

Drug and Alcohol Services South Australia

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Alcohol-attributable mortality and morbidity rates
in South Australia

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Alcohol-attributable mortality and morbidity rates in South Australia¹

Background

This Bulletin is the tenth in a series providing the most up-to-date data available on the prevalence of alcohol and other drug use and the harms associated with misuse in South Australia. This edition focuses on the contribution of alcohol to mortality rates, hospitalisations and emergency department presentations, which are important indicators of the harms associated with risky levels of alcohol consumption, and is an updated version of a previous bulletin.²

The most recent data from 2014³ indicate that 78% of South Australians had consumed alcohol in the last 12 months. Around 47% drank at least weekly, 8.1% daily and 22% were abstainers⁴. Just over 27% drank at levels that put them at risk of injury on a single drinking occasion at least once a month (more than four drinks in a session), and 20% drank at levels that put them at risk of disease or injury over a lifetime (more than two drinks per day on average).

The National Drug Research Institute (NDRI) was commissioned by Drug & Alcohol Services South Australia (DASSA) to develop population alcohol-aetiological fractions (PAAFs)⁵ specific to the South Australian population. The fractions were then applied to produce reliable estimates of alcohol-attributable mortality and morbidity rates. These rates enable the monitoring of the prevalence and trends in conditions/injuries caused by acute and chronic alcohol consumption over time.

Mortality data were collected via the National Coroners Information System (NCIS) and consist of 'Causes of Death Unit Record File Data (CODURF)'. This includes principal diagnosis and external cause of death (based on the International Classification of Diseases [ICD-10] codes), date of death, age, sex, Indigenous status and region. There is a considerable time lag in publishing mortality data, with the most recent data from 2011. Alcohol-attributable deaths were those where alcohol was recorded as the primary cause of death (cases where alcohol was recorded as 'other' cause of death were excluded).

Alcohol-related hospitalisation data were drawn from principal diagnosis and external cause information in the Integrated South Australian Activity Collection (ISAAC). The number of alcohol-related hospitalisations is composed of the sum of all alcohol-related conditions⁶ using the PAAFs. Data are available from 2007-08 to 2014-15.

The South Australian Health Department collects data on injury principal diagnosis presentations to metropolitan emergency departments (ED) as part of the Emergency Department Data Collection (EDDC). Alcohol-related injury cases were also calculated using aetiological fractions developed by NDRI⁷. These fractions calculate the proportion of presentations that can be attributed to alcohol. Data are also available from 2007-08 to 2014-15.

Summary

Mortality - overall

- Estimates indicate that men comprised 68% of all alcohol-attributable deaths from 2005-2011, and alcohol-attributable mortality rates among men were more than double that of women.

- Alcohol related death rates increased with age irrespective of cause of death; around 96% of all deaths occurred among those aged 25 years and over. They were twice as likely as those aged 14-24 years to die from alcohol-attributable conditions.

Mortality – chronic vs. acute

- **Chronic** conditions accounted for 73% of alcohol-attributable deaths from 2005-2011.
- In 2011, the majority of alcohol-related deaths from **chronic** conditions were due to cancers, with a higher percentage among women (68%, with breast cancer accounting for nearly 30% of these, compared with 54% among men).
- In 2011, the most common alcohol-related deaths for **acute** conditions for both men and women were suicide (55% and 42%), followed by accidents (16%) and non-pedestrian road crashes (12%) for men, and alcohol disorders (17%) and accidents (16%) for women.

Mortality - Aboriginal & Torres Strait Islanders

- The alcohol-attributable mortality rate among Aboriginal & Torres Strait Islander South Australians was almost double that of other South Australians in 2005 and from 2008-2011, primarily due to the much higher number of deaths among men. The rate in 2006 and 2007 was comparable to that of non-Indigenous South Australians.
- Most alcohol-related deaths from **chronic** conditions among Aboriginal & Torres Strait Islanders were for liver cirrhosis (51%) and cancers (31%). The most common from **acute** conditions were suicide (48%), non-pedestrian road crashes (16%) and alcohol disorders (16%).

Hospitalisations - overall

- Over the period 2007-08 to 2014-15, there was an average of 12,500 estimated alcohol-attributable hospitalisations per year; 2% of all hospitalisations. While there was no significant change over time, rates were 1.7 times higher among men, who made up 61% of all alcohol-attributable hospitalisations.

Hospitalisations – chronic vs acute

- For both men and women, in 2014-15 the most common estimated alcohol-attributable hospitalisations for **acute** conditions were accidents (38% and 34%), followed by alcohol abuse, poisoning (overdose) or psychosis (27% and 26%). The most common **chronic** conditions were cardiac conditions (39% for both) and cancer (22% and 31%).
 - 28% of estimated alcohol-attributable hospitalisations for **acute** conditions among those aged 14-24 years in 2014-15 were for alcohol abuse, poisoning or psychosis, 27% for suicide, 19% for accidents and 13% for assault. For those aged 25 years and over, accidents were most common (40%), followed by alcohol abuse, poisoning or psychosis (26%). A much smaller proportion than the 14-24 year olds was attributable to suicide (9.3%).
- For **chronic** conditions, the highest proportion was cardiac related for both those aged 14-24 years and those 25 years and over (35% and 40%). The chronic conditions with next highest proportions were psoriasis for 14-25 year olds and cancers for those over 25 years.

Hospitalisations – Aboriginal & Torres Strait Islanders

- The rate of estimated alcohol-attributable hospitalisations among Aboriginal and Torres Strait Islanders was almost four times higher than the South Australian population, with a much higher rate among men. In addition, a higher proportion (81%) of estimated alcohol-attributable hospitalisations in 2014-15 was due to acute conditions, compared with 56% among all patients.
- Almost 40% of estimated alcohol-attributable hospitalisations for **acute** conditions among Aboriginal and Torres Strait Islanders in 2014-15 were for alcohol abuse, poisoning or psychosis, followed by 28% for assault. In contrast, the largest proportions of alcohol-attributable hospitalisations for all patients included accidents (36%); assault comprised 10% of hospitalisations. For **chronic** conditions, 20% were for liver cirrhosis, followed by 17% for cancer and 14% for alcohol dependence. In contrast, the largest proportions among all patients included cardiac conditions (40%) and cancer (26%).

Emergency Department Presentations

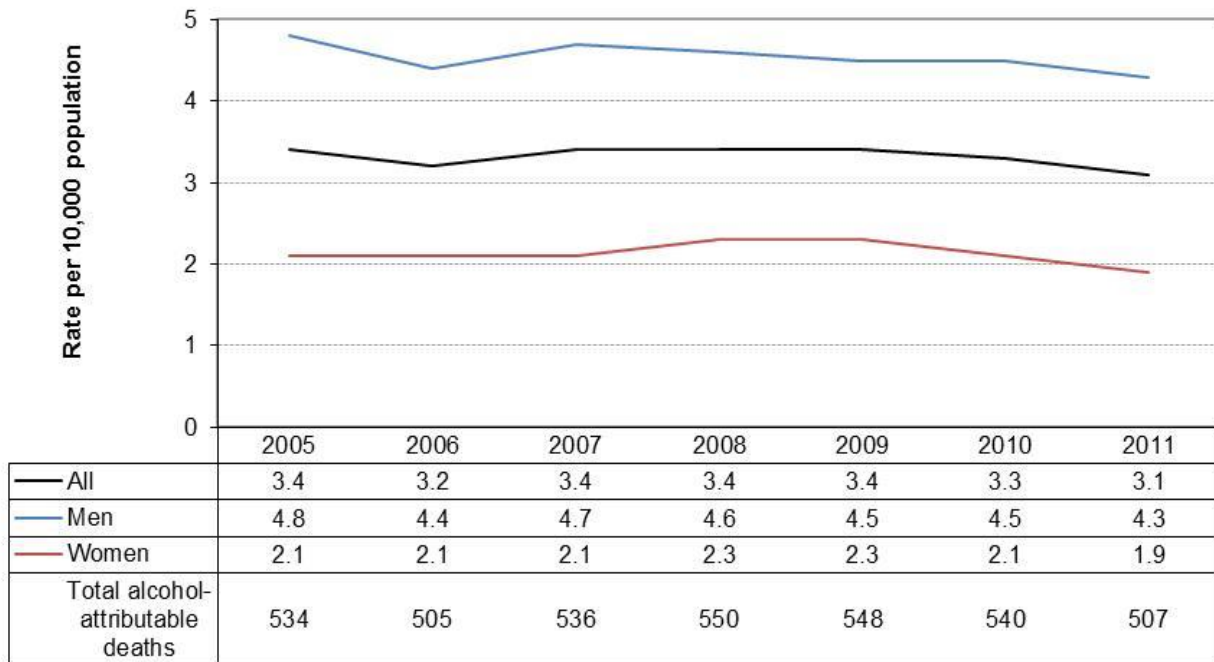
- Among persons aged 15 years and over who had consumed more than four standard drinks, a significantly higher number of emergency department injury presentations were by men in each year. The highest rate was among those aged 15-19 years, followed by those aged 20-29 years.

Alcohol-Related Mortality

Sex

Figure 1 shows the estimated rate of alcohol-attributable deaths from 2005-2011 by sex, as well as the total number each year. Very little difference is observed between the years. While the rate of non-alcohol-attributable deaths is similar between men and women⁸, estimates indicate that 68% of all alcohol-attributable deaths from 2005 to 2011 were men. In addition, alcohol-attributable mortality rates among men were more than double that of women. This finding reflects population data from the SA Health Omnibus Survey⁹, which report that men are significantly more likely than women to consume alcohol at levels that increase their risk of injury or disease over a lifetime according to the 2009 National Health & Medical Research Council (NH&MRC) Guidelines¹⁰ (28% of men reported drinking an average of three or more drinks every day over the last 12 months, compared with 12% of women).

Figure 1: Total number and rate of estimated deaths attributable to the use of alcohol, by sex, SA, 2005-2011

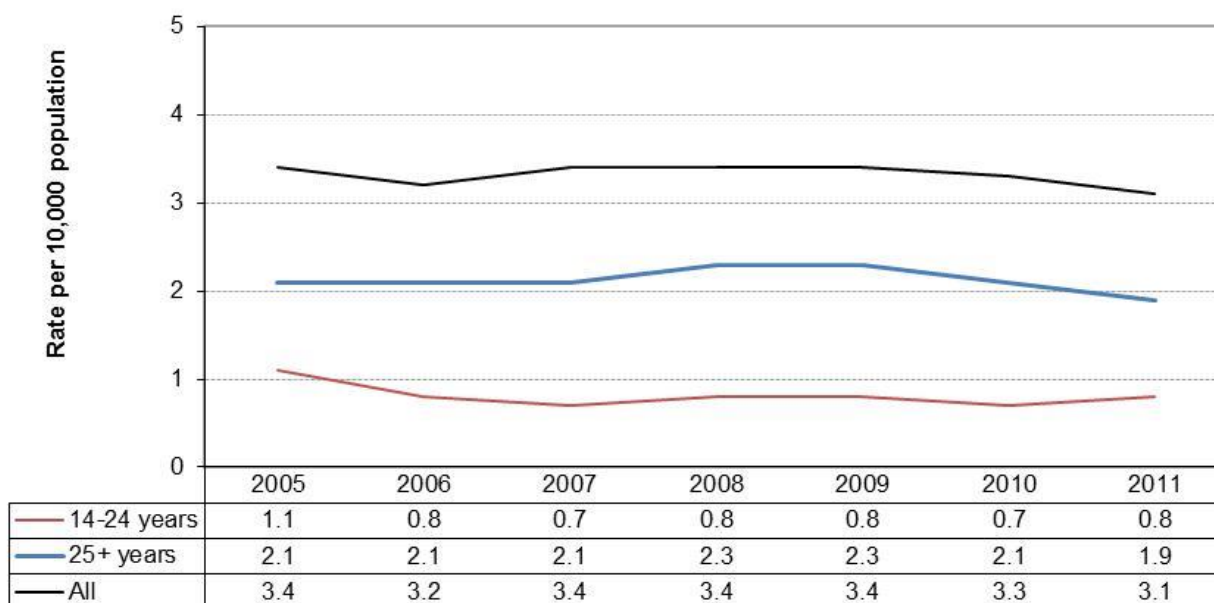


CR = Crude rates per 10,000 population as at 30 June for each year.

Age

Figure 2 shows the estimated rate and total number of alcohol-attributable deaths from 2005-2011 by age group. As expected, the rate was higher among those aged 25 years and over; this group accounted for around 96% of all deaths. Once again, little variance is observed between the years.

Figure 2: Rate of estimated deaths attributable to the use of alcohol, by age group, SA, 2005-2011

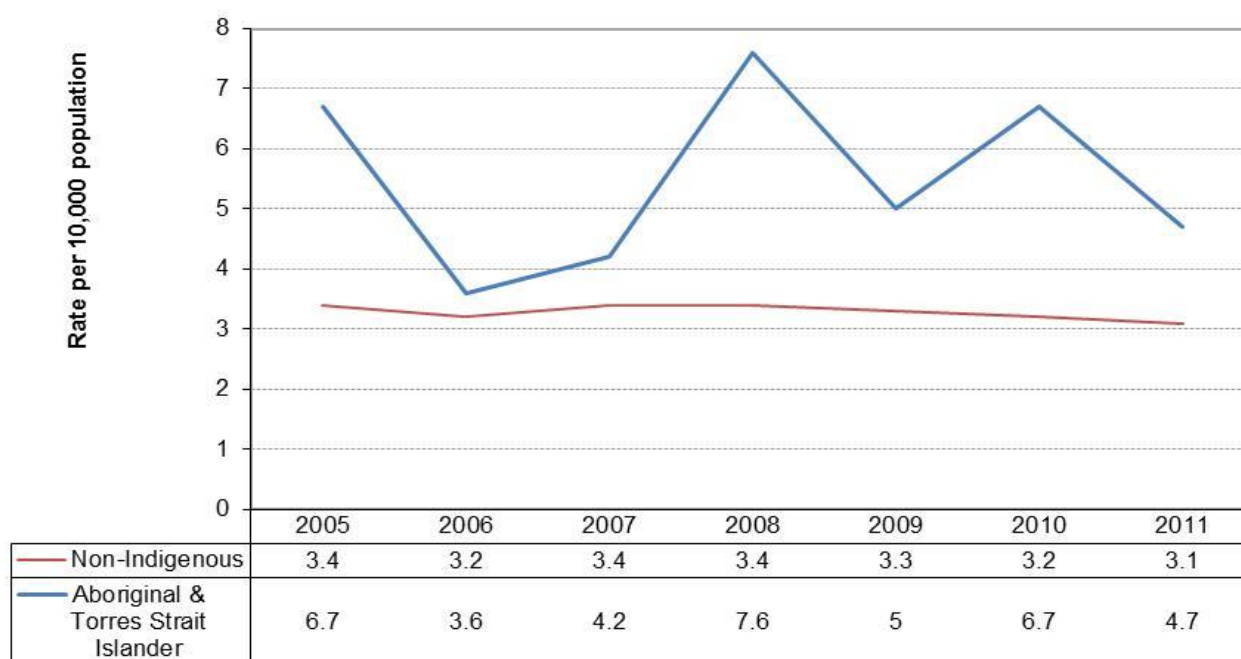


CR = Crude rates per 10,000 population based on age-specific estimates as at 30 June for each year.

Aboriginal & Torres Strait Islanders

Figure 3 presents mortality rates for Aboriginal and Torres Strait Islander South Australians. Although in all seven years the number of Aboriginal and Torres Strait Islander deaths that were attributable to alcohol was much higher than that of other South Australians¹¹, the alcohol-attributable mortality rate varied. In 2005, 2008 and 2010 the rate was double that of other South Australians, primarily due to the higher number of deaths among Aboriginal & Torres Strait Islander men. The rate in 2006 and 2007 was comparable, and was 1.5 times higher in 2009 and 2011. It is important to note, however, that numbers are small and population rates can vary considerably from year to year.¹²

Figure 3: Rate of estimated deaths attributable to the use of alcohol, by Indigenous status, SA, 2005-2011



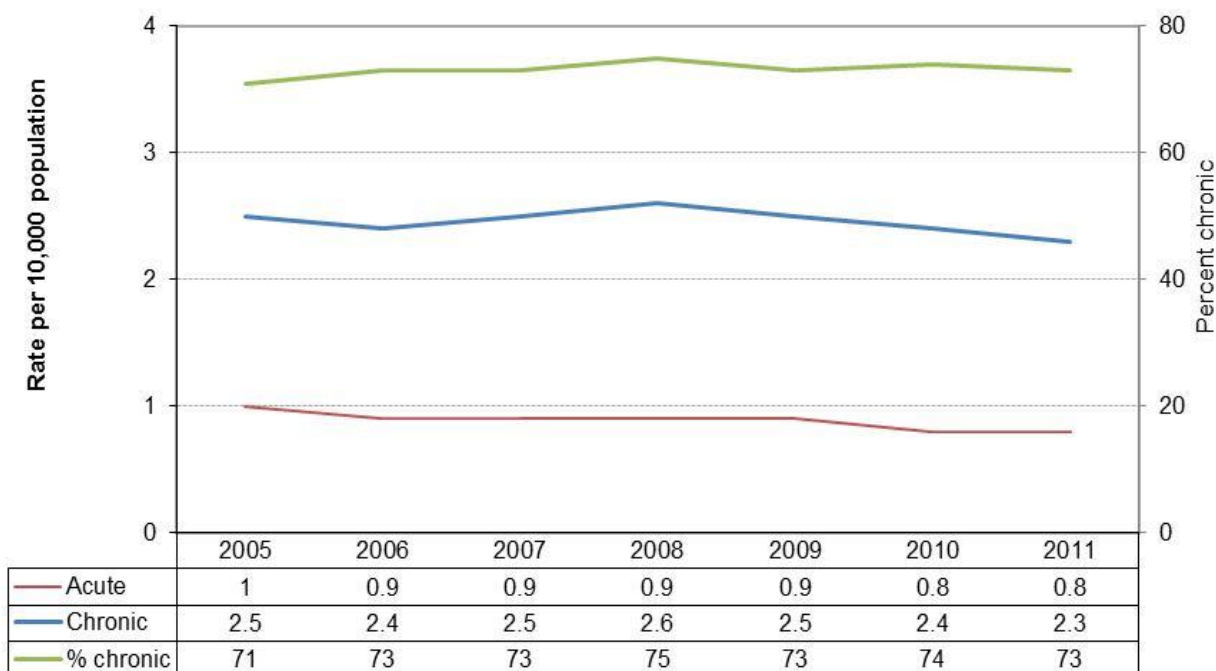
Those with unknown/unstated Indigenous status were excluded. CR = Crude rates per 10,000 population as at 30 June for each year.

Acute vs. Chronic Conditions

The following alcohol-attributable deaths data are presented separately for chronic¹³ conditions and acute¹⁴ conditions. Note that results are different to those in the previous iteration of this bulletin as slightly different conditions were used¹⁵.

Figure 4 shows that the rate of alcohol-attributable deaths from chronic conditions was more than double that for acute conditions, and that a greater proportion of deaths in all seven years were from chronic conditions (ranging from 71% in 2005 to 75% in 2008; 73% overall). Colon cancer (chronic), suicide (acute) and alcoholic liver cirrhosis (chronic) were the most common causes of death attributable to alcohol. See Figures 5 and 6 for a list of individual conditions for all seven years combined.

Figure 4: Rate of estimated deaths attributable to the use of alcohol by condition, and percentage chronic, SA, 2005-2011



CR = Crude rates per 10,000 population as at 30 June for each year.

Figure 5: Estimated number of deaths due to acute alcohol-attributable conditions, by individual condition, SA, 2005-2011

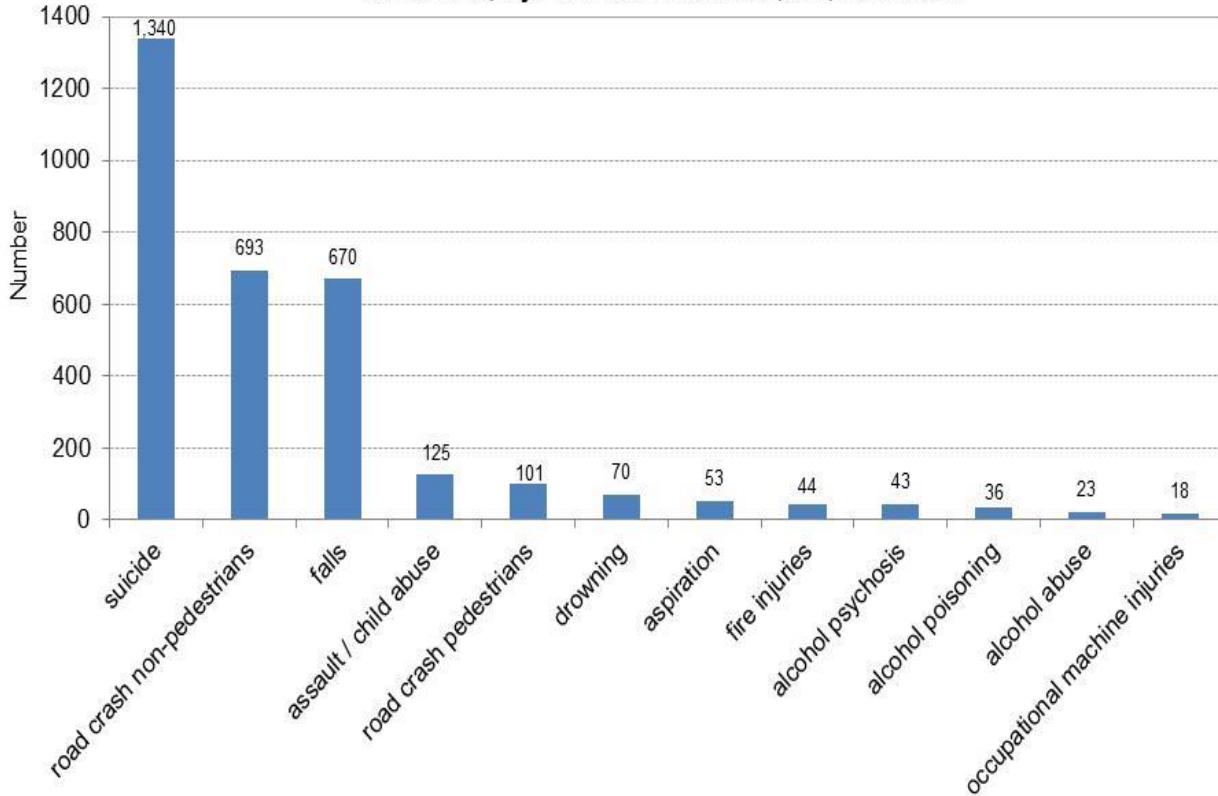
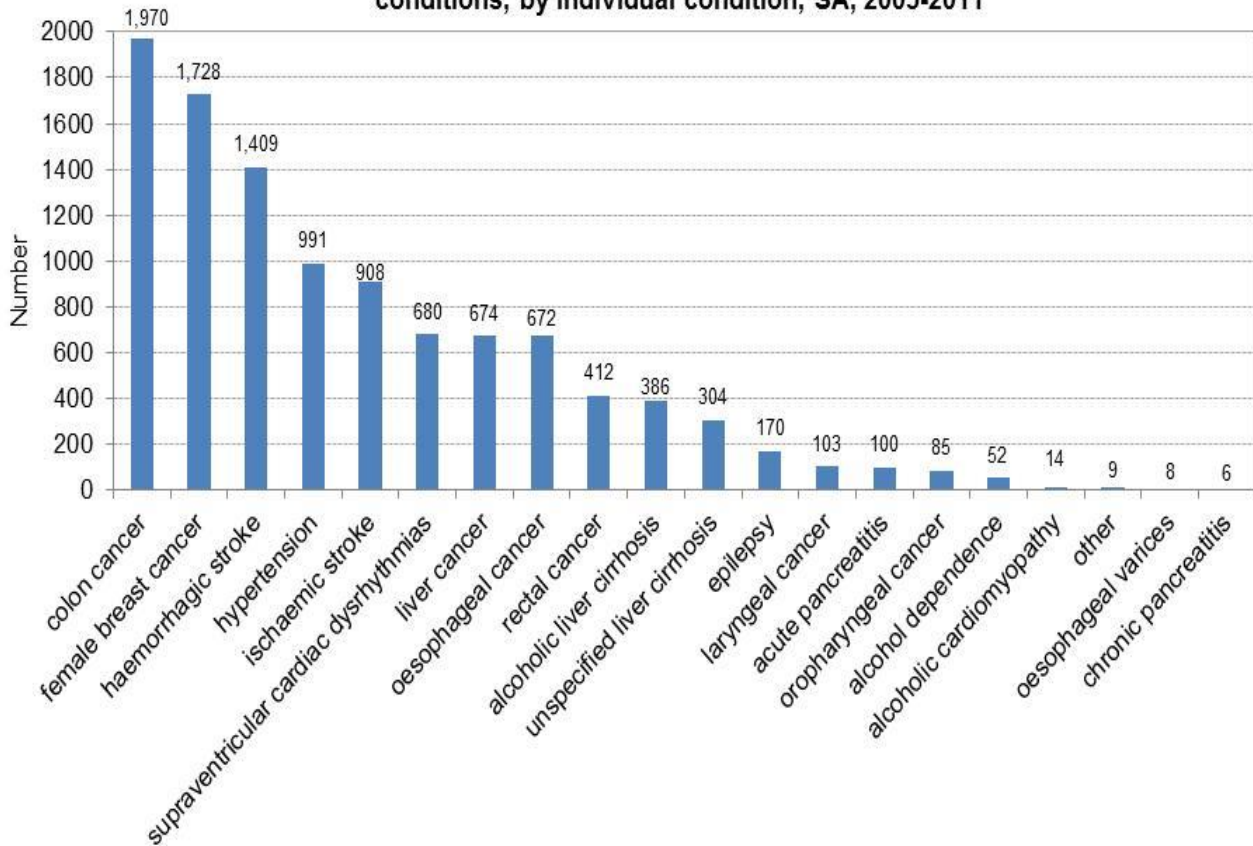


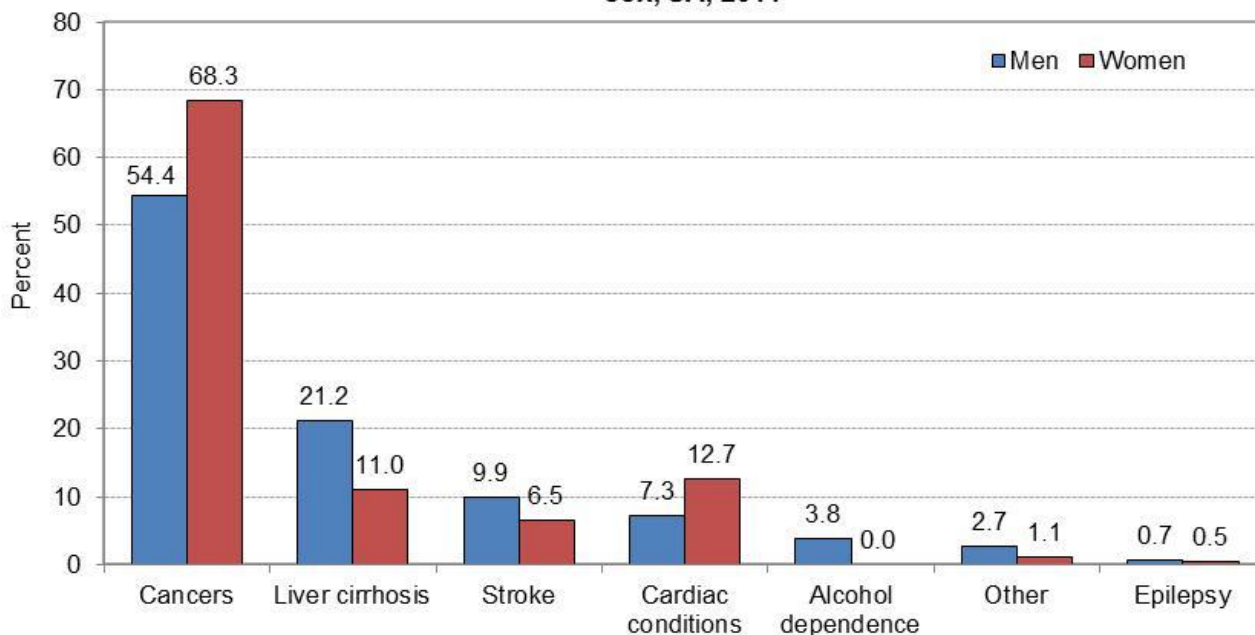
Figure 6: Estimated number of deaths due to chronic alcohol-attributable conditions, by individual condition, SA, 2005-2011



The following sex and age data are presented for the most recent year where data is available only (2011) as there was little variation between years. The number of alcohol-attributable deaths among Aboriginal and Torres Strait Islanders was small, and thus data were reported for all seven years combined.

Figure 7 shows the distribution of the major **chronic** conditions by sex. The majority of alcohol-related deaths for both men and women were due to cancers with a higher percentage among women (68% of deaths were due to cancer, with breast cancer accounting for nearly 30% of these, compared with 54% among men). For men, this was followed by liver cirrhosis (21%), stroke (9.9%) and cardiac conditions (7.3%). Among women, cardiac conditions made up 13% of alcohol-related deaths due to chronic conditions, followed by liver cirrhosis (11%).

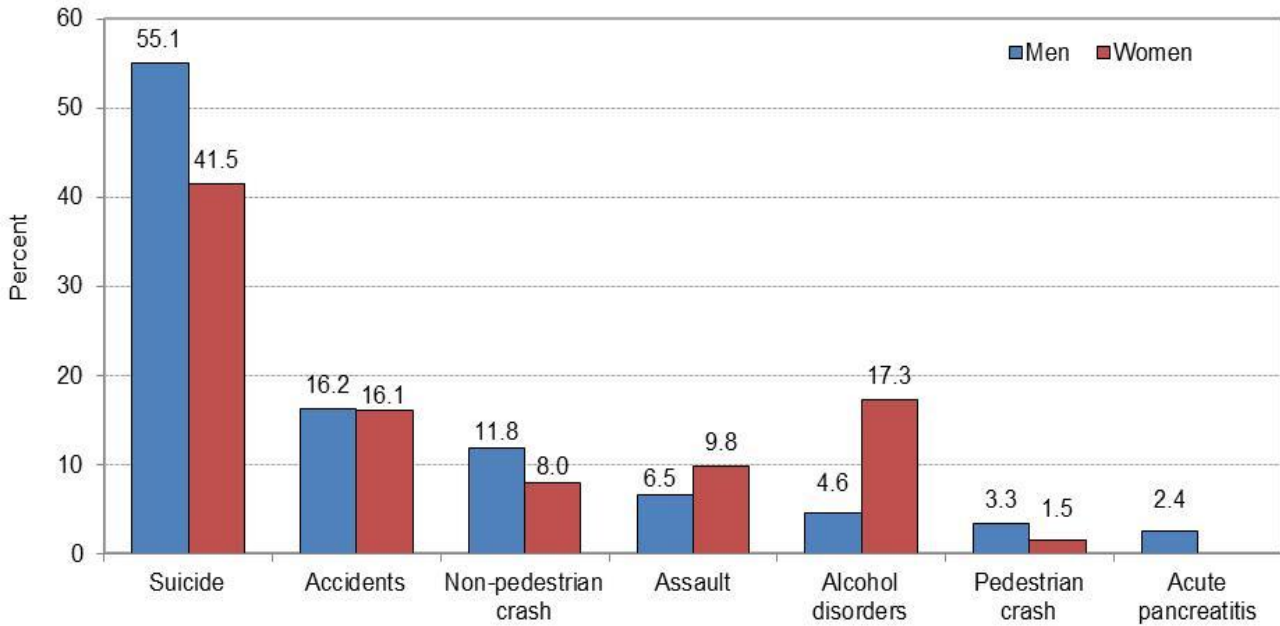
Figure 7: Chronic conditions for estimated alcohol-attributable deaths by sex, SA, 2011



* Cardiac conditions include supraventricular cardiac dysrhythmias and alcoholic cardiomyopathy. Cancers include oropharyngeal, oesophageal, rectal, colon, liver, laryngeal, and female breast cancer. Stroke includes ischaemic and haemorrhagic. Other includes oesophageal varices, gastro-oesophageal haemorrhage and hypertension.

Figure 8 shows the distribution of **acute** conditions for men and women. The most common alcohol-related deaths for acute conditions for both men and women were suicide (55% and 42%), followed by accidents (16%) and non-pedestrian road crashes (12% and 8%). There were a higher percentage of deaths due to alcohol disorders and assault among women (17% and 9.8%) than men (4.6% and 6.5%).

Figure 8: Acute conditions for estimated alcohol-attributable deaths by sex, SA, 2011



* Accidents include falls, fire injuries, occupational machine injuries, aspiration and drowning. Alcohol disorders include alcohol abuse, psychosis and poisoning (overdose).

Figure 9 shows that among alcohol-related deaths for chronic conditions, 59% were cancers, 18% liver cirrhosis and 9.2% and 8.7%, respectively, for stroke and cardiac conditions. Among alcohol-related deaths for acute conditions, almost half were suicide, with 18% accidents and 10% non-pedestrian road crashes. The majority (96%) occurred among those aged 25 years and over.

Figure 9: Chronic and acute conditions for estimated alcohol-attributable deaths, SA, 2011

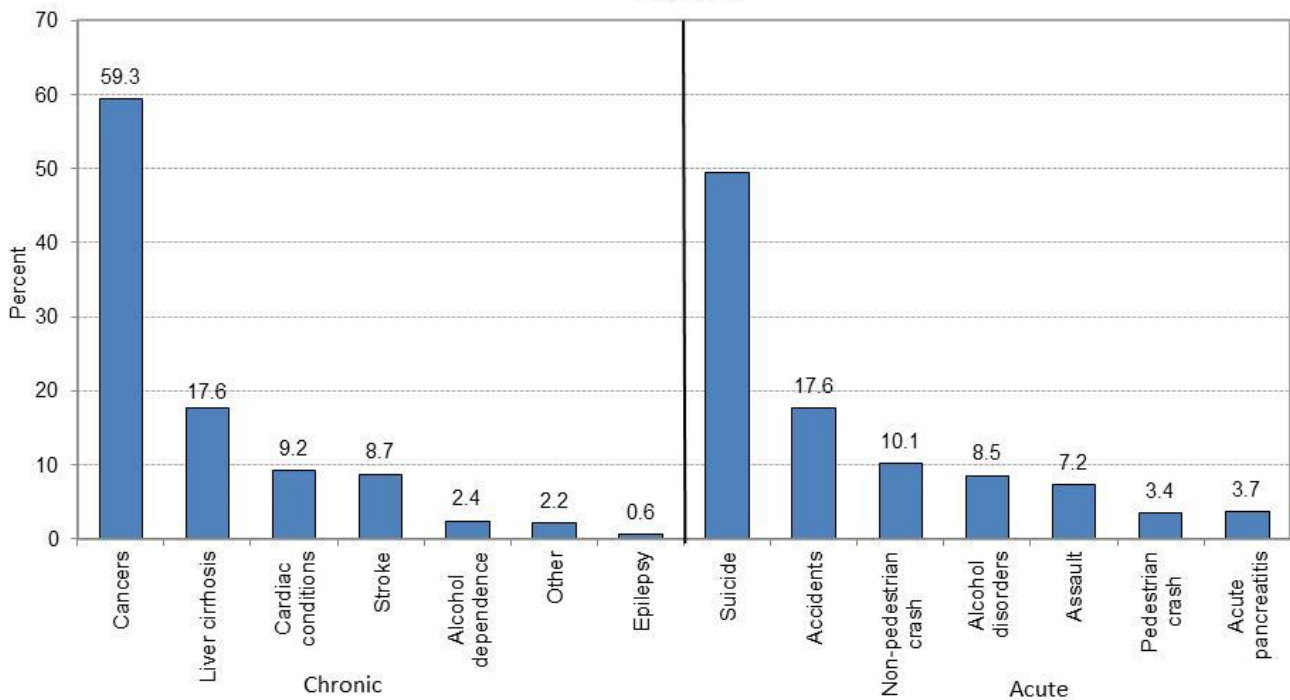
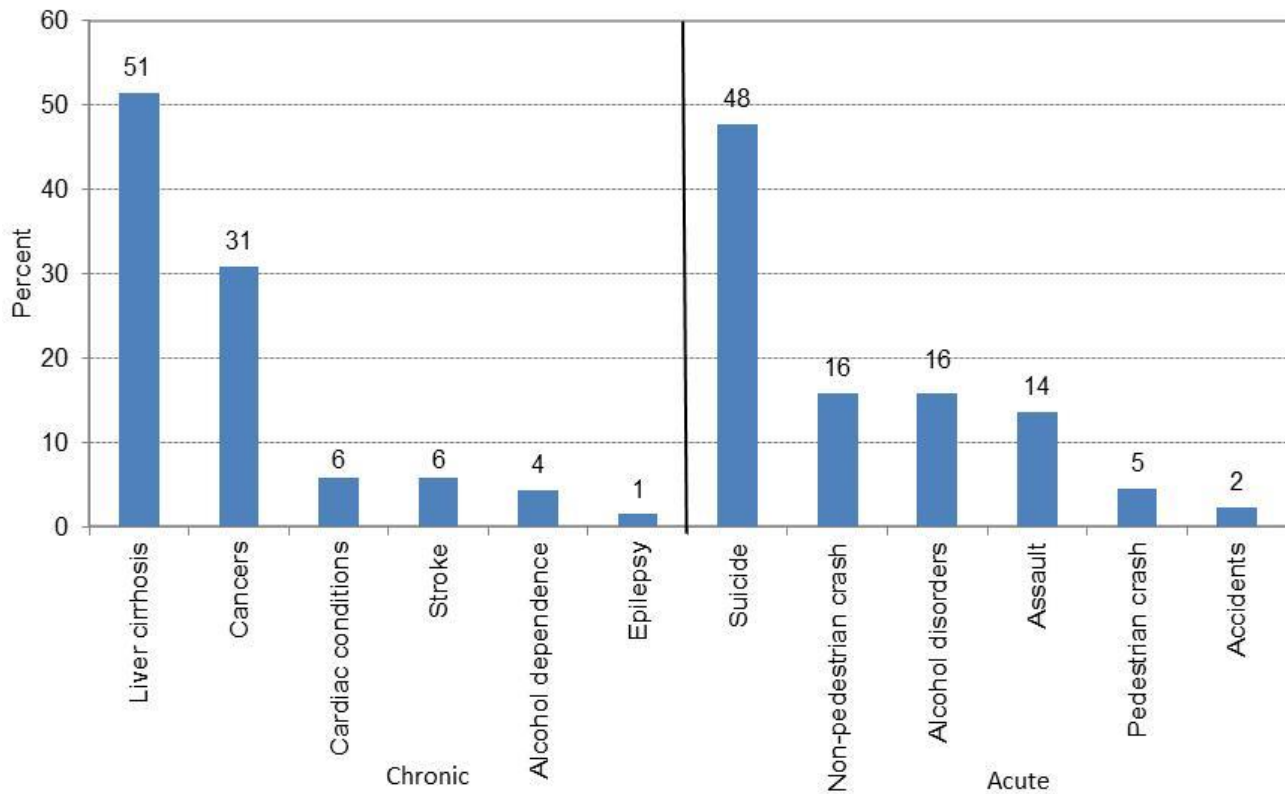


Figure 10 shows alcohol-related deaths for both chronic and acute conditions for Aboriginal and Torres Strait Islanders. Data from 2005 to 2011 have been combined as numbers for a single year are too small. Alcohol-related deaths from chronic conditions were predominantly liver cirrhosis (51%) and cancers (31%). The most common alcohol-related deaths from acute conditions were suicide (48%), non-pedestrian road crashes (16%) and alcohol disorders (16%).

Figure 10: Chronic and acute conditions for estimated alcohol-attributable deaths among Aboriginal & Torres Strait Islanders, SA, 2005-2011



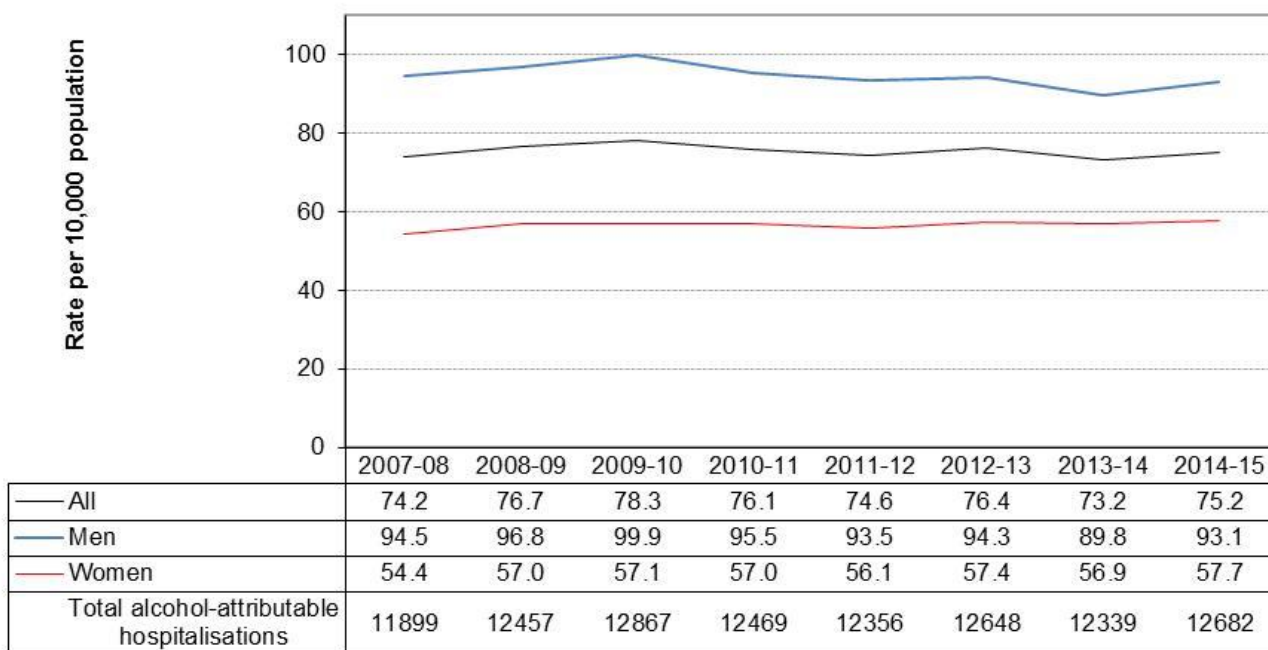
Alcohol-Related Hospitalisations

The following section provides estimates of the annual number and rate (per 10,000 population) of hospitalisations in South Australia between 2007-08 and 2014-15 that were attributable to alcohol. These data are examined by sex, age group, Indigenous status, and whether conditions were chronic or acute.

On average, there were an estimated 12,500 hospitalisations per year, which comprised approximately 2% of all hospitalisations. Figure 11 shows that there has been a small increase in the number and rate of alcohol-related hospitalisations over the eight-year reporting period, from 11,899 in 2007-08 (74.2 persons per 10,000 population) to 12,682 in 2014-15 (75.2 persons per 10,000 population). The pattern was the same for women, but for men, the rate decreased slightly from 94.5 persons per 10,000 population to 93.1. However, rates for men were 1.6-1.7 times higher than for women in each year of data collection.

Subsequent demographic data presented in this section look at the most recent year only (2014-15); there have not been large variations over time.

Figure 11: Total number and rate of estimated hospitalisations attributable to the use of alcohol, by sex, 2007-08 to 2014-15



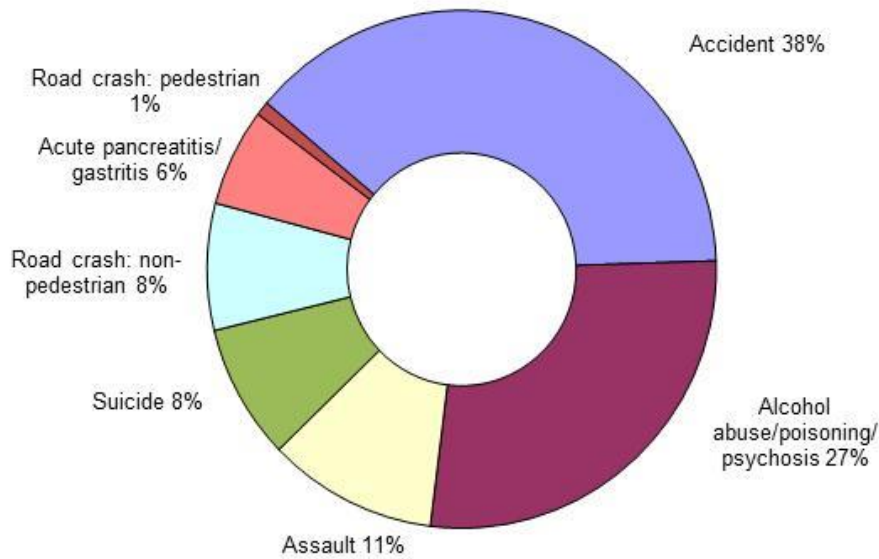
Source: Integrated South Australian Activity Collection (ISAAC), South Australian Health Department. Population estimates from the ABS: <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3235.0>; estimates for 2014-15 were not available and those from 2013-14 were used.

Sex

Men made up the majority (61%) of all hospitalisations in both years, for both chronic and acute conditions. In addition, for both men and women, 56% of estimated alcohol-attributable hospitalisations were due to acute conditions and 44% to chronic conditions.

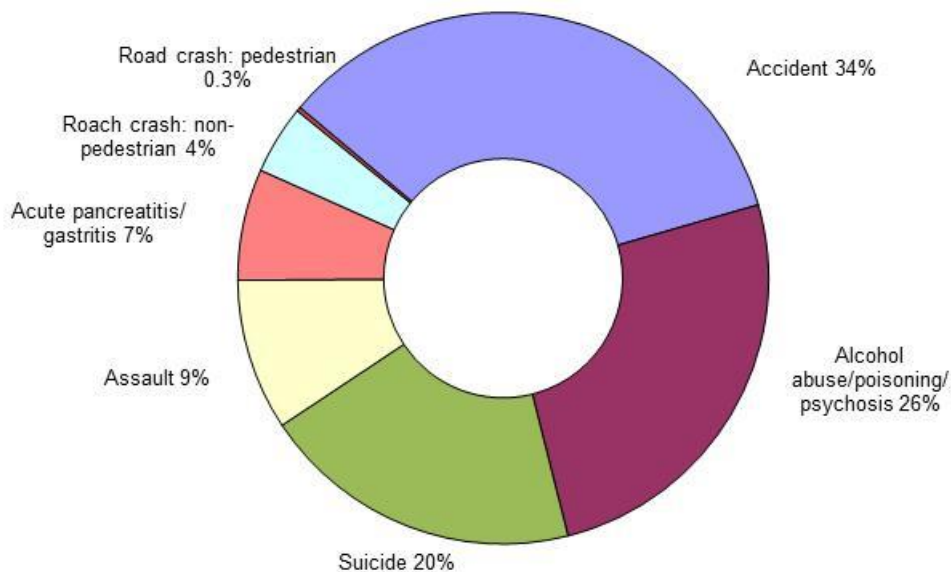
Figures 12 and 13 present the specific estimated alcohol-attributable **acute** conditions for which patients were hospitalised in 2014-15. For both men and women, the most common alcohol-attributable hospitalisations were for accidents (falls, fire injuries, occupational machine injuries, aspiration and drowning), comprising 38% of hospitalisations among men and 34% of those among women. This was followed by alcohol abuse, poisoning (overdose) or psychosis: 27% and 26%, respectively. However, the next most common condition among men was assault (11% vs. 9.2% among women), whereas for women, the next most common was suicide (20% vs. 8.3% among men). A higher proportion of hospitalisations among men were for non-pedestrian road crashes (7.7% vs. 4.2% among women).

Figure 12: Acute conditions for estimated alcohol-attributable hospitalisations among men, South Australia, 2014-15



Source: Integrated South Australian Activity Collection (ISAAC), South Australian Health Department.

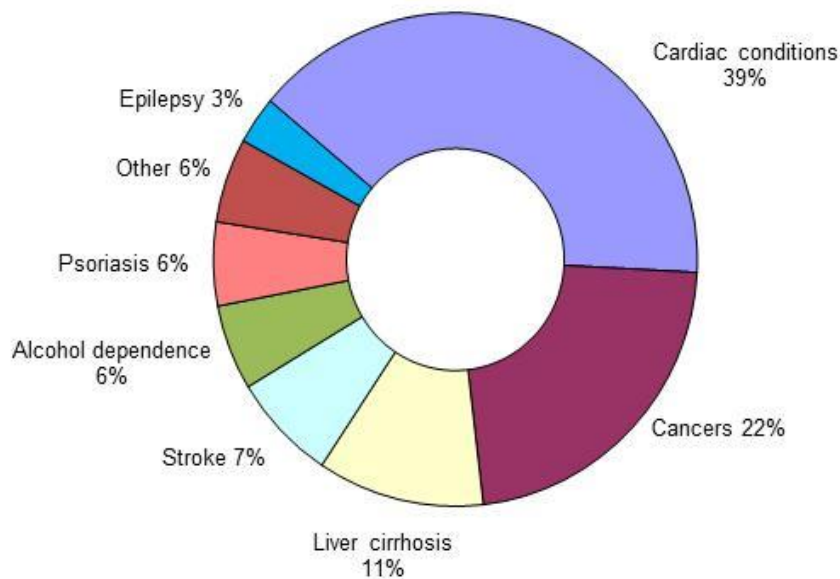
Figure 13: Acute conditions for estimated alcohol-attributable hospitalisations among women, South Australia, 2014-15



Source: Integrated South Australian Activity Collection (ISAAC), South Australian Health Department.

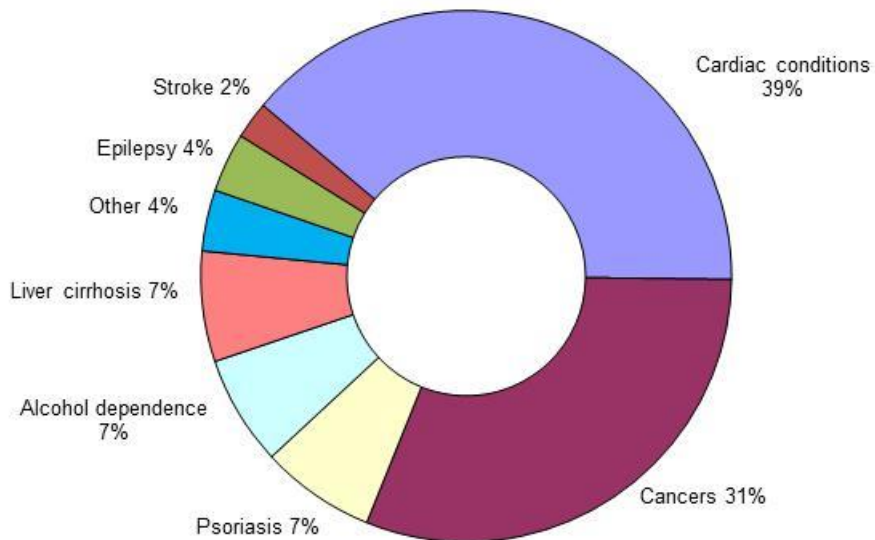
Figures 14 and 15 present the specific estimated alcohol-attributable **chronic** conditions for which patients were hospitalised in 2014-15. For both men and women, the most common alcohol-attributable chronic conditions were supraventricular cardiac dysrhythmias and alcoholic cardiomyopathy (39%). This was followed by cancers (oropharyngeal, oesophageal, colon, rectal, liver and laryngeal): 22% for men and 31% for women. Note that for women, this included 11% for breast cancer. This was followed by liver cirrhosis (11%) and stroke (7.1%) for men and psoriasis (7%) and alcohol dependence (6.7%) for women. The percentage of hospitalisations for stroke was much higher among men (7.1% compared with 2.3%).

Figure 14: Chronic conditions for estimated alcohol-attributable hospitalisations among men, South Australia, 2014-15



Source: Integrated South Australian Activity Collection (ISAAC), South Australian Health Department. 'Other' includes: gastro-oesophageal conditions; pancreatitis; hypertension and alcoholic polyneuropathy. There were no alcohol-attributable hospitalisations for foetal alcohol syndrome.

Figure 15: Chronic conditions for estimated alcohol-attributable hospitalisations among women, South Australia, 2014-15



Source: Integrated South Australian Activity Collection (ISAAC), South Australian Health Department. Other includes: gastro-oesophageal conditions; pancreatitis; hypertension and alcoholic polyneuropathy. There were no alcohol-attributable hospitalisations for foetal alcohol syndrome.

Age

Table 1 presents the estimated number and rate of alcohol-attributable hospitalisations in 2014-15 by age group¹⁶. Alcohol-attributable hospitalisations made up less than 2% of all hospitalisations, and the population rate predictably increased with age, although it is notable that the rate among those aged 15-19 years was higher than among those aged 20-34 years. In addition, the rate dropped slightly among those aged 65-69 and 70-74 years.

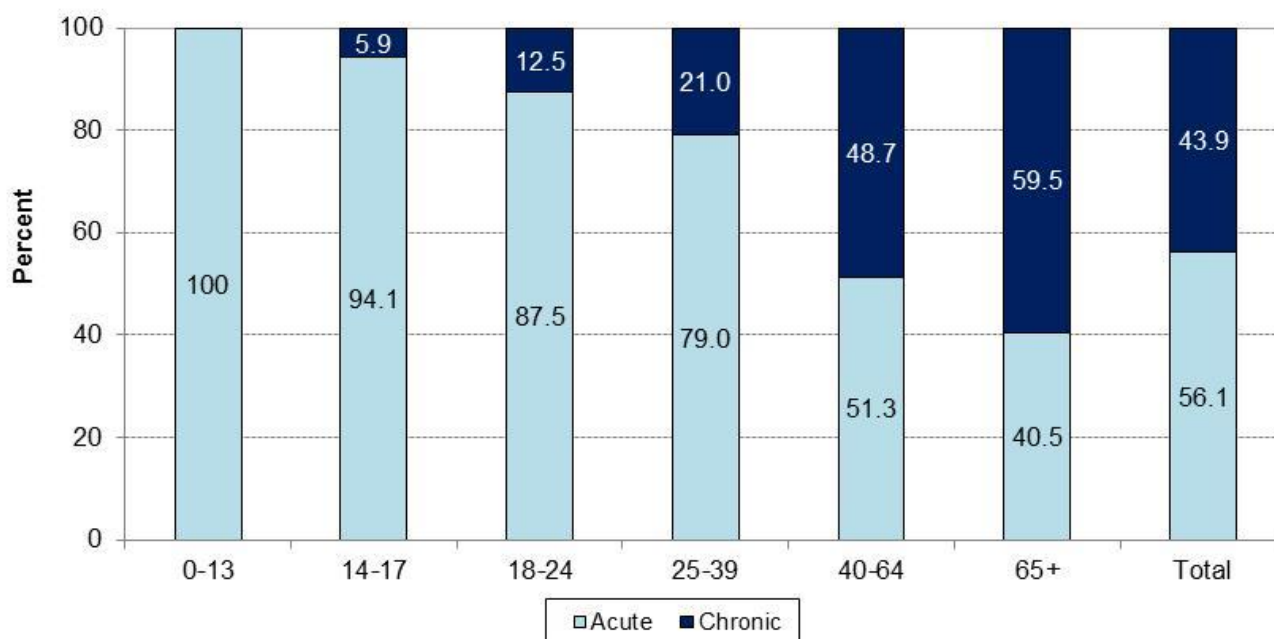
Table 1: Estimated number of alcohol-attributable hospitalisations due to alcohol consumption in 2014-15, by age group

Age group	Alcohol-attributable hospitalisations	
	N	CR
0-14	108	3.6
15-19	647	61.8
20-24	612	54.0
25-29	574	49.7
30-34	666	60.0
35-39	739	71.9
40-44	881	77.1
45-49	852	75.5
50-54	1031	88.7
55-59	1101	101.1
60-64	1157	116.1
65-69	956	106.1
70-74	832	126.8
75-79	825	159
80-84	707	183
85+	992	236
Total	12682	75.2

Note: totals may not add up as they are based on actual estimates (including all decimal values) and not the rounded values given in this table. Population estimates for 2014-15 were not available and those from 2013-14 were used. CR = Crude rates per 10,000 population based on age-specific estimates. **Source:** Integrated South Australian Activity Collection (ISAAC), South Australian Health Department.

Figure 16 shows that in 2014-15, the proportion of estimated hospitalisations due to alcohol-attributable chronic conditions increased with age. Overall, 56% of hospitalisations were due to acute conditions, and among those aged 40-64 years, the split was close to 50%.

Figure 16: Percentage of estimated acute and chronic alcohol attributable hospitalisations within each age group, SA 2014-15

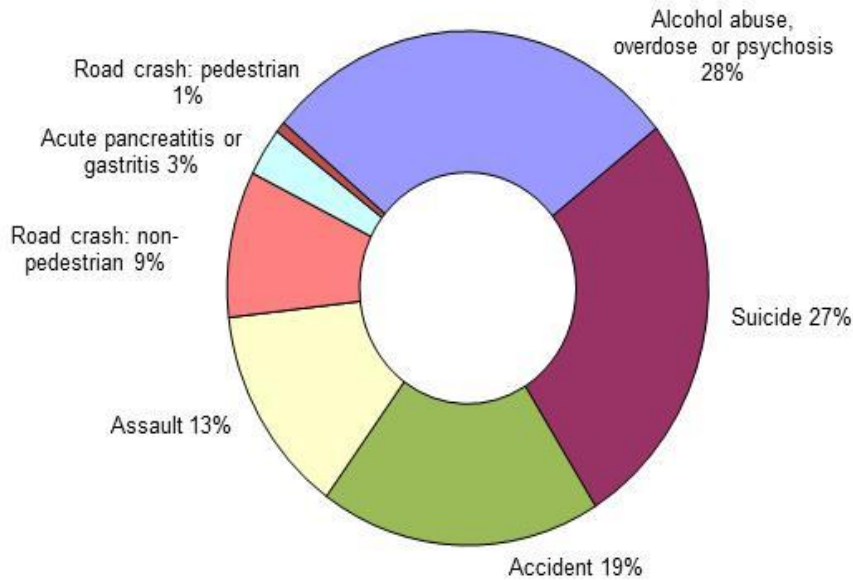


Source: Integrated South Australian Activity Collection (ISAAC), South Australian Health Department.

Figures 17 and 18 present the specific estimated alcohol-attributable **acute** conditions for which patients were hospitalised, for those aged 14-24 years and those aged 25 years and over. Although the same four conditions were the most common for both groups, the order differed. Around 28% of

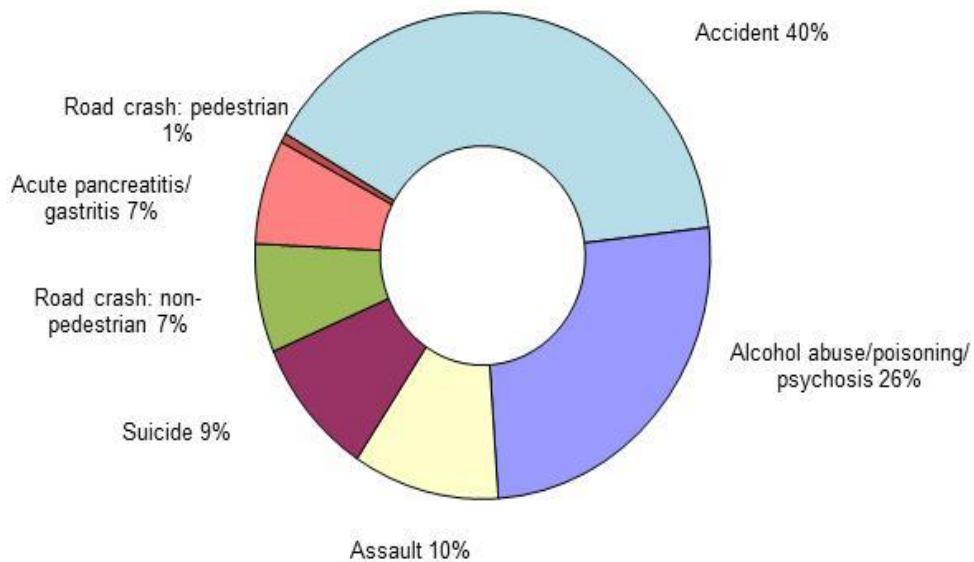
hospitalisations among those aged 14-24 years were for alcohol abuse, poisoning or psychosis, followed by 27% for suicide, 19% for accidents and 13% for assault. For those aged 25 years and over, accidents were most common (40%), followed by alcohol abuse, poisoning or psychosis (26%). A much smaller proportion than the 14-24 year olds was attributable to suicide (9.3%).

Figure 17: Acute conditions for estimated alcohol-attributable hospitalisations among those aged 14-24 years, South Australia, 2014-15



Source: Integrated South Australian Activity Collection (ISAAC), South Australian Health Department.

Figure 18: Acute conditions for estimated alcohol-attributable hospitalisations among those aged 25 years and over, South Australia, 2014-15

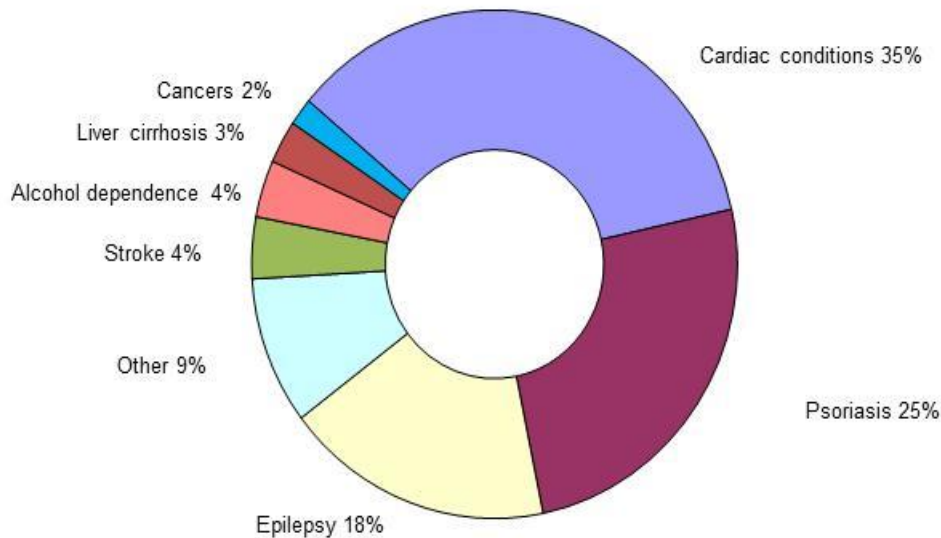


Source: Integrated South Australian Activity Collection (ISAAC), South Australian Health Department.

Figures 19 and 20 present the specific alcohol-attributable **chronic** conditions for which patients were hospitalised for those aged 14-24 years and those aged 25 years and over. Note that there were only 138 hospitalisations in total for those 14-24 years and 5425 for those aged 25 years. The highest proportion of alcohol-attributable hospitalisations for chronic conditions were cardiac related for both those aged 14-24 years and those 25 years and over (35% and 40%, respectively). For the younger age group, this was followed by psoriasis (25%) and epilepsy (18%). In contrast, for those

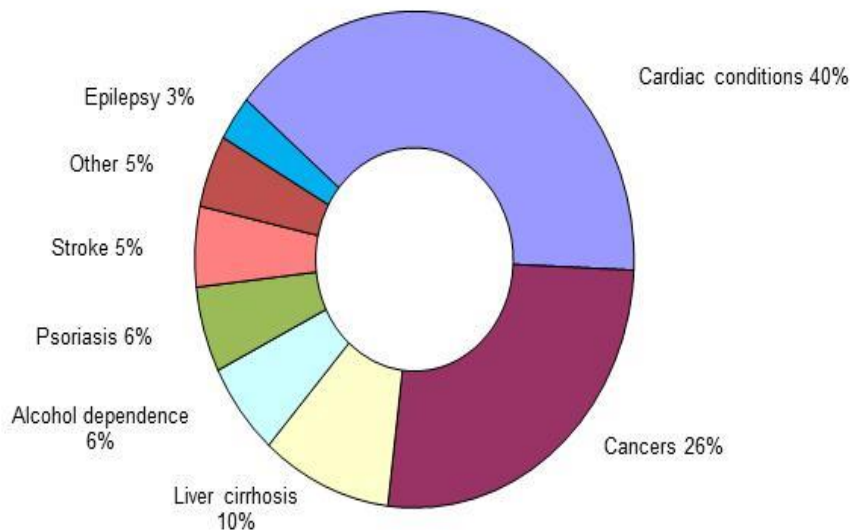
aged 25 years and over, alcohol-attributable hospitalisations were primarily for cancer (26%) and cirrhosis (10%). The proportion of for stroke was low in both groups (4% and 5%, respectively).

Figure 19: Chronic conditions for estimated alcohol-attributable hospitalisations among those aged 14-24 years, South Australia, 2014-15



Source: Integrated South Australian Activity Collection (ISAAC), South Australian Health Department. Other includes: gastro-oesophageal conditions; pancreatitis; hypertension and alcoholic polyneuropathy. There were no alcohol-attributable hospitalisations for foetal alcohol syndrome.

Figure 20: Chronic conditions for estimated alcohol-attributable hospitalisations among those aged 25 years and over, South Australia, 2014-15



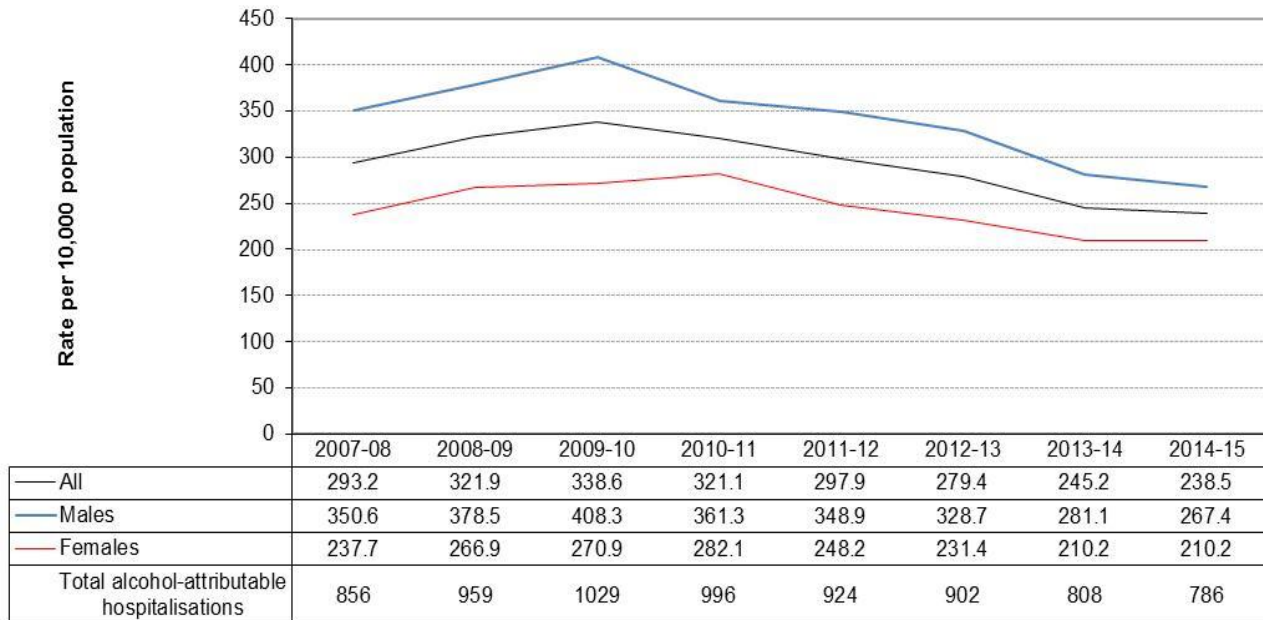
Source: Integrated South Australian Activity Collection (ISAAC), South Australian Health Department. Other includes: gastro-oesophageal conditions; pancreatitis; hypertension and alcoholic polyneuropathy. There were no alcohol-attributable hospitalisations for foetal alcohol syndrome.

Aboriginal & Torres Strait Islanders

Figure 21 presents estimates of the annual number and rate of alcohol-attributable hospitalisations among Aboriginal and Torres Strait Islander South Australians¹⁷. As was observed with the South Australian population as a whole, the estimated number and rate increased between 2007-08 and 2009-10 and has decreased in 2014-15. However, the rate among Aboriginal and Torres Strait Islanders was almost four times higher than the overall South Australian population. Aboriginal &

Torres Strait Islander South Australians were also almost twice as likely to be hospitalised due to non-alcohol-attributable conditions as non-Indigenous South Australians. Aboriginal and Torres Strait Islander Men had a higher rate of alcohol-related hospitalisation than women: 1.3-1.5 times higher across the five years, although this gap has narrowed slightly over time.

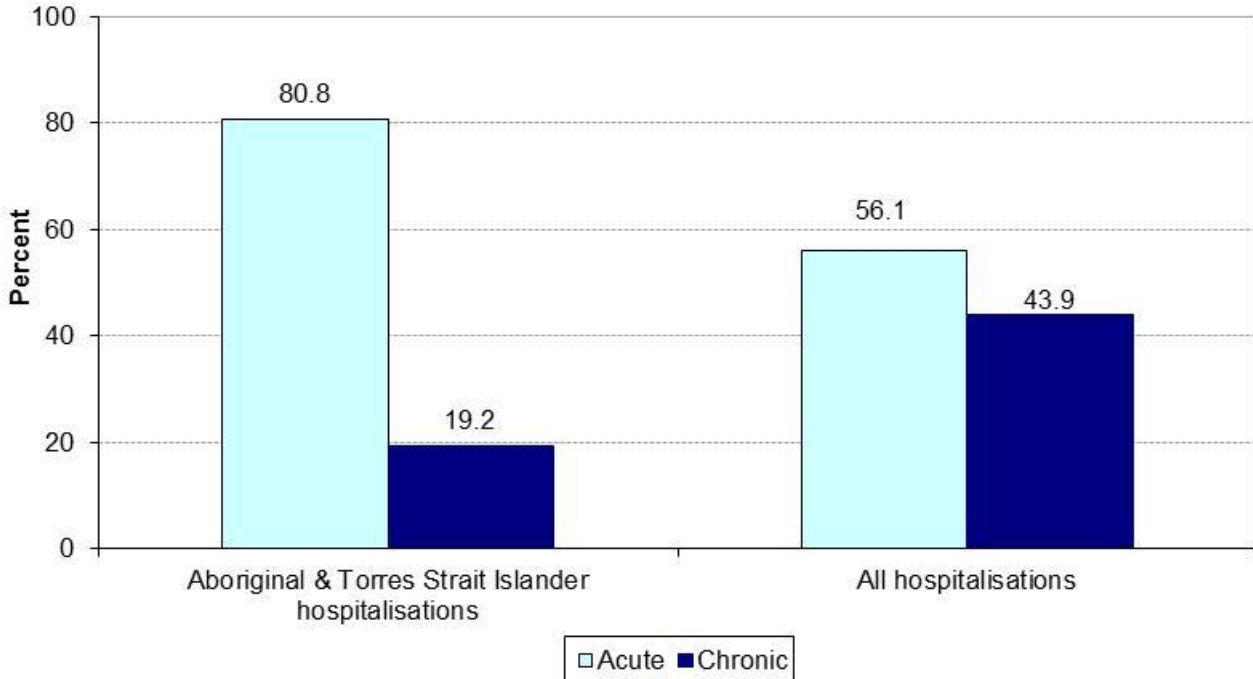
Figure 21: Total number and rate of estimated hospitalisations attributable to the use of alcohol among Aboriginal & Torres Strait Islander South Australians, by sex, 2007-08 to 2014-15



Source: Integrated South Australian Activity Collection (ISAAC), South Australian Health Department. Population estimates from <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3235.0>

Figure 22 shows the proportion of estimated alcohol-attributable chronic and acute condition hospitalisations for Aboriginal or Torres Strait Islander patients, and for all patients, in 2014-15. There is a striking difference between the two groups: among Aboriginal and Torres Strait Islanders, 635 (81%) of alcohol-attributable hospitalisations were due to acute conditions and the remaining 151 (19%) for chronic conditions. In contrast, for all patients, 7119 (56%) of all alcohol-attributable hospitalisations were due to acute conditions and 5563 (44%) due to chronic conditions.

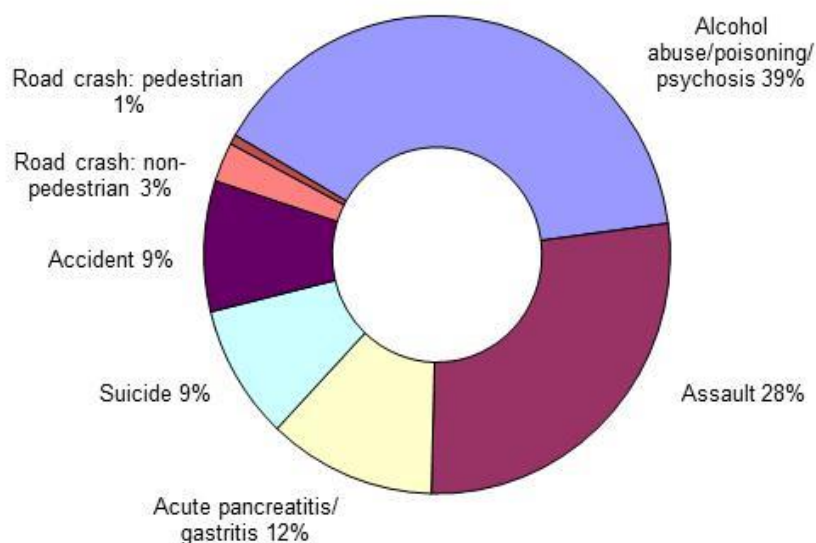
Figure 22: Percentage of estimated hospitalisations attributable to the use of alcohol, by condition and Indigenous status, 2014-15



Source: Integrated South Australian Activity Collection (ISAAC), South Australian Health Department.

Figure 23 presents the specific alcohol-attributable **acute** conditions for which Aboriginal & Torres Strait Islander patients were hospitalised. The majority (39%) were for alcohol abuse, poisoning or overdose, followed by 28% for assault. Suicide, accidents and non-pedestrian road crashes comprised much smaller proportions. In contrast, the largest proportions of alcohol-attributable hospitalisations for acute conditions among all patients included accidents (36%) and alcohol abuse, poisoning and psychosis (26%). The proportion of all alcohol-attributable hospitalisations for assault (10%) was much lower than among Aboriginal & Torres Strait Islanders (28%) and the proportion of all alcohol-attributable hospitalisations for suicide (13%) was lower among Aboriginal & Torres Strait Islanders (9%).

Figure 23: Acute conditions for alcohol-attributable hospitalisations among Aboriginal & Torres Strait Islanders, South Australia, 2014-15

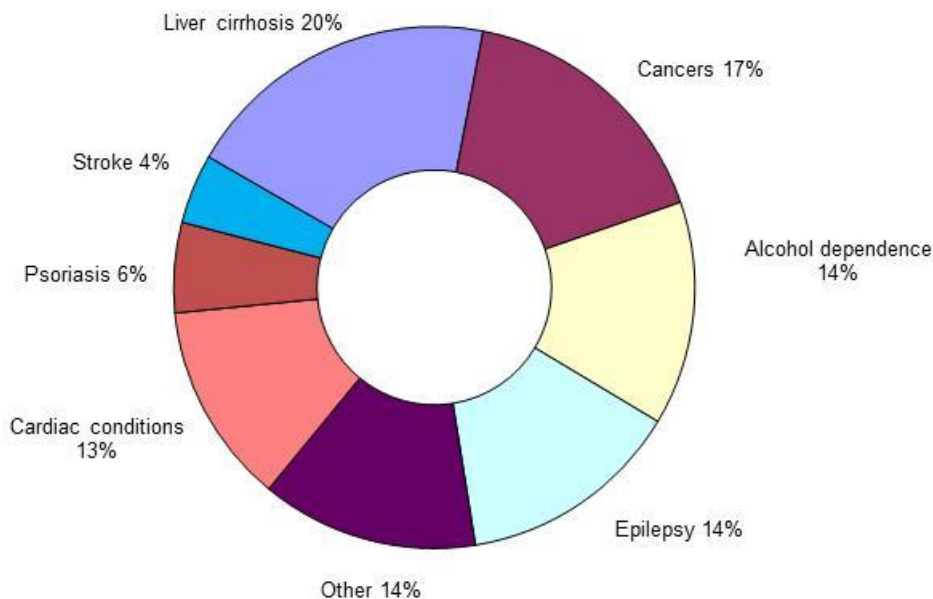


Source: Integrated South Australian Activity Collection (ISAAC), South Australian Health Department.

Figure 24 now presents the specific alcohol-attributable **chronic** conditions for which Aboriginal & Torres Strait Islander patients were hospitalised. The majority (20%) were for cirrhosis, followed by 17% for cancers and 14% for alcohol dependence.

In contrast, the largest proportions of alcohol-attributable hospitalisations for chronic conditions among all patients included cardiac conditions (40%) and cancer (26%). The proportion of all alcohol-attributable hospitalisations for cirrhosis (9.4%) and epilepsy (3.3%) was much lower than among Aboriginal & Torres Strait Islanders (20% and 14%, respectively). Alcohol dependence was also higher among Aboriginal & Torres Strait Islanders (14% compared with 6% of all hospitalisations).

Figure 24: Chronic conditions for alcohol-attributable hospitalisations among Aboriginal & Torres Strait Islanders, South Australia, 2014-15



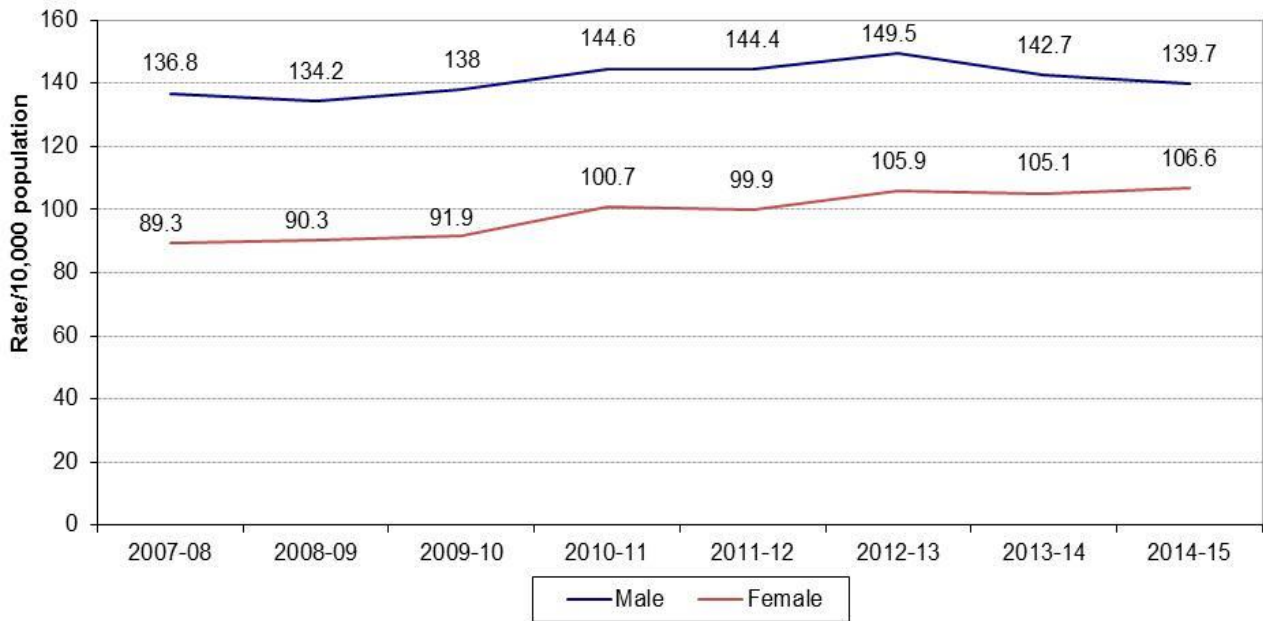
Source: Integrated South Australian Activity Collection (ISAAC), South Australian Health Department. Other includes: gastro-oesophageal conditions; pancreatitis; hypertension and alcoholic polyneuropathy. There were no alcohol-attributable hospitalisations for foetal alcohol syndrome.

Alcohol-Related Emergency Department Presentations¹⁸

The estimated number of metropolitan emergency department (ED) injury presentations for persons aged 15 years and older that was attributable to the use of alcohol, and where it was estimated that **more than four drinks** were consumed prior to presentation increased between 2007-08 and 2014-15, from 10,869 to 12,515. Similarly, the rate per 10,000 persons increased from 112.3 in 2007-08 to 122.7 in 2014-15. Changes over time (an overall increase) were statistically significant, and there were also sex and age differences.

Figure 25 presents the estimated rate of ED injury presentations by sex, among those who had consumed more than four standard drinks prior to presentation. The rate among men was approximately 1.5 times higher than women in each year, and this difference was statistically significant. That is, among persons who had consumed more than four standard drinks prior to presentation, a significantly higher number were men. Although there was no significant change over time among men, there was a significant change (increase) among women.

Figure 25: Rate per 10,000 population aged 15+ years of estimated emergency department injury presentations attributable to the use of alcohol where it was estimated that more than four standard drinks were consumed prior to presentation, by sex, 2007-08

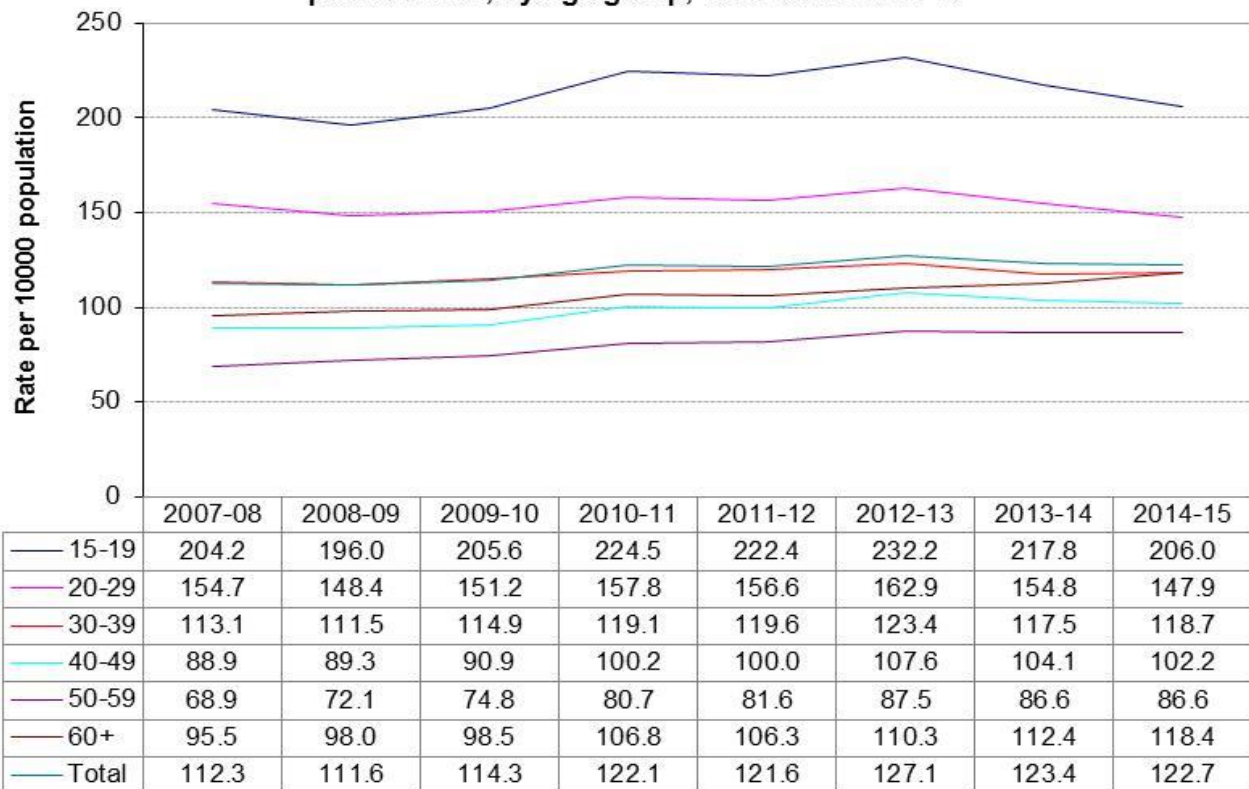


Source: Emergency Department Data Collection (EDDC), South Australian Health Department. Population estimates from <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3235.0>. Estimates for 2014-15 were not available and those from 2013-14 were used.

Figure 26 presents the estimated rate of ED injury presentations by age group, for those who had consumed more than four standard drinks prior to presentation. There were no significant changes over time among those aged 15-19 and 20-29 years, although there were significant changes (an increase) among those aged 30-39, 40-49, 50-59 and 60 years and over.

In each year, the highest rate was among those aged 15-19 years, followed by those aged 20-29 years. There were statistically significant differences between all age groups in the rate of ED presentations in each year, with the exception of those aged 30-39 years and 60 years and over, who had similar rates.

Figure 26: Rate per 10,000 population of estimated emergency department presentations attributable to the use of alcohol where it was estimated that more than four standard drinks were consumed prior to presentation, by age group, 2007-08 to 2014-15



Source: Emergency Department Data Collection (EDDC), South Australian Health Department. Population estimates from <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3235.0>. Estimates for 2014-15 were not available and those from 2013-14 were used.

For more information

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End notes

1 Estimates of alcohol-attributable mortality were calculated from cases where alcohol-attributable conditions were given as the primary cause of death. Note that the number of cases presented in this bulletin for 2005 and 2006 differs from those reported by NDRI.¹ This is primarily due to a higher number calculated by NDRI for two alcohol-related conditions: haemorrhagic stroke and non-pedestrian road crashes. These account for 71 of the 98 extra cases NDRI recorded in 2005, and 70 of the 83 extra cases in 2006. There have been no recorded changes in either ICD-10 coding or the CODURF database that could explain this. Data presented in this bulletin use the same methodology for each year, and the discrepancy may therefore be due to changes/updates made to the mortality data since NDRI carried out their analyses.

2 <http://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/resources/alcohol-attributable+mortality+and+morbidity+rates+in+south+australia>

3 <http://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/resources/statistical+bulletin+number+8+july+2015>

4 Abstainers include both ex-drinkers and those who had never drunk alcohol

5 The PAAF for a particular illness or injury is the proportion of cases with that condition in the population that can be attributed to drinking. For some conditions (e.g. alcoholic liver cirrhosis and alcohol dependence) the PAAF is one (1), because such conditions are – by definition – wholly attributable to alcohol. For other conditions (e.g. assault, all road crashes and stroke) the PAAF is less than one, because they are only partially attributable to alcohol. In these instances, the PAAF is a function of both the strength of the causal relationship between a particular level of drinking and the condition (measured as a 'relative risk') and the proportion of the population drinking at that particular level (i.e. drinking prevalence). Taken from Evans, M., Pascal, R., and Chikritzhs, T. (2010). Development of South Australian Specific Aetiologic Fractions and Estimates of Alcohol-Attributable Morbidity and Mortalities. Stage 1: Final report. Perth, National Drug Research Institute, Curtin University, page 12.

6 **Chronic conditions:** Oropharyngeal Cancer; Oesophageal Cancer; Liver Cancer; Laryngeal Cancer; Female Breast Cancer; Hypertension; Supraventricular Cardiac Dysrhythmias; Haemorrhagic Stroke; Ischaemic Stroke; Oesophageal Varices; Unspecified Liver Cirrhosis; Psoriasis; Colon Cancer; Rectal Cancer; Foetal Alcohol Syndrome; Alcohol Dependence; Alcoholic Poly Neuropathy; Alcoholic Cardiomyopathy; Alcoholic Liver Cirrhosis; Alcoholic Pancreatitis; Epilepsy; Gastro-Oesophageal Haemorrhage; Chronic Pancreatitis. **Acute conditions:** Suicide; Alcoholic Psychosis; Alcohol Abuse; Alcoholic Gastritis; All Alcohol Poisoning; Aspiration; Acute Pancreatitis; Falls; Fire injuries; Drowning; Occupational Machine Injuries; Assault; Child Abuse; Hospitalisations: Non-Pedestrian; Hospitalisations: Pedestrian. Note that mortality data do not include alcoholic pancreatitis.

7 Chikritzhs, T., Evans, M., Gardener, C., Liang, W., Pascal, R., Stockwell, T. and Zeisser, C (2011). Australian Aetiologic Fractions for Injuries Treated in Emergency Departments. Perth, National Drug Research Institute, Curtin University.

8 *Ibid*

9 <http://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/resources/statistical+bulletin+number+8+july+2015>

10 http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/ds10-alcohol.pdf

11 Calculated by subtracting the estimates for Aboriginal and Torres Strait Islander South Australians from those for all South Australians

12 Evans M. Pascal R. Chikritzhs T. *Development of South Australian Specific Aetiological Fractions and Estimates of Alcohol Attributable Morbidity and Mortalities*. Western Australia: National Drug Research Institute, Curtin University, 2010, page 38.

13 Oropharyngeal Cancer; Oesophageal Cancer; Liver Cancer; Laryngeal Cancer; Female Breast Cancer; Hypertension; Supraventricular Cardiac Dysrhythmias; Haemorrhagic Stroke; Ischaemic Stroke; Oesophageal Varices; Unspecified Liver Cirrhosis; Psoriasis; Colon Cancer; Rectal Cancer; Foetal Alcohol Syndrome; Alcohol Dependence; Alcoholic Poly Neuropathy; Alcoholic Cardiomyopathy; Alcoholic Liver Cirrhosis; Alcoholic Pancreatitis; Epilepsy; Gastro-Oesophageal Haemorrhage; Chronic Pancreatitis.

14 Suicide; Alcoholic Psychosis; Alcohol Abuse; Alcoholic Gastritis; All Alcohol Poisoning; Aspiration; Acute Pancreatitis; Falls; Fire injuries; Drowning; Occupational Machine Injuries; Assault; Child Abuse; Hospitalisations: Non-Pedestrian; Hospitalisations: Pedestrian. Note that mortality data do not include alcoholic pancreatitis.

15 Previously, supraventricular cardiac dysrhythmias and foetal alcohol syndrome (of which there were no cases in any year) were categorised as acute conditions, and stroke and suicide as both. In this bulletin, supraventricular cardiac dysrhythmias, foetal alcohol syndrome and stroke were chronic conditions, and suicide was an acute condition

16 For confidentiality reasons, the number of alcohol-attributable hospitalisations is only provided for those aged 0-14 years combined.

17 Population estimates from ABS: Experimental Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 1991 to 2021.

18 Trends over time were analysed using regression, differences between men and women used t-tests, and ANOVA tests for differences between age groups.