Drug and Alcohol Services South Australia

Statistical Bulletin

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The prevalence of alcohol consumption and risky drinking in South Australia

This Bulletin is the second in a series providing the most up-to-date data available on the prevalence of alcohol and other drug use, the harms associated with misuse, and alcohol and other drug treatment services in South Australia. This issue focuses on the prevalence of alcohol consumption among South Australians, particularly at levels that increase the risk of alcohol-related injury or disease. The harms associated with risky drinking as measured by alcohol related deaths, hospital admission, emergency department presentations will appear in a more substantial report later in 2012.

In 2009, new Guidelines[1,2], were released by the National Health & Medical Research Council (NH&MRC) to reduce health risks from alcohol consumption, replacing those developed in 2001. These Guidelines indicate the amount of alcohol that should be consumed to reduce the lifetime risk of alcohol-related disease or injury, as well as the risk of alcohol-related injury from a single drinking occasion. Data in this bulletin are taken from the 2004, 2007 and 2010 National Drug Strategy Household Survey (NDSHS)[3], which has been conducted triennially by the Australian Institute of Health and Welfare (AIHW) since 1995. The survey provides information on drug use patterns, attitudes and behaviours among South Australians aged 12 years and over[4].

The statistical analyses[5] presented examine two aspects of alcohol use: firstly, changes in consumption and risky drinking over time; and secondly, the impact of the revised Guidelines on the extent of risky drinking in South Australia. Comparisons are also made according to sex and age and, where relevant, with national data.

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Summary

In brief: frequency of alcohol consumption

> In 2010, 81% of South Australians had consumed at least one full serve of alcohol in the last 12 months. This is the lowest it has been since 2001 (83.1%).

> Significant change in the profile of alcohol consumption over time among male South Australians, with a decrease in daily use and an increase in those who had never drunk alcohol.

> Significant increase among South Australians aged 20-29 years and 30-39 years in the percentage who had never drunk alcohol; decrease in the percentage of daily drinkers among those aged 50-59 years.

> Findings are consistent with national results, although among all Australians there was also a significant decrease in weekly consumption over time.

In brief: risk of injury from a single drinking occasion

> In 2004, 45% of South Australians aged 14 years and over consumed alcohol at least once in the previous 12 months at levels that put them at risk of injury from a single drinking occasion. This decreased to 42% in 2007, followed by a further decrease to 38% in 2010.

> Significant change in the profile of alcohol consumption at levels that put South Australians at risk of injury from a single drinking occasion, with a decrease in the percentage consuming alcohol at risky levels at least monthly/not weekly and an increase in the percentage of abstainers between 2004 and 2010.

> Males significantly more likely to consume alcohol at risky levels at least monthly and at least weekly.

> Significant decrease over time in the percentage of South Australian males consuming alcohol at risky levels at least yearly/not monthly and at least monthly/not weekly. No significant changes among females.

> Consistent with national results, with a significant decrease in the percentage over time consuming alcohol at risky levels at least once in the previous 12 months.

In brief: risk of disease or injury over a lifetime of drinking

> In 2004, 21% of South Australians aged 14 years and over consumed alcohol at levels that put them at risk of disease or injury over a lifetime. This decreased to 19% in 2007, and remained unchanged in 2010.

> Significant change in the profile of alcohol consumption at levels that put South Australians at risk of disease or injury over a lifetime, with an increase in the percentage of abstainers over time.

> Females significantly less likely to drink at risky levels in all three surveys.

In brief: underage drinking

> 12-17 year olds significantly less likely to consume alcohol at least weekly than those aged 18 years and over and a significantly higher percentage had never drunk alcohol; no changes over time among this group.

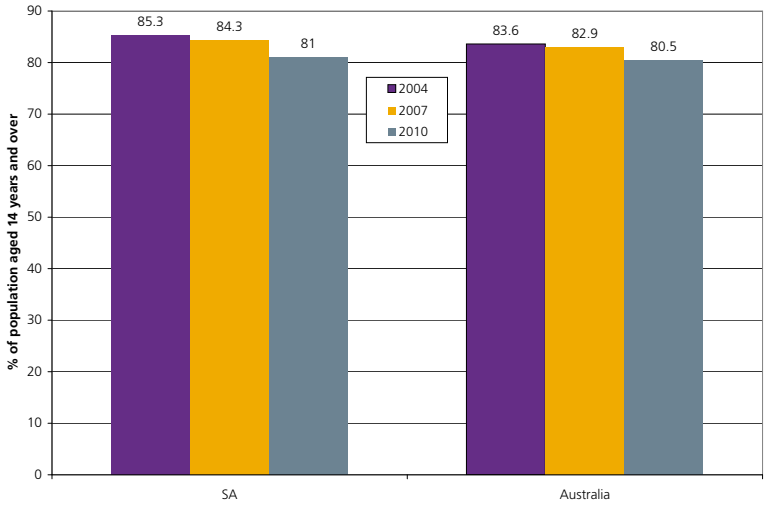
> The profile of alcohol consumption at risky levels from both a single drinking occasion and over a lifetime was significantly higher among those aged 18 years and over; 12-17 year olds significantly more likely to be abstainers, and in 2004 and 2010, significantly less likely to drink at risky levels at least weekly.

> The profile of risky alcohol consumption did not change significantly over time among 12-17 year olds, and among those aged 18 years and over, there was a significant change for single occasion risk only.

Frequency of alcohol consumption

Figure 1 shows the percentage of the Australian and South Australian population aged 14 years and over that reported recently drinking alcohol in the 2004, 2007 and 2010 surveys. In 2010, 81%[6] of South Australians had consumed at least one full serve of alcohol in the last 12 months. This is the lowest it has been since 2001 (83.1%). Similarly, in 2010, 81% of Australians had consumed at least one full serve of alcohol in the last 12 months. This is the lowest it has been since 1998 (81%).

Figure 1: Recent use of alcohol: percentage of Australians and South Australians aged 14 years and over, 2004-2010.*



*Had consumed at least one full serve of alcohol in the last 12 months

In the 2004 and 2007 surveys, the percentage of recent drinkers was slightly higher in South Australia, although this was not statistically significant; in 2010 percentages were almost identical.

Table 1 shows alcohol consumption frequency over time for South Australian males and females aged 14 years and over. The profile of consumption changed significantly for all South Australians between 2004 and 2010 ($p<0.05$), as well as for males ($p<0.05$), indicating an overall decrease over time. This is reflected in a significant change in the profile of **daily** consumption over time for all South Australians (9% to 6%; $p<0.05$), and for males (12% to 7%; $p<0.05$). Although there was a decrease in the percentage of daily drinkers over time for females (7% to 5%), this was not significant. There was also a significant increase between 2004 and 2010 in the percentage of all South Australians who had **never drunk alcohol** (7.4% to 10.9%), as well as among males (5.1% to 9%; $p<0.05$ for both).

Table 1: Recent use of alcohol: percentage of South Australians aged 14 years and over, by sex, 2004 - 2010.*

Drinking status	Males			Females			Persons		
	2004	2007	2010	2004	2007	2010	2004	2007	2010
					(%)				
Daily	11.5	11	7.4	6.5	5	4.7	8.9	7.9	6
Weekly	51.1	47.6	47.6	31.9	36.2	34.5	41.3	41.8	40.9
[At least weekly]	*63.6*	*58.6*	*55*	*38.4*	*41.2*	*39.2*	*50.2*	*49.7*	*46.9*
Less than weekly	26.1	28.9	28.7	43.7	40.1	39.3	35.1	34.6	34.1
Ex-drinker**	6.2	6.4	7.3	8.3	8.5	8.8	7.3	7.5	8.1
Never drunk alcohol***	5.1	6.2	9	9.6	10.3	12.7	7.4	8.2	10.9

*Had consumed at least one full serve of alcohol in the last 12 months.

**Had consumed at least one full serve of alcohol, but not in the last 12 months.

***Had never consumed one full serve of alcohol.

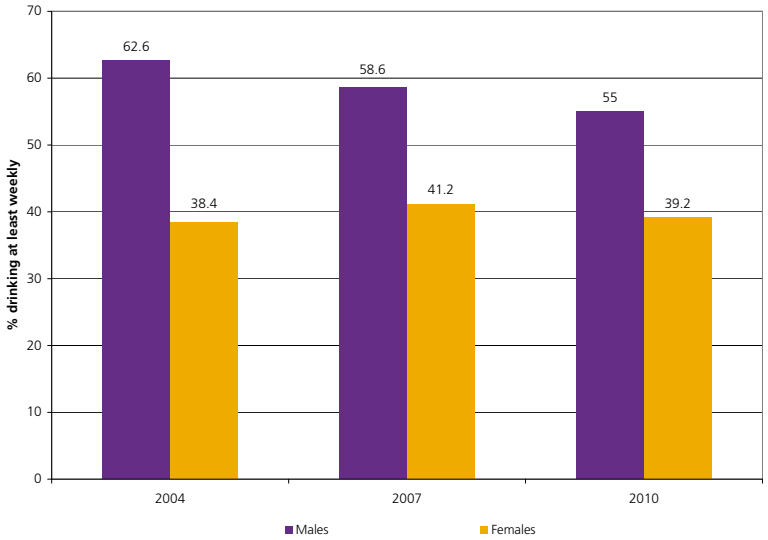
While there was a small, non-significant decrease between 2007 and 2010 in the percentage who reported drinking on a **weekly** basis (42% to 41%), this was only observed among females (36% to 35%) following an increase from 2004 (32%). Although there was a decrease among males between 2004 and 2010 (51% to 48%), differences were not statistically significant.

Alcohol consumption **at least weekly** decreased between 2004 and 2010 for all South Australians, from 50% to 47%. Again, differences were not significant.

There was a statistically significant difference in the overall profile of alcohol consumption between males and females in all three surveys, with females significantly more likely to drink less than weekly, be ex-drinkers, or to have never drunk alcohol ($p<0.01$). In addition, in 2007, females were significantly less likely to be daily drinkers ($p<0.05$).

Figure 2 shows that the percentage of those who reported drinking at least weekly decreased between 2004 and 2010 for males (63% to 55%; $p<0.05$), and between 2007 and 2010 for females (41% to 39%; non-significant).

Figure 2: Alcohol consumption at least weekly in the previous 12 months among South Australians aged 14 years and over, by sex, 2004-2010.

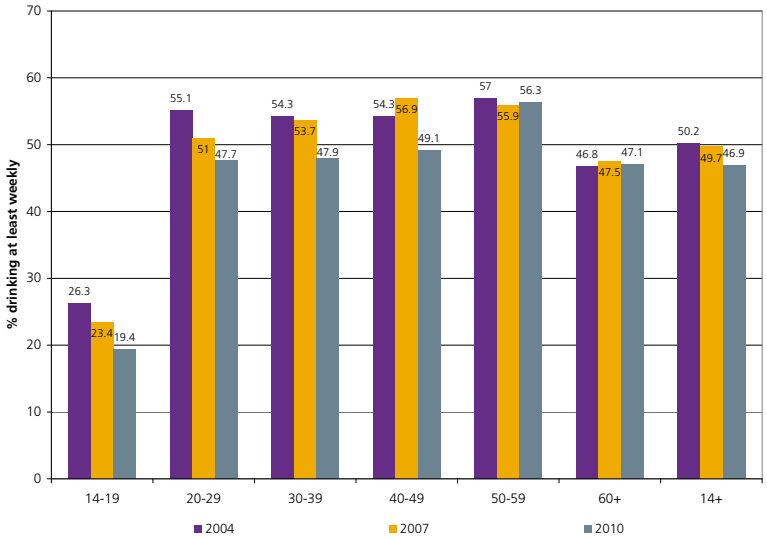


Similar results were found for Australia as a whole: the percentage of daily drinkers has decreased significantly since 2007 (8.1% to 7.2%), due to a significant decrease among males (10.8% to 9.6%). In addition, the percentage of weekly drinkers decreased significantly from 41.3% in 2007 to 39.5% in 2010. As was found in South Australia, males were more likely to report daily or weekly alcohol consumption. In 2010, twice as many males reported daily alcohol consumption (9.6% vs. 4.9% of females) and 45.2% of males drank on a weekly basis (33.9% of females). Differences in the overall profile of alcohol consumption between males and females in Australia were statistically significant across all three surveys ($p<0.01$), reflecting a decrease in the frequency of consumption.

Overall, there were statistically significant differences in the profile of alcohol consumption between age groups in all three surveys ($p<0.01$); that is, patterns of alcohol consumption varied according to age group.

Figure 3 shows the percentage of South Australians aged 14 years and over who reported drinking alcohol at least weekly from 2004 to 2010. There was a decrease in the percentage drinking at least weekly among most age groups, which was pronounced among those aged 40 years and under: 20-29 years (55% to 48%), 14-19 years[7] (26% to 19%) and 30-39 years (54% to 48%). In two age groups (40-49 years and those aged 60 years and over), there was a slight increase in the percentage drinking at least weekly in 2007, followed by a decrease in 2010 to levels lower than or equal to those reported in 2004. Changes over time within each age group differed significantlyamong those aged 20-29 years and 30-39 years, with increases in the percentage who had never drunk alcohol (2.8% to 10.1% for 20-29 year olds and 2.7% to 10.3% for 30-39 year olds; $p<0.01$ for both). In addition, the percentage of daily drinkers decreased significantly over time among those aged 50-59 years (15.1% to 7.1%; $p<0.05$).

Figure 3: Alcohol consumption at least weekly in the previous 12 months among South Australians aged 14 years and over, by age group, 2004-2010.



For sex and age, there were statistically significant differences in the overall profile of alcohol consumption in all three surveys ($p<0.01$); that is, patterns of use varied according to age group for both males and females.

Among male South Australians aged 14 years and over, there was a decrease in the percentage who reported drinking alcohol at least weekly between 2004 and 2010 for all age groups. The decrease was most pronounced among those aged 20-29 years (71.5% to 58.1%), 30-39 years (67.5% to 55.7%) and 40-49 years (63.3% to 54.5%). However, differences were not statistically significant.

Among female South Australians aged 14 years and over, there was a small increase in the percentage who reported drinking alcohol at least weekly between 2004 and 2010 (38.4% to 39.2%). There was a small decrease over time for most age groups, but changes were only significant among females aged 20-29 years, where the percentage of those who had never drunk alcohol increased over time (2.8% to 12.6%; $p<0.01$), and those aged 50-59 years, where the percentage of daily drinkers decreased over time (10.4% to 3.1%; $p<0.01$). It is notable however that the percentage of female daily drinkers aged 20-29 years increased significantly over time (1.4% to 3%; $p<0.01$).

Alcohol consumption in South Australia was broadly similar to that reported nationally. For Australians aged 14 years and over, there was a significant decrease in consumption at least weekly (50.1% to 46.7%; $p<0.05$). Among males the decrease in consumption at least weekly was less pronounced in Australia (59.6% to 54.8%), although there was a significant decrease in daily drinkers (12% to 9.6%; $p<0.05$). While there was a small but significant decrease in weekly consumption among Australian females (35% to 33.9%; $p<0.05$), there was a small, non-significant increase in South Australia.

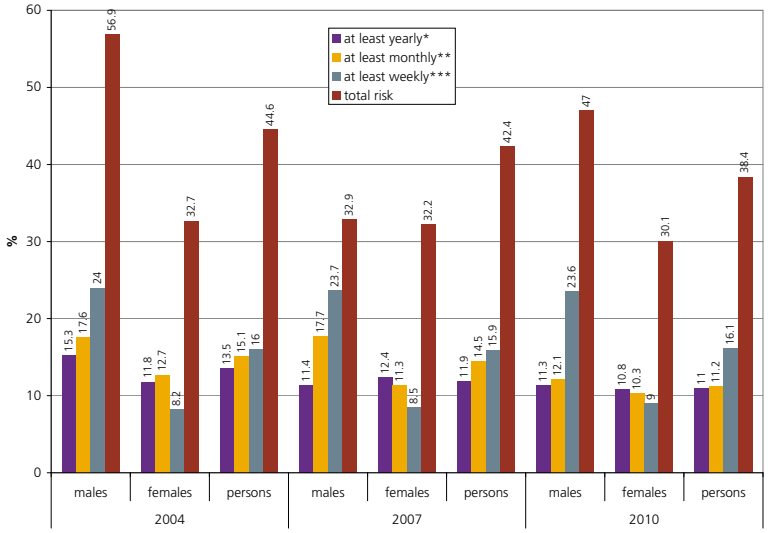
The decrease in consumption at least weekly among 20-29, 30-39 and 40-49 year old males from 2004 to 2010 was less pronounced in Australia (61.2% to 53.1%; 63.7% to 56.8%; and 66.1% to 59.5%, respectively). Similarly, the increase among 50-59 year old females was much less pronounced in Australia (44% to 45.3%), and there was a small decrease among those aged 60 years and over (39.7% to 38.5%).

Risk of injury from a single drinking occasion[8]

This NH&MRC Guideline is aimed at reducing the risk of injury from a single drinking occasion, and states that 'for healthy men and women, drinking no more than four standard drinks on a single occasion reduces the risk of alcohol-related injury arising from that occasion'[1]. A single occasion is defined as 'a sequence of drinks taken without the blood alcohol concentration reaching zero in between. The risk of an alcohol-related injury arising from a single occasion of drinking increases with the amount consumed'[9].

The extent to which South Australians drank at levels putting them at risk of injury from a single drinking occasion was calculated **at least yearly** (but not as often as monthly); **at least monthly** (but not as often as weekly); and **at least weekly**. *Figure 4* presents data on the percentage of the South Australian population aged 14 years and over drinking at risky levels at these frequencies in the previous 12 months.

Figure 4: Risk of alcohol-related injury from a single drinking occasion at various frequencies in the previous 12 months: percentage of South Australians aged 14 years or older, by sex, 2004-2010.



*Had more than 4 standard drinks at least once in the last year but not as often as monthly.

**Had more than 4 standard drinks at least once a month but not as often as weekly.

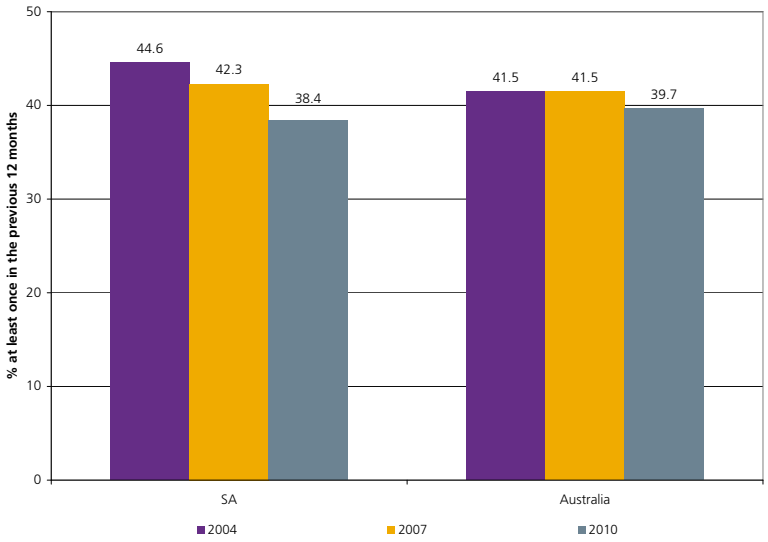
***Had more than 4 standard drinks at least once a week.

Figure 4 shows that the prevalence of risky drinking at least yearly (but not monthly) and at least monthly (but not weekly) decreased between 2004 and 2010, while the prevalence of risky drinking at least weekly remained unchanged at 16%. Overall, the profile of alcohol consumption at levels that put South Australians at risk of injury from a single drinking occasion changed significantly over time ($p<0.05$). There was a significant decrease in the percentage drinking at risky levels at least monthly (but not weekly) between 2004 and 2010 (15% to 11%; $p<0.01$) and a significant increase in the percentage of abstainers[10] (14.6% to 19%; $p<0.05$).

This decreasing trend was more pronounced among males: 15% in 2004 to 11% in 2010 at least yearly (but not monthly) and 18% to 12% at least monthly (but not weekly), and overall, the profile of risky alcohol consumption among males differed significantly over time ($p<0.01$). Specifically, there was a significant decrease between 2004 and 2010 in the percentage of males drinking at risky levels at least yearly (but not monthly) (15% to 11%; $p<0.01$) and at least monthly (but not weekly) (18% to 12%; $p<0.01$). Among females, there were small but non-significant decreases between 2004 and 2010 in risky drinking at least yearly (but not monthly) and at least monthly (but not weekly) (12% to 11% and 13% to 10%, respectively). Differences according to sex were evident across all three surveys (see *Figure 4*), with males significantly more likely to drink alcohol at levels that would put them at risk of injury from a single occasion of drinking at least monthly (but not weekly) ($p<0.01$ in 2004 and 2007; $p<0.05$ in 2010), and at least weekly ($p<0.001$ in all analyses). In addition, in 2004, males were significantly more likely to drink at risky levels at least yearly (but not monthly) ($p<0.01$).

Figure 5 shows the percentage of South Australians and Australians aged 14 years and over drinking at levels that put them at risk of injury from a single drinking occasion. Overall, the profile of alcohol consumption at levels that put South Australians at risk of injury from a single drinking occasion **at least once in the previous 12 months** changed significantly over time ($p<0.05$). In 2004, 45% of South Australians aged 14 years and over consumed alcohol at least once in the previous 12 months at levels that put them at risk of injury from a single drinking occasion. This decreased to 42% in 2007, followed by a further decrease to 38% in 2010. This was due to a significant increase in the percentage of abstainers between 2004 and 2010 (14.6% to 19%; $p<0.01$), as well as a significant increase in the percentage drinking at low-risk levels (40.8% to 42.7%; $p<0.05$).

Figure 5: Risk of alcohol-related injury from a single drinking occasion at at least once in the previous 12 months: percentage of South Australians and Australians aged 14 years or older, 2004-2010.



Results are similar to those reported nationally: almost 42% of Australians aged 14 years and over drank at levels that put them at risk of injury from a single drinking occasion at least once in the previous 12 months in both 2004 and 2007, and there was a significant decrease to 39.7% in 2010.

In all three surveys, the overall profile of alcohol consumption **at least once in the previous 12 months** at levels that put them at risk of injury from a single drinking occasion differed significantly between males and females ($p<0.01$); males were 1.6-1.7 times more likely to have consumed alcohol at risky levels. Females were significantly more likely to be abstainers or drink at low-risk levels in all three years ($p<0.01$). The percentage drinking at risky levels decreased over time for males (57% to 47%) and females (33% to 30%); the decrease was only significant among males ($p<0.01$) (see *Figure 6*).

Similar differences between male and female South Australians were found in relation to risky drinking **at least weekly**. In all three surveys, a significantly higher ($p<0.01$) percentage of males consumed alcohol at risky levels (24%) than females (8% to 9%).

Figure 6: Risk of alcohol-related injury from a single drinking occasion at least once in the previous 12 months by sex: percentage of South Australians aged 14 years and over, 2004- 2010.

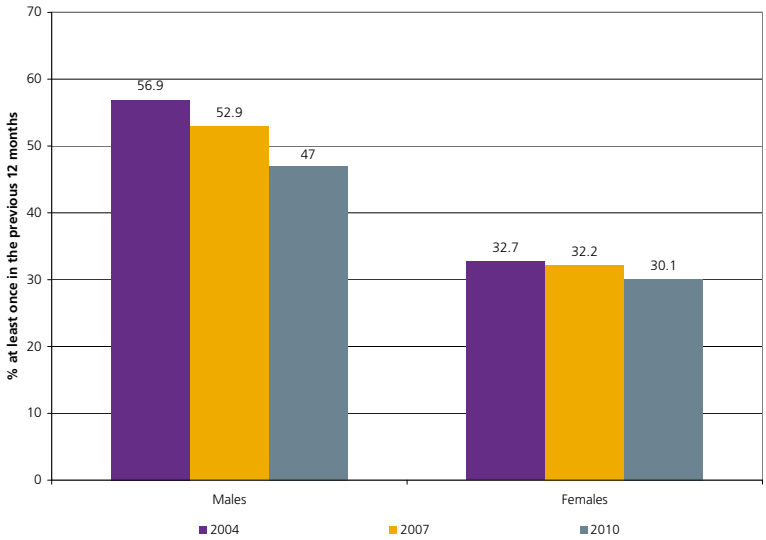
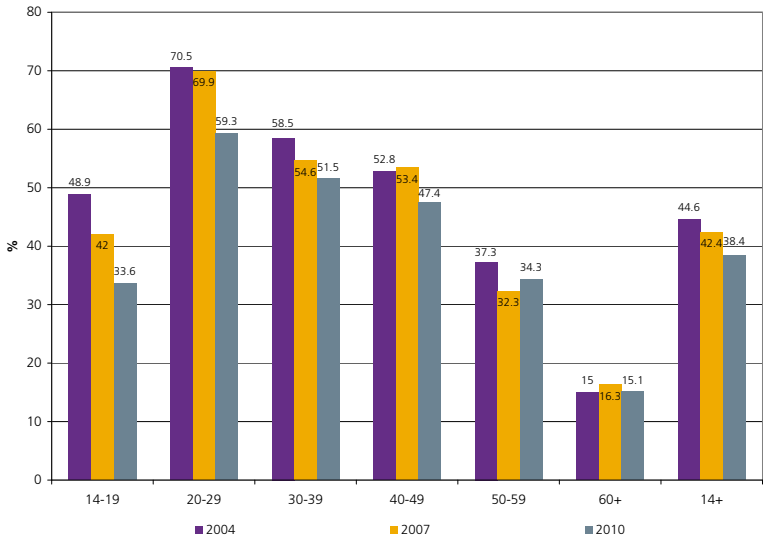


Figure 7 shows the percentage of South Australians drinking at levels that put them at risk of injury from a single drinking occasion by age group. The prevalence of risky drinking varied significantly in all three surveys (p<0.01). Between 2004 and 2010 there was a decrease in risky drinking among all age groups; this was particularly pronounced among those aged 14-19, 20-29 and 30-39 years, and is consistent with the decrease in consumption reported earlier (see *Figure 3*). However, differences over time were only significant among those aged 20-29 years (71% to 59%; p<0.01) and 30-39 years (59% to 52%; p<0.01).

Figure 7: Risk of alcohol-related injury from a single drinking occasion at least once in the previous 12 months: percentage of South Australians aged 14 years and over, by age group, 2004-2010.



This is consistent with national results, where there was a significant decrease between 2007 and 2010 in the percentage of Australians drinking at levels that put them at risk of injury from a single drinking occasion at least once in the previous 12 months (41.5% to 39.7%). This was primarily due to a decrease among those drinking at risky levels at least yearly (but not monthly); more frequent patterns of risky drinking in Australia remained stable across the three surveys.

Among male South Australians aged 14 years and over, there was a significant difference in the profile of risky drinking across all three surveys according to age group (p<0.01); the percentage drinking at risky levels decreased from 56.9% in 2004 to 47% in 2010. This is similar to that reported nationally, although the decrease between 2007 and 2010 was not as marked and was not statistically significant (52.1% to 50%). There were decreases over time for South Australian males in all age groups, although among those aged 50-59 years and 60 years and over the percentage increased between 2004 and 2007 before declining in 2010. Consistent with the frequency of alcohol consumption (*Figure 3*), the decrease over time was most pronounced among younger age groups: 48.8% to 27.9% for those aged 14-19 years[11]; 79.3% to 63.6% for 20-29 years and 71.6% to 62.6% for 30-39 years, although differences were only significant among those aged 30-39 years (p<0.01).

In contrast, the decrease among 20-29 year olds was less pronounced in Australia (72.3% to 66.1%), as was that among 40-49 year olds (56.3% to 54.5%) and 50-59 year olds (50.4% to 49.2%). Differences were not statistically significant.

Among female South Australians aged 14 years and over, there was also a significant difference in the profile of risky drinking across all three surveys according to age group ($p<0.01$), although the percentage drinking at risky levels was less pronounced than that observed among males (32.7% to 30.1%). Again, this is similar to that reported among female Australians, although the decrease between 2007 and 2010 was not as marked, and non-significant (31.1% to 29.8%). There were decreases over time among South Australian females for most age groups, with the exception of those aged 50-59 years and 60 years and over, where there were small increases (21.3% to 23.4% and 4.8% to 5.9%, respectively)[12]. The decrease in the percentage drinking at risky levels was again most pronounced among the younger age groups, although not as marked as that found with males: 49.1% to 39.6% among those aged 14-19 years; 61.3% to 54.8% among 20-29 years; and 45.4% to 40.3% among 30-39 years. Notably, there was an increase in the percentage of 20-29 year old females drinking at risky levels between 2004 and 2007 (61.3% to 66.1%), followed by a substantial decrease in 2010 to 54.8%. Differences across the three surveys were significant among those aged 20-29 years ($p<0.05$) and 50-59 years ($p<0.05$).

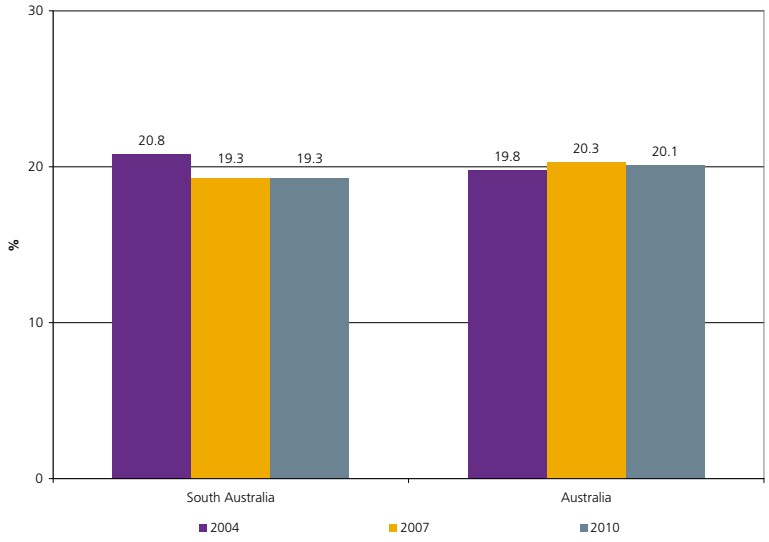
As with males, the decrease among 20-29 year olds was less pronounced among Australian females (57% to 54.5%), as was that among 30-39 year olds (40.8% to 38.7%) and 14-19 year olds (41.9% to 38.8%). Differences were not statistically significant.

Risk of disease or injury over a lifetime[8]

This Guideline is aimed at reducing the risk of alcohol-related harm over a lifetime, and states that 'for healthy men and women, drinking no more than two standard drinks on any day reduces the lifetime risk of harm from alcohol-related disease or injury'[1]. Lifetime risk is defined as 'the accumulated risk from drinking either on many drinking occasions, or on a regular (for example, daily) basis over a lifetime. The lifetime risk of harm from alcohol-related disease or injury increases with the amount consumed.'[13]

Figure 8 shows the percentage of South Australians and Australians aged 14 years and over drinking at levels that put them at risk of disease or injury over a lifetime. Comparisons are based on risky alcohol consumption reported **in the previous 12 months**. In 2004, just over 21% of South Australians aged 14 years and over consumed alcohol at levels that put them at risk of disease or injury over a lifetime. This decreased to 19% in 2007, and remained unchanged in 2010. Overall, the profile of alcohol consumption at levels that put South Australians at risk of disease or injury over a lifetime changed significantly over time, although the result only just reached significance at $p=0.05$. In addition, further analyses indicated that this was due to a significant increase in the percentage of abstainers[10] between 2004 and 2010 (14.6% to 19%; $p<0.01$).

Figure 8: Risk of alcohol-related disease or injury over a lifetime (more than 2 standard drinks/day on average): percentage of South Australians and Australians aged 14 years and over, 2004- 2010.



Results are similar to those reported nationally, although the percentage of Australians drinking at risky levels for disease or injury over a lifetime was slightly higher in both 2007 and 2010 (20% vs. 19% in South Australia). Nationally, the percentage drinking at low risk levels for disease or injury over a lifetime decreased significantly between 2007 and 2010, from 62.5% to 60.4%. In South Australia, there was a non-significant decrease, from 65% to 61.7%.

Figure 9 presents the same information for South Australia by sex. As was found for single occasion risk, across all three surveys the profile of alcohol consumption at levels that put them at risk of disease or injury over a lifetime differed significantly between males and females ($p<0.01$); males were almost three times as likely to have consumed alcohol at risky levels. Females were significantly less likely to drink at risky levels in all three surveys ($p<0.01$). Among males, the percentage drinking at risky levels decreased slightly (and non-significantly) over time (30% in 2004 to 29% in 2010). Among females there was a small, non-significant decrease between 2004 and 2007 (11% to 9.5%), increasing slightly to 10% in 2010.

Figure 9: Risk of alcohol-related disease of injury over a lifetime by sex (more than 2 standard drinks/day on average): percentage of South Australians aged 14 years and over, 2004-2010.

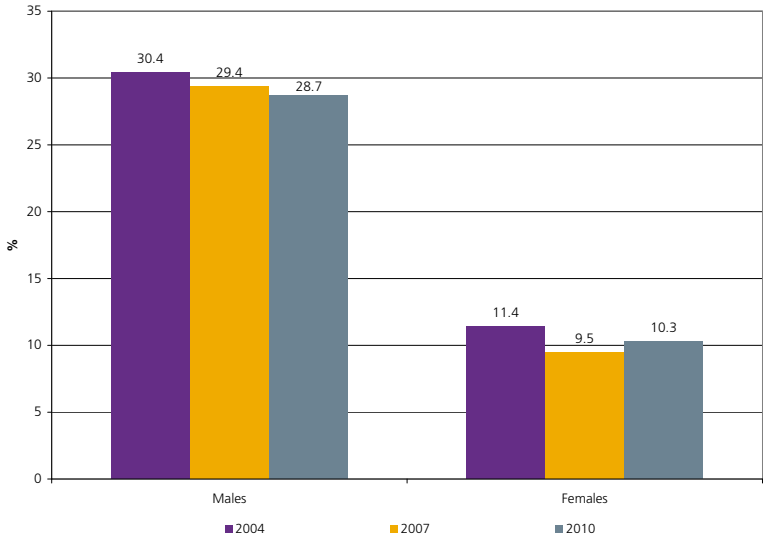
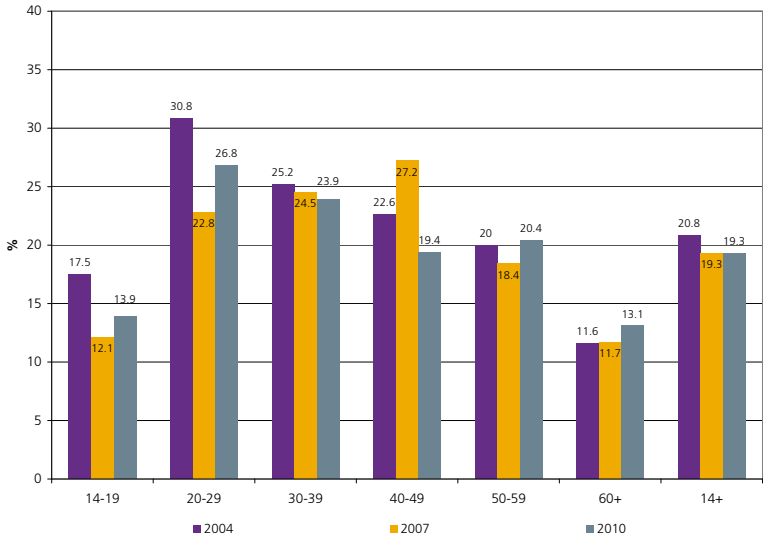


Figure 10 shows the percentage of South Australians aged 14 years and over drinking at levels that put them at risk of disease or injury over a lifetime by age group. Overall, the profile of risky drinking over a lifetime varied significantly according to age group in all three surveys ($p<0.01$). Between 2004 and 2010 there was a decrease in risky drinking among most age groups; this was more pronounced among those aged 14-19[14], 20-29 and 40-49 years, although there was a small increase among those aged 60 years and over.

Figure 10: Risk of alcohol-related disease or injury over a lifetime (more than 2 standard drinks/day on average): percentage of South Australians aged 14 years and over, by age group, 2004-2010.



Differences across the three surveys were statistically significant among those aged 20-29 years ($p<0.01$) and 30-39 years ($p<0.05$) due to a significant increase in the percentage of abstainers over time (4% to 14.2% among 20-29 year olds and 9.2% to 18.9% among 30-39 year olds).

Among male South Australians aged 14 years and over, there was a significant difference in the overall profile of risky drinking across all three surveys by age group ($p<0.01$). There were decreases between 2004 and 2010 among some age groups[15], but differences were only statistically significant among those aged 20-29 years, and in this age group, there was a decrease from 2004 to 2007 (46.2% to 28.7%) followed by an increase in 2010 to 40.2% ($p<0.05$).

Results are broadly consistent with those reported for male Australians aged 14 years and over, although in Australia, among those aged 20-29 and 40-49 years there were small, non-significant decreases in both age groups in the percentage drinking at risky levels between 2007 and 2010 (38.9% to 36.1% and 31.2% to 30.8%, respectively).

In contrast, South Australian data showed that there was a significant increase among 20-29 year old males and a non-significant decrease among 40-49 year old males.

As found with males, among female South Australians aged 14 years and over there was a significant difference in theoverall profile of risky drinking across all three surveys by age group ($p<0.01$). There were decreases over time amongthose aged 14-19 years (22.7% to 12.4%) and 20-29 years (14.5% to 12.8%), with no change or a small increase among those other age groups[16]. Differences over time were only statistically significant among those aged 20-29 years ($p<0.05$), with an increase in the percentage who were abstainers (4.2% to 16.8%).

The percentage of Australian females aged 14 years and over drinking at risky levels increased between 2004 and 2010 (9.6% to 11.3%; non-significant), and the extent of risky drinking was a little higher overall than in South Australia. Other differences were observed but, due to unreliable percentage estimates among many age groups in South Australia, results are not presented here, with the exception of risky drinking among aged 30-39 years, which was lower in Australia (12.1% in 2007 and 11.3% in 2010). Results among those aged 40-49 years were similar (13.6% in 2007 and 12.8% in 2010 among Australians).

Alcohol consumption and risk among South Australians aged 12-17 years[17]

Frequency of alcohol consumption

Table 2 compares alcohol consumption over time between 12-17 year old South Australians and those aged 18 years and over. Those aged 12-17 years were far less likely to drink at least weekly (7% vs. 53% in 2004; 7% vs. 52% in 2007 and 8% vs. 49% in 2010). No 12-17 year olds reported daily drinking. As expected, a higher percentage of 12-17 year olds had never drunk alcohol (42% vs. 6% in 2004; 50% vs. 7% in 2007 and 50% vs. 9% in 2010). There was a statistically significant difference in the overall profile of alcohol consumption across all three surveys between those aged 12-17 years and those aged 18 years and over ($p<0.01$), however results should be interpreted with caution due to due to unreliable percentage estimates among 12-17 year olds in all three surveys[18]. South Australians aged 12-17 years were significantly more likely to have never drunk alcohol ($p<0.01$) and less likely to be daily drinkers ($p<0.01$) than those aged 18 years and over.

Table 2: Recent use of alcohol: percentage of South Australians aged 12-17 years and 18 years and over, 2004 - 2010.*

Drinking status	12-17 years			(%)	18 years & over		
	2004	2007	2010		2004	2007	2010
Daily	-	-	-		9.6	8.5	6.4
Weekly	#6.6	#6.6	#7.5		43.5	43.9	43
[At least weekly]	*6.6*	*6.6*	*7.5*		*53.1*	*52.1*	*49.4*
Less than weekly	46.9	41.2	39.6		33.1	33	32.9
Ex-drinker**	#4.4	##2.0	##2.8		7.4	7.9	8.4
Never drunk alcohol***	42	50.2	50.1		6.4	6.7	9.3

*Has consumed at least one full serve of alcohol in the last 12 months.
**Has consumed at least one full serve of alcohol, but not in the last 12 months.
***Has never consumed one full serve of alcohol.
#Estimate has a relative standard error between 25% and 50% and should be used with caution.
##Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

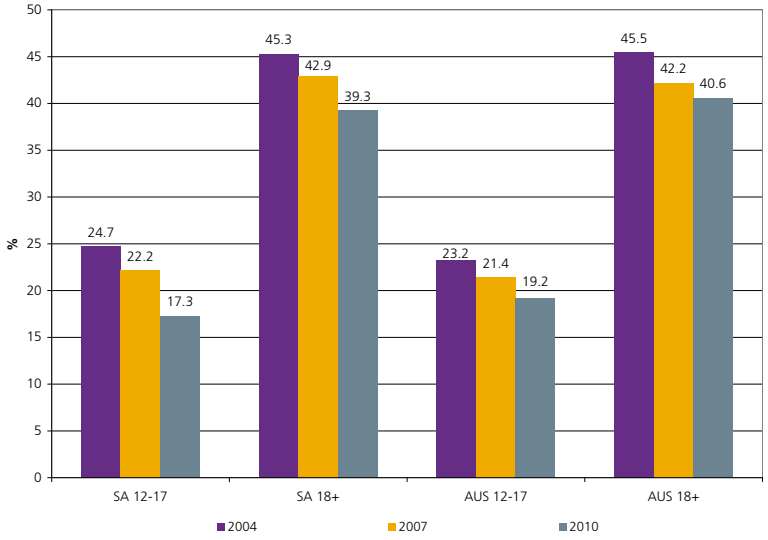
Although the overall alcohol consumption profile over time differed significantly among those aged 18 years and over, reflecting a decrease in daily use ($p<0.05$) and an increase in those who had never drunk alcohol ($p<0.01$), the profile among those aged 12-17 years did not change significantly. This may be due to the small sample size of 12-17 year olds, as there was an increase in the percentage among this group who had never drunk alcohol over time (42% to 50%).

Results are generally consistent with those reported nationally, although a slightly higher percentage of 12-17 year olds in Australia reported drinking at least weekly in 2004 and 2007 (9.7% and 7.8%, respectively). In 2010, alcohol consumption at least weekly was lower in Australia (5.2%), and there was a significant increase in the percentage of 12-17 year olds who had never drunk alcohol between 2007 and 2010. As was found in South Australia, there was a significant difference in the profile of alcohol consumption across all three surveys between those aged 12-17 years and those aged 18 years and over ($p<0.01$), with Australians aged 12-17 years significantly more likely to have never drunk alcohol ($p<0.01$) and less likely to drink alcohol at all levels of use ($p<0.01$).

Risk of injury from a single drinking occasion

Figure 11 shows the percentage of South Australians and Australians drinking at levels that put them at risk of injury on a single drinking occasion based on the 2009 NH&MRC Guidelines. Comparisons are made between those aged 12-17 years and those aged 18 years and over, based on risky consumption **at least once in the previous 12 months**.

Figure 11: Risk of alcohol-related injury at least once in the previous 12 months from a single drinking occasion: percentage of South Australians and Australians aged 12-17 years and 18 years and over, 2004-2010.



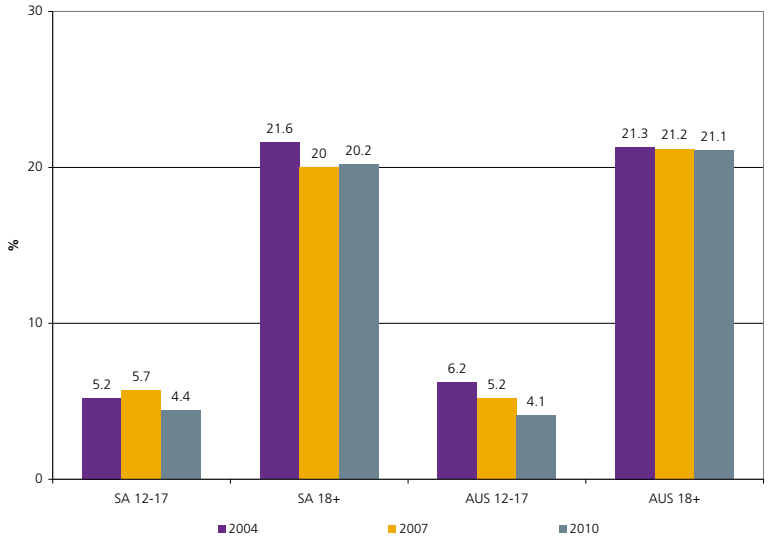
In both South Australia and Australia, there was a decrease over time in the percentage drinking at risky levels. In addition, the extent of risky drinking was much higher among those aged 18 years and over (in South Australia, this was 1.8 times higher in 2004; 1.9 times in 2007 and 2.3 times in 2010). There were significant differences in the profile of risky alcohol consumption between South Australian 12-17 year olds and those 18 years and over in all three surveys ($p<0.01$); that is, the prevalence of risky drinking varied according to age group. Those aged 12-17 years were significantly more likely to be abstainers[10] in all three surveys (46.4% vs. 13.8% in 2004; 32.3% vs. 14.6% in 2007 and 52.9% vs. 17.7% in 2010; $p<0.01$). In both 2004 and 2010, those aged 12-17 years were significantly less likely to drink at risky levels (24.7% vs. 45.3% in 2004 and 17.3% vs. 39.3%, respectively; $p<0.05$ in both years).

Although there was a significant difference in the profile of risky drinking across all three surveys for South Australians aged 18 years and over ($p<0.05$), this was not found among 12-17 year olds. That is, among those aged 18 years and over, there was a decrease between 2004 and 2010 in those drinking at risky levels at least at least monthly (but not weekly) (15% to 11.2%; $p<0.01$) and an increase in the percentage of abstainers (13.8% to 17.7%; $p<0.01$), while the profile of risky drinking among those aged 12-17 years did not change significantly. This may again be due to the small sample size. Results were consistent with national data, although among Australians, there was also a significant change in the overall profile of risky drinking among those aged 12-17 years, with an increase in the percentage of abstainers and a decrease in the percentage drinking at risky levels at least yearly ($p<0.01$).

Risk of disease or injury over a lifetime

Figure 12 shows the percentage of South Australians and Australians aged 12-17 years and those aged 18 years and over drinking at levels that put them at risk of disease or injury over a lifetime based on the 2009 NH&MRC Guidelines. Among 12-17 year olds in both South Australia and Australia, there was a small decrease in the percentage drinking at risky levels between 2004 and 2010, although there was a small increase in 2007 in South Australia. In addition, as was found with risk from a single drinking occasion, the extent of risky drinking was much higher among those aged 18 years and over (in South Australia, this was 4.2 times higher in 2004; 3.5 times in 2007 and 4.6 times in 2010). Among those aged 18 years and over, the decrease between 2004 and 2010 was negligible in both South Australia and Australia.

Figure 12: Risk of alcohol-related disease or injury over a lifetime (more than 2 standard drinks/day on average): percentage of South Australians and Australians aged 12-17 years and 18 years and over, 2004-2010.



There were significant differences in the profile of risky alcohol consumption over a lifetime between South Australian 12-17 year olds and those aged 18 years and over in all three surveys ($p<0.01$); that is, the prevalence of risky drinking varied according to age group. As was found with risk of injury from a single occasion of drinking, those aged 12-17 years were significantly more likely to be abstainers[10] in all three surveys ($p<0.01$). In addition, they were significantly less likely to drink at risky levels (5.2% vs. 21.6% in 2004; $p<0.01$; 5.7% vs. 20% in 2007; $p<0.05$ in 2007; 4.4%vs. 20.3% in 2010; $p<0.05$). In South Australia, results must be interpreted with caution due to unreliable percentage estimates for those aged 12-17 years. Moreover, percentage estimates in 2010 were considered too unreliable to be used[19].

In contrast to single occasion risk, the profile of risky drinking over a lifetime did not change significantly over time for South Australians aged 18 years and over (22% to 20%), and this was also the case among those aged 12-17 years (5% to 4%). Similar results were found in Australia.

Comparison with the 2001 NH&MRC Guidelines[20]

New Guidelines were released by the NH&MRC in 2009 to reduce health risks from alcohol consumption, replacing those developed in 2001. This section investigates the impact that these changes have had on the percentage of the South Australian population who drink at risky levels. Table 3 presents both sets of Guidelines for the risk of injury from a single occasion of drinking (previously referred to as short-term risk) and the risk of disease or injury over a lifetime (previously referred to as long-term risk). The new Guidelines are expected to produce an increase in the prevalence of risky drinking as they include more risky drinkers in addition to having more stringent criteria around what constitutes a risky level.

Table 3: Comparison of alcohol risk categories from the 2001 and 2009 Guidelines.

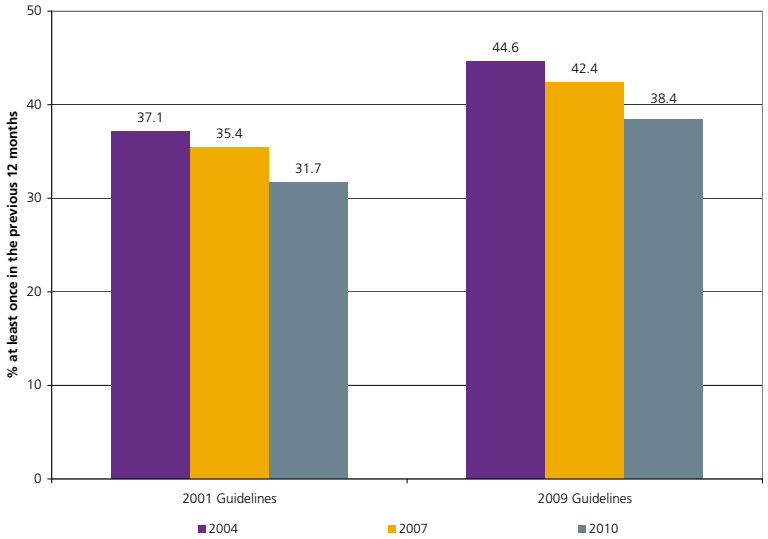
	2001 Guidelines	2009 Guidelines
Abstainers	Ex-drinkers/had never drunk alcohol	Ex-drinkers/had never drunk alcohol
Single occasion risk		
Low risk	For males, the consumption of no more than 6 standard drinks on any one day in the previous 12 months; for females, no more than 4 standard drinks	All: the consumption of no more than 4 standard drinks on any occasion in the previous 12 months
Risky / high risk	For males, the consumption of 7-10 (risky) and 11 or more (high risk) standard drinks on any one day in the previous 12 months; for females, 5-6 (risky) and 7 or more (high risk) standard drinks	All: the consumption of 5 or more standard drinks on at least one occasion in the previous 12 months
Lifetime risk		
Low risk	For males, the consumption of no more than 28 standard drinks per week; for females, no more than 14 standard drinks	All: on average, the consumption of no more than 2 standard drinks per day over the previous 12 months
Risky / high risk	For males, the consumption of 29 to 42 (risky) or 43 or more (high risk) standard drinks per week; for females, 15 to 28 (risky) and 29 or more (high risk) standard drinks	All: on average, the consumption of 3 or more standard drinks per day over the previous 12 months

Risk of injury from a single drinking occasion.

This section compares 2009 and 2001 NH&MRC Alcohol Guidelines in South Australia in relation to alcohol consumption at levels that put drinkers at risk of injury from a single drinking occasion **at least once over the previous 12 months** (*Figure 13*) or **at least weekly** (*Figure 14*)[21].

Figure 13 indicates that across all three surveys, the percentage of South Australians aged 14 years and over who reported drinking at least once in the previous 12 months at levels that put them at risk of injury from a single drinking occasion was consistently higher according to the 2009 Guidelines compared with the 2001 Guidelines (45% vs. 37% in 2004, 42% vs. 35% in 2007 and 32% vs. 38% in 2010). However, irrespective of which Guidelines are applied, the prevalence of risky drinking has decreased over time.

Figure 13: Risk of alcohol-related injury from a single drinking occasion at least once in the previous 12 months according to the 2001 and 2009 NH&MRC Guidelines: percentage of South Australians aged 14 years and over, 2004-2010.

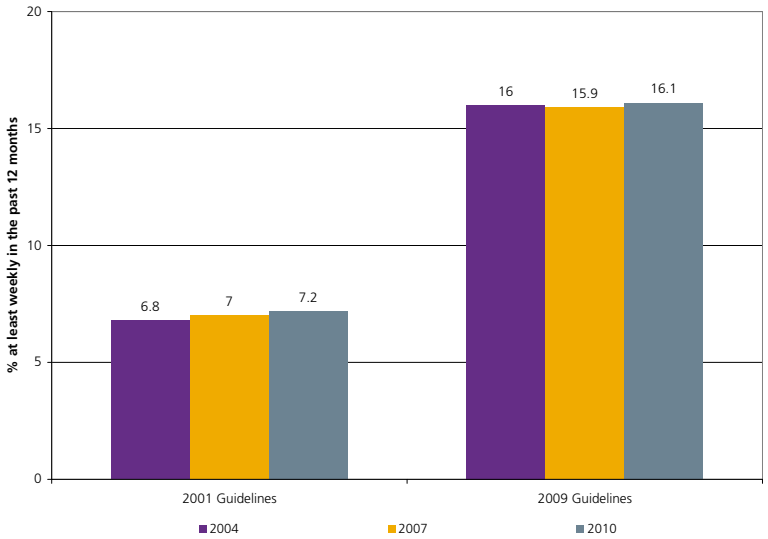


The decrease observed is due to a decrease among males (57% vs. 41% in 2004, 53% vs. 39% in 2007 and 47% vs.35% in 2010). Among females the percentage was similar according to both sets of Guidelines (33% vs. 32% in 2004, 32% vs. 32% in 2007 and 30% vs. 29% in 2010).

For male South Australians aged 14 years and over, the percentage drinking at least once in the previous 12 months at risky levels was higher according to the 2009 Guidelines compared with the 2001 Guidelines in all age groups, particularly among those aged 40 years and over where the percentage was 1.4 – 2.1 times higher. For all males aged 14 years and over, the percentage was 1.4 times higher according to the 2009 Guidelines in all three surveys.

For female South Australians aged 14 years and over, the percentage drinking at least once in the previous 12 months at risky levels was identical or slightly higher according to the 2009 Guidelines in all age groups[10]. The percentage of South Australians aged 14 years and over drinking at least weekly in the previous 12 months at risky levels is double when using the 2009 Guidelines compared with the 2001 Guidelines (16% vs. 7% in 2004, 2007 and 2010; see *Figure 14*).

Figure 14: Risk of alcohol-related injury from a single drinking occasion at least weekly in the previous 12 months according to the 2001 and 2009 NH&MRC Guidelines: percentage of South Australians aged 14 years and over, 2004- 2010.

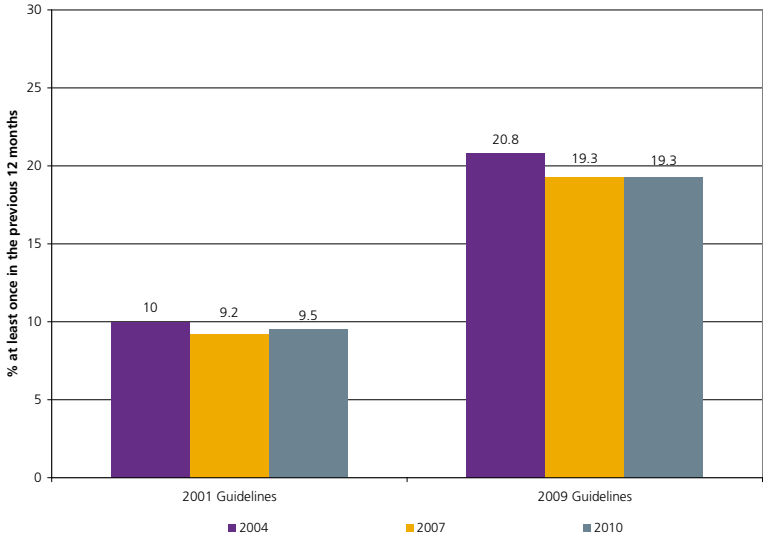


Again, this was predominantly due to an increase among males (24% vs. 8.4% in both 2004 and 2007, and 23.6% vs. 9.6% in 2010). For females, the percentage drinking at least weekly in the previous 12 months at risky levels was also higher according to the 2009 Guidelines, although it was not as marked as was found for males (8.2% vs. 5.3% in 2004; 8.5% vs. 5.7% in 2007; and 9% vs. 4.7% in 2010). Comparisons by sex and age group are not presented as unreliable percentage estimates made valid comparisons problematic.

Risk of disease or injury over a lifetime

This section compares 2009 and 2001 NH&MRC Alcohol Guidelines in South Australia in relation to alcohol consumption at levels that put drinkers at risk of disease or injury over a lifetime (*Figure 15*)[21].

Figure 15: Risk of alcohol-related disease or injury over a lifetime according to the 2001 and 2009 NH&MRC Guidelines: percentage of South Australians aged 14 years and over, 2004- 2010.



Across all three surveys, the percentage of South Australians who reported drinking at risky levels was higher according to the 2009 Guidelines compared with the 2001 Guidelines (21% vs. 10% in 2004, 19% vs. 9% in 2007 and 19% vs. 10% in 2010). The increase was again due to an increase among all male South Australians (30.4% vs. 9.8% in 2004, 29.4% vs. 9.5% in 2007 and 28.7% vs. 10.1% in 2010); among female South Australians the percentage was similar according to both sets of Guidelines (11.4% vs. 10.2% in 2004, 9.5% vs. 8.9% in 2007 and 10.3% vs. 9% in 2010).

Comparisons by sex and age group are again not presented due to unreliable percentage estimates for many age groups when calculating risk.

Endnotes

1. http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/ds10-alcohol.pdf.
2. http://www.aihw.gov.au/publication-detail/?id=10737420094&tab=2.
3. National data sourced from: http://www.aihw.gov.au/publications/index.cfm/title/10579; http://www.aihw.gov.au/publication-detail/?id=32212254712&tab=2; http://www.aihw.gov.au/publication-detail/?id=6442467781.
   South Australian data sourced from: http://www.aihw.gov.au/publication-detail/?id=6442467364; http://www.aihw.gov.au/publication-detail/?id=6442467723; http://www.aihw.gov.au/publications/index.cfm/title/10670; http://www.aihw.gov.au/publication-detail/?id=32212254712&tab=2; http://www.aihw.gov.au/publication-detail/?id=6442467723.
4. In 2004, 29,445 Australians were surveyed (2,366 in South Australia). In 2007, 23,356 Australians were surveyed (1,947 people in South Australia). In 2010, 26,648 Australians were surveyed (2,069 in South Australia).
5. Statistical tests used include: Pearson's Chi Square with a second order Rao & Scott correction to test for differences in the profile of alcohol prevalence and risk status between groups; logistic regression for binary dependent variables and multinomial logistic regression where there were more than two dependent variables. Differences were statistically significant if $p \leq 0.05$. Note that some results must be interpreted with caution due to high Relative Standard Errors (RSEs). The standard error (SE) indicates the extent to which an estimate might have varied because only a sample of people was included in the survey rather than the whole Australian or South Australian population. Another measure of the likely difference is the relative standard error (RSE), which is obtained by expressing the SE as a percentage of the estimate to which it relates. For estimates of population sizes, the size of the SE generally increases with the level of the estimate, so that the larger the estimate, the larger the SE. However, the larger the sampling estimate, the smaller the SE in percentage terms (RSE). Thus, larger sample estimates will be relatively more reliable than smaller estimates. Only estimates with RSEs < 25% are considered sufficiently reliable for most purposes. However, estimates with RSEs > 25% and ≤ 50% are included in this publication but should be used with caution. Estimates with RSEs > 50% are considered too unreliable for general use and should only be used to aggregate with other estimates.
6. Throughout this bulletin, percentages have been rounded up or down accordingly where the pre-rounded percentages are also contained in figures. Where they are in text only, percentages to one decimal place are reported.
7. Percentages for males aged 14-19 years in 2010 and for females aged 14-19 years in both 2007 and 2010 had RSEs between 25% and 50%, and results should be interpreted with caution.
8. Based on DASSA analysis of the 2004, 2007 and 2010 National Drug Strategy Household Survey datasets provided by the AIHW.
9. http://www.aihw.gov.au/publication-detail/?id=32212254712&tab=2, page 247.
10. Abstainers include both ex-drinkers and those who had never drunk alcohol.
11. The percentage had an RSE between 25% and 50% in 2010 and should be interpreted with caution.
12. Percentages for those aged 60 years and over in 2004 and 2010 had RSEs between 25% and 50%. In addition, the percentage for those aged 50-59 years had an RSE between 25% and 50% in 2007; these should be interpreted with caution.
13. http://www.aihw.gov.au/publication-detail/?id=32212254712&tab=2, page 246.
14. Percentages for those aged 14-19 years had RSEs between 25% and 50% in 2007 and 2010 and should be interpreted with caution.
15. Percentages for those aged 14-19 years had RSEs between 25% and 50% in all three surveys and should be interpreted with caution.
16. Percentages for those aged 60 years and over had RSEs between 25% and 50% in all three surveys. In addition, percentages for those aged 14-19 years and 50-59 years had RSEs between 25% and 50% in both 2007 and 2010, and for 20-29 year olds in 2010. Results should be interpreted with caution.
17. The National Drug Strategy Household Survey only interviews respondents aged 12 years and over; thus analyses are based on those aged 12-17 years. Published national data separate respondents into those aged 12-15 and 16-17 years, but due to small sample sizes in South Australia and thus large RSEs, it was not possible in this bulletin.
18. Percentages for those aged 12-17 years had RSEs between 25% and 50% in all three surveys and should be interpreted with caution.
19. Percentages for those aged 12-17 years had RSEs between 25% and 50% in 2004 and 2007, and results should be interpreted with caution. In addition, percentages were greater than 50% in 2010 and considered too unreliable to be used.
20. A combination of both the graduated quantity-frequency (GQF) quantity-frequency (QF) methods was used to calculate lifetime and single occasion risk for the 2009 Guidelines. As previous studies have found that alcohol consumption is usually under-reported, the most accurate method to use is the one that reports the highest level of consumption. Therefore, if the reported consumption is highest using the quantity-frequency method then this is used as the primary variable in calculating a respondent's number of standard drinks. If the graduated quantity-frequency method reports the highest level of consumption, this value is used instead. This approach is different to the method used in the assessment of risky drinking using the 2001 Guidelines and thus explains why risk levels for females have changed even though the criteria that define risky drinking have not. For more information, refer to http://www.aihw.gov.au/publication-detail/?id=10737420094&tab=2.
21. For risk according to the 2001 Guidelines, risky/high risk categories have been combined.

For more information

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