consuming alcohol while operating heavy machinery. The authors found that total per capita retail alcohol sales in Whitehorse decreased by 6.3% during the intervention period. Per capita sales of labelled alcohol products decreased by 6.6%, while sales of unlabelled products increased by 6.9%. They also found that the reduction in alcohol consumption continued after the intervention, when the previous pregnancy warning labels were reintroduced. The results indicate the potential of alcohol warning labels to help inform drinkers of the risks associated with drinking alcohol and to prompt them to cut down on their drinking. Other analyses indicate that drinkers are also more supportive of alcohol policies, including alcohol warning labels, when they are made aware of the health risks associated with drinking.[154,200]

The Road Traffic (Amendment) Act 2018

Another important development in alcohol policy since the publication of the HRB's last alcohol overview in 2016 has been the introduction of stricter penalties for drink-driving in Ireland. The Road Traffic (Amendment) Act 2018 was signed into law by the President in July 2018. The provisions of the Act include mandatory disqualification plus a €200 fine for a first drink-driving offence if a motorist has a blood alcohol concentration (BAC) above 50 mg/100

ml. The amendment to the Act ensures that all drivers found to have a BAC above 50 mg/100 ml will receive a driving disqualification, without exception. This removes the concession in previous legislation by which some drink-drivers were able to obtain penalty points instead of a disqualification.

This amendment comes after a body of evidence from the Road Safety Authority (RSA) showed the impact of drink-driving in Ireland. A report published by the RSA in 2016[201] found that between 2008 and 2012, alcohol was a contributory factor in almost two-fifths (n=330, 38%) of the 867 fatal collisions for which files were available for analysis. Out of all fatal collisions during this five-year period, almost one-third (29%) of drivers had consumed alcohol prior to the collision. Almost one-half (43%) of these drivers were aged between 16 and 24 years. More than one-quarter of drivers (26%) and almost one-quarter (23%) of motorcyclists had a BAC above 251 mg at the time of the collision, which is five times higher than the legal blood alcohol limit. A further 9% of the 867 fatal collisions involved a pedestrian who had consumed alcohol. Almost one-half (49%) of these pedestrians were killed in circumstances where their alcohol consumption was deemed to have contributed to the collision either in full or in part. Research carried out using coroner data for 2014 by the National Drug-Related Deaths Index on behalf of the RSA indicated that alcohol was present in roughly one-third (31%) of road traffic collision fatalities occurring in 2014. One-third (33%) of drivers had alcohol in their toxicology screen at the time of the collision, and 96% of these drivers were male. Finally, a survey by the RSA in 2015 revealed that 284,000, or one in ten, Irish drivers admitted to driving while under the influence of alcohol. More than one-half (56%) of these drivers were aged between 20 and 39 years.

Conclusion

The data presented in this overview indicate that since 2016 little has changed with regard to alcohol consumption and alcohol-related harm. Ireland still has a high level of per capita consumption and a majority of drinkers in Ireland consume alcohol in a manner that is risky to their health. In 2019, per capita consumption was 19% higher than the 2020 target of 9.1 litres set out in the *Steering Group Report on a National Substance Misuse Strategy* and adopted by the Department of Health. While one in four of the Irish adult population aged 15 years and over do not drink, those who do consume alcohol do so in a risky manner and this is particularly evident among young adult males. In 2013, it was calculated that 75% of all alcohol consumed in Ireland was consumed as part of a binge drinking session. Our more recent survey data indicate that little has changed with respect to drinking patterns in the intervening period. Alcohol is usually at the centre of Irish cultural and social events, while alcohol marketing and sponsorship are pervasive. This can make it difficult to drink within low-risk limits. Given the strong pro-alcohol social norms in Ireland, it is therefore probably not too surprising that the majority of drinkers engaging in regular HED are unaware of their harmful drinking patterns. Given the low level of awareness of the negative health effects of alcohol consumption among the Irish public, the introduction of alcohol warning labels, as provided for in the Public Health (Alcohol) Act 2018 would constitute an important step in improving knowledge regarding alcohol-related harm, as well as increasing levels of awareness of the negative health effects of alcohol consumption among Irish people.

Our problematic drinking patterns are not without consequences. Survey data indicate a strong link between drinking patterns and alcohol-related harm in Ireland, with dependent drinkers the most likely to experience alcohol-related harm, followed by those who engage in regular HED. Alcohol is a serious public health issue and it is responsible for a considerable burden of health harm. In addition to the substantial pain and suffering this causes the people who experience these harms and their families, it also puts our health system under pressure. Alcohol is responsible for three deaths each day, and for at least 40,000 alcohol-related hospital discharges each year. The greatest burden of health harm is experienced by younger people; two in three people who die in Ireland of alcohol-related causes are aged under 65 years and a similar trend is observed for hospital discharges. As these are people who are of working age, this represents a financial cost in terms of loss in productivity. Adolescents and young adults in Ireland also experience alcohol-related harm. Our data indicate a clear link between harmful patterns of alcohol consumption and psychological distress. A number of studies have consistently demonstrated the involvement of alcohol in the majority of sexual assault incidents in Ireland, while the implication of alcohol in self-harm presentations is most likely to occur among those aged 25–34 years.

This overview has a number of limitations. Although there are a number of very useful surveys and information systems that routinely collect information on alcohol, there are still some important gaps in our knowledge base. There is no national data system to record alcohol presentations to our emergency departments. We know from one-off studies that alcohol-related presentations are a significant burden on emergency departments and indeed on ambulance services. However, in the absence of a dedicated information system it is not possible to calculate this burden, which is likely to be substantial. In this overview, we have presented for the first time an estimate of the number of children living in households with parents who have problematic drinking patterns. To improve our knowledge about the extent of harm experienced by children in these situations, we require social work data systems that collect information on alcohol.

In conclusion, Ireland requires high-quality information systems that are accurate and complete, in order to comprehensively determine the impact of policy.

On the basis of the evidence presented here, the health and well-being of Irish people would be improved if policies were introduced to reduce overall per capita alcohol consumption and risky drinking patterns. The most effective approaches to reducing alcohol consumption are those which target the whole population, such as increasing the price of alcohol, restricting its availability, and reducing the promotion of alcohol. There has been much policy development in Ireland since around 2010. Following a protracted process, the Public Health (Alcohol) Act was signed into law in 2018 in spite of stiff opposition from vested interests. It contains a number of population strategies to reduce alcohol consumption, including an MUP for alcohol sales, and restrictions on advertising and marketing. To date, only a few of its provisions have been commenced. The evidence presented in this report illustrates that there could be significant benefits for people's health and a reduction of pressure on the health system and fewer premature deaths if all aspects of the Public Health (Alcohol) Act 2018 were implemented in full.

Appendices

Appendix 1 Partially alcohol-attributable conditions

Category	Condition	ICD-10-AM code(s)	Condition type
Cancer	Oropharyngeal cancer	C00–06, C09–10, C12–C14	Chronic
	Oesophageal cancer	C15	Chronic
	Colorectal cancer	C18–C20	Chronic
	Cancer of the liver and intrahepatic bile ducts	C22	Chronic
	Pancreatic cancer	C25	Chronic
	Laryngeal cancer	C32	Chronic
	Breast cancer	C50	Chronic
Cardiovascular	Hypertensive diseases	I10–I14	Chronic
	Ischaemic heart disease	I20–I25	Chronic
	Cardiac arrhythmias	I47–I49	Chronic
	Haemorrhagic stroke	I60–I62	Chronic
	Ischaemic stroke	I63–I67	Chronic
Digestive	Cirrhosis of the liver (excluding alcoholic liver disease)	K70 (excl. K70.0–K70.4, K70.9), K73–K74	Chronic
	Acute pancreatitis	K85 (excl. K85.2, K85.3)	Chronic
	Chronic pancreatitis	K86 (excl. K86.0)	Chronic
Poisoning	Accidental poisoning by exposure to noxious substances	X40–X49 (excl. X45), Y10–Y14, Y16–Y19, T36–T50, T52–T65	Acute
Injuries	Transport injuries (including road traffic injuries)	V01–V98, Y85.0	Acute
	Fall injuries	W00–W19	Acute
	Exposure to mechanical forces (including machinery injuries)	W20–W52	Acute
	Drowning	W65–W74, Y21	Acute
	Fire injuries	X00–X09, Y26	Acute
	Other unintentional injuries	W75–W99, X10–X33, Y20, Y22–Y25, Y27–Y29, Y31–Y34	Acute
	Intentional self-harm	X60–X84 (excl. X65), Y87.0	Acute
	Assault	X85–Y09, Y87.1	Acute
	Other intentional injuries	Y35	Acute
Endocrine	Diabetes (type 2)	E11	Chronic
Nervous system	Epilepsy and status epilepticus	G40–G41	Chronic
Respiratory	Tuberculosis	A15–A19	Chronic
	Lower respiratory tract infections	J09–J18	Chronic

Appendix 2 Wholly alcohol-attributable conditions

Acute conditions		Chronic conditions		Other chronic conditions	
ICD-10-AM code	Description	ICD-10-AM code	Description	ICD-10-AM code	Description
F10.0	Mental and behavioural disorders due to use of alcohol, acute intoxication	E24.4	Alcohol-induced pseudo-Cushing's syndrome	F10.1	Mental and behavioural disorders due to use of alcohol, harmful use
T51.0	Ethanol	G31.2	Degeneration of nervous system due to alcohol	F10.2	Mental and behavioural disorders due to use of alcohol, dependence syndrome
T51.1	Methanol	G62.1	Alcoholic polyneuropathy	F10.3	Mental and behavioural disorders due to use of alcohol, withdrawal state
T51.2	2-Propanol	G72.1	Alcoholic myopathy	F10.4	Mental and behavioural disorders due to use of alcohol, withdrawal state with delirium
T51.3	Fusel oil	I42.6	Alcoholic cardiomyopathy	F10.5	Mental and behavioural disorders due to use of alcohol, psychotic disorder
T51.8	Other alcohols	K29.2	Alcoholic gastritis	F10.6	Mental and behavioural disorders due to use of alcohol, amnesic syndrome

Acute conditions		Chronic conditions		Other chronic conditions	
ICD-10-AM code	Description	ICD-10-AM code	Description	ICD-10-AM code	Description
T51.9	Alcohol, unspecified	K70.0	Alcoholic fatty liver	F10.7	Mental and behavioural disorders due to use of alcohol, residual and late-onset psychotic disorder
X45	Accidental poisoning by and exposure to alcohol	K70.1	Alcoholic hepatitis	F10.8	Mental and behavioural disorders due to use of alcohol, other mental and behavioural disorders
X65	Intentional self-poisoning by and exposure to alcohol	K70.2	Alcoholic fibrosis and sclerosis of liver	F10.9	Mental and behavioural disorders due to use of alcohol, unspecified mental and behavioural disorder
Y15	Poisoning by and exposure to alcohol, undetermined intent	K70.3	Alcoholic cirrhosis of liver	Z50.2	Alcohol rehabilitation
R78.0	Finding of alcohol in blood	K70.4	Alcoholic hepatic failure	Z71.4	Alcohol abuse counselling and surveillance
Y90.0–Y90.9	Evidence of alcohol involvement determined by blood alcohol level	K70.9	Alcoholic liver disease, unspecified	Z72.1	Problems related to lifestyle – alcohol
Y91.0–Y91.9	Evidence of alcohol involvement determined by level of intoxication	K86.0	Alcohol-induced chronic pancreatitis	Z86.41	Personal history of alcohol use disorder
		K85.2	Alcohol-induced acute pancreatitis		

Appendix 3 ICD-10-AM codes included in generating annual Hospital In-Patient Enquiry reports on alcohol-related deaths in the Republic of Ireland

ICD-10-AM code	Description
F10	Mental and behavioural disorders due to use of alcohol
F10.0	Mental and behavioural disorders due to use of alcohol, acute intoxication
F10.1	Mental and behavioural disorders due to use of alcohol, harmful use
F10.2	Mental and behavioural disorders due to use of alcohol, dependence syndrome
F10.3	Mental and behavioural disorders due to use of alcohol, withdrawal state
F10.4	Mental and behavioural disorders due to use of alcohol, withdrawal state with delirium
F10.5	Mental and behavioural disorders due to use of alcohol, psychotic disorder
F10.6	Mental and behavioural disorders due to use of alcohol, amnesic syndrome
F10.7	Mental and behavioural disorders due to use of alcohol, residual and late-onset psychotic disorder
F10.8	Mental and behavioural disorders due to use of alcohol, other mental and behavioural disorders
F10.9	Mental and behavioural disorders due to use of alcohol, unspecified mental and behavioural disorder
G31.2	Degeneration of nervous system due to alcohol
G62.1	Alcoholic polyneuropathy
I42.6	Alcoholic cardiomyopathy
K29.2	Alcoholic gastritis
K29.20	Alcoholic gastritis, without mention of haemorrhage
K29.21	Alcoholic gastritis, with haemorrhage
K70	Alcoholic liver disease
K70.0	Alcoholic fatty liver
K70.1	Alcoholic hepatitis

ICD-10-AM code	Description
K70.2	Alcoholic fibrosis and sclerosis of liver
K70.3	Alcoholic cirrhosis of liver
K70.4	Alcoholic hepatic failure
K70.9	Alcoholic liver disease, unspecified
K86.0	Alcohol-induced chronic pancreatitis
P04.3	Fetus and newborn affected by maternal use of alcohol
Q86.0	Fetal alcohol syndrome (dysmorphic)
T51	Toxic effect of alcohol
T51.0	Ethanol
T51.1	Methanol
T51.2	2-Propanol
T51.3	Fusel oil
T51.8	Other alcohols
T51.9	Alcohol, unspecified
X45	Accidental poisoning by and exposure to alcohol
X65	Intentional self-poisoning by and exposure to alcohol
Y15	Poisoning by and exposure to alcohol, undetermined intent

Appendix 4 Alcohol-attributable fractions (AAFs), by condition, sex, and age

Please see the full table on the following spreads.

		Male AAFs					
Diagnosis		**16–24**	**25–34**	**35–49**	**50–64**	**65–74**	**75–89**
Cancers	Oropharyngeal	0.13	0.10	0.12	0.13	0.07	0.06
	Oesophageal squamous cell carcinoma (SCC)	0.19	0.16	0.18	0.19	0.12	0.10
	Colorectal	0.03	0.03	0.03	0.03	0.02	0.01
	Liver and intrahepatic bile ducts	0.04	0.02	0.03	0.03	0.02	0.02
	Laryngeal	0.08	0.06	0.07	0.07	0.04	0.03
	Breast (female only)	0.05	0.04	0.05	0.05	0.03	0.02
	Pancreatic	0.01	0.01	0.01	0.01	0.01	0.00
Endocrine	Diabetes mellitus (type 2)	−0.16	−0.17	−0.17	−0.17	−0.11	−0.08
Nervous system	Epilepsy and status epilepticus	0.07	0.05	0.06	0.07	0.04	0.03
Cardiovascular	Hypertensive diseases	0.02	0.00	0.01	0.01	0.00	0.01
	Ischaemic heart disease – mortality	0.00	0.00	−0.08	−0.08	−0.04	−0.03
	Ischaemic heart disease – morbidity	−0.11	−0.18	−0.22	−0.23	−0.17	−0.13
	Cardiac arrhythmias	0.03	0.02	0.03	0.03	0.02	0.01
	Haemorrhagic stroke – mortality	0.08	0.06	0.07	0.07	0.04	0.04
	Haemorrhagic stroke – morbidity	−0.24	−0.33	−0.31	−0.28	−0.21	−0.14
	Ischaemic stroke – mortality	0.00	0.00	−0.25	−0.24	−0.12	−0.08
	Ischaemic stroke – morbidity	−0.04	−0.07	−0.08	−0.08	−0.06	−0.05
Respiratory	Pneumonia and influenza	0.02	0.02	0.02	0.02	0.01	0.01
	Tuberculosis	0.10	0.07	0.09	0.09	0.05	0.05

Female AAFs							
16–24	**25–34**	**35–49**	**50–64**	**65–74**	**75–89**	**Diagnosis**	
0.24	0.29	0.32	0.36	0.34	0.24	Oropharyngeal	**Cancers**
0.31	0.36	0.38	0.41	0.38	0.28	Oesophageal squamous cell carcinoma (SCC)	
0.06	0.08	0.08	0.09	0.08	0.05	Colorectal	
0.07	0.09	0.11	0.13	0.14	0.08	Liver and intrahepatic bile ducts	
0.14	0.17	0.19	0.21	0.19	0.13	Laryngeal	
0.00	0.00	0.00	0.00	0.00	0.00	Breast (female only)	
0.02	0.03	0.03	0.03	0.03	0.02	Pancreatic	
0.00	0.01	0.01	0.01	0.01	0.00	Diabetes mellitus (type 2)	**Endocrine**
0.13	0.16	0.17	0.19	0.18	0.12	Epilepsy and status epilepticus	**Nervous system**
0.12	0.15	0.15	0.16	0.14	0.10	Hypertensive diseases	**Cardiovascular**
0.00	0.00	−0.12	−0.12	−0.07	−0.05	Ischaemic heart disease – mortality	
−0.04	−0.05	−0.07	−0.06	−0.07	−0.07	Ischaemic heart disease – morbidity	
0.06	0.07	0.08	0.08	0.07	0.05	Cardiac arrhythmias	
0.07	0.08	0.09	0.10	0.09	0.06	Haemorrhagic stroke – mortality	
0.07	0.09	0.10	0.11	0.10	0.07	Haemorrhagic stroke – morbidity	
0.00	0.00	−0.08	−0.07	−0.05	−0.04	Ischaemic stroke – mortality	
−0.03	−0.04	−0.04	−0.04	−0.04	−0.04	Ischaemic stroke – morbidity	
0.05	0.06	0.06	0.07	0.06	0.04	Pneumonia and influenza	**Respiratory**
0.18	0.22	0.25	0.28	0.28	0.19	Tuberculosis	

		Male AAFs					
Diagnosis		**16–24**	**25–34**	**35–49**	**50–64**	**65–74**	**75–89**
Digestive	Liver cirrhosis – mortality	0.49	0.45	0.48	0.49	0.36	0.31
	Liver cirrhosis – morbidity	0.36	0.34	0.36	0.36	0.26	0.21
	Acute pancreatitis	−0.08	−0.09	−0.09	−0.09	−0.05	−0.04
	Chronic pancreatitis	0.10	0.07	0.09	0.09	0.05	0.05
Injuries	Transport injuries (including road traffic injuries)	0.12	0.09	0.07	0.07	0.03	0.02
	Fall injuries	0.14	0.09	0.08	0.08	0.04	0.03
	Fire injuries	0.13	0.09	0.08	0.07	0.03	0.02
	Assault	0.39	0.30	0.27	0.26	0.13	0.10
	Other intentional injuries	0.39	0.30	0.27	0.26	0.13	0.10
	Drowning	0.13	0.09	0.08	0.07	0.03	0.02
	Other unintentional injuries	0.13	0.09	0.08	0.07	0.03	0.02
	Intentional self-harm	0.13	0.09	0.08	0.07	0.03	0.02
	Exposure to mechanical forces (including machinery injuries)	0.13	0.09	0.08	0.07	0.03	0.02
	Accidental poisoning by exposure to noxious substances	0.13	0.09	0.08	0.07	0.03	0.02

Female AAFs							
16–24	**25–34**	**35–49**	**50–64**	**65–74**	**75–89**	**Diagnosis**	
0.30	0.35	0.41	0.47	0.51	0.36	Liver cirrhosis – mortality	Digestive
0.17	0.21	0.23	0.26	0.25	0.17	Liver cirrhosis – morbidity	
0.13	0.16	0.18	0.20	0.18	0.12	Acute pancreatitis	
0.18	0.22	0.25	0.28	0.28	0.19	Chronic pancreatitis	
0.14	0.17	0.18	0.23	0.19	0.15	Transport injuries (including road traffic injuries)	Injuries
0.15	0.19	0.20	0.25	0.21	0.16	Fall injuries	
0.14	0.18	0.20	0.25	0.20	0.16	Fire injuries	
0.42	0.49	0.51	0.59	0.52	0.44	Assault	
0.42	0.49	0.51	0.59	0.52	0.44	Other intentional injuries	
0.14	0.18	0.20	0.25	0.20	0.16	Drowning	
0.14	0.18	0.20	0.25	0.20	0.16	Other unintentional injuries	
0.14	0.18	0.20	0.25	0.20	0.16	Intentional self-harm	
0.14	0.18	0.20	0.25	0.20	0.16	Exposure to mechanical forces (including machinery injuries)	
0.14	0.18	0.20	0.25	0.20	0.16	Accidental poisoning by exposure to noxious substances	

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