Foundation for Alcohol Research & Education

Perceptions of low-risk drinking levels among Australians during a period of change in the official drinking guidelines

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CENTRE FOR ALCOHOL POLICY RESEARCH

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- helping communities to prevent and reduce alcohol-related harms;
- building the case for alcohol policy reform; and
- engaging Australians in conversations about our drinking culture.

Over the last ten years FARE has have invested more than $115 million, helped 750 organisations and funded over 1,400 projects addressing the harms caused by alcohol misuse.

FARE is guided by the World Health Organisation's *Global Strategy to Reduce the Harmful Use of Alcohol*[i] for addressing alcohol-related harms through population-based strategies, problem-directed policies, and direct interventions.

About the Centre for Alcohol Policy Research

FARE provides core funding to the Centre for Alcohol Policy Research, a world-class alcohol policy research institute. Led by Professor Robin Room, the Centre examines alcohol-related harms and the effectiveness of alcohol-related policies. Housed within Turning Point Drug and Alcohol Centre in Melbourne, the Centre is a joint undertaking of the Victorian Government, the University of Melbourne and FARE.

The Centre not only contributes to policy discussions in Australia but also contributes to international studies of significance for the World Health Organisation. An example of its international work is the GENACIS project, which examines gender alcohol and culture internationally.

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[i] World Health Organisation (2010). *Global strategy to reduce the harmful use of alcohol.* Geneva: World Health Organization.

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Executive Summary

This study uses data from the *National Drug Strategy Household Survey* to examine Australians' perceptions of low-risk drinking over a period where the official Australian guidelines relating to drinking were changed. The study used two sets of questions, relating to low-risk levels of drinking in the short and long-term, and examined how perceptions of low-risk drinking varied both across time and between different sub-groups of the population.

The results suggest that few Australians are aware of the recent 2009 Australian drinking guidelines, with more than 40 per cent of respondents unable to even provide an estimate of low-risk drinking levels and just 5 per cent accurately providing low-risk levels for both long and short-term harms. In spite of this limited knowledge, Australians generally estimated reasonable levels for low-risk long-term drinking, with mean estimates of 2.5 drinks per day for men and 1.4 for women (compared to the two per day for both in the guidelines). In contrast, estimates for low-risk short term drinking were high, with two-thirds of men and one-third of women providing estimates in excess of the four drinks recommended in the guidelines. Heavier drinkers and young people provided the most concerning estimates with, for example, a mean low-risk level of nine drinks per occasion estimated by 14-19 year old males.

The study also examined whether perceptions of low-risk drinking levels had changed following the publication of the 2009 guidelines. The major differences between the old and new guidelines were reductions in the drinking levels set for male drinkers. This was reflected in changes in perceptions, with low-risk long-term drinking levels for males shifting from four drinks per day to two, in line with the changes to the guidelines. These changes, while statistically significant, were small, suggesting only a minor impact on public perceptions of the drinking guidelines.

The results of this study have significant implications for policy, with Australians generally over-estimating the amount of alcohol that they can drink on specific drinking occasions. This means that much of the population is making poorly informed decisions about drinking and placing themselves at substantial risk of harm. This is especially the case amongst sub-populations at high-risk of acute harm from alcohol (heavy drinkers and young people). The indication that perceptions have been shifted slightly by the new guidelines suggests a role for official drinking guidelines in shifting peoples' understanding of low-risk drinking. In spite of this small shift, it is clear that most Australians are not aware of the recommendations in the 2009 guidelines. For these guidelines to contribute in any major way to reducing the harm from alcohol, a coordinated and substantial dissemination campaign is required, with a particular focus on high-risk population groups.

Introduction

Alcohol consumption guidelines aimed at providing information to the general population on safe or low-risk levels of drinking are widely used internationally. The recent revision of the Australian low-risk drinking guidelines identified official alcohol consumption recommendations for all 23 countries in the Organisation for Economic Cooperation and Development (OECD) (1). These guidelines rely on comprehensive syntheses of the epidemiological evidence on the health effects of alcohol consumption and often stimulate significant debate (2-8).

Despite the substantial efforts that go into developing drinking guidelines, there has been little research into the effectiveness of them as a population-level intervention. Indeed, some authors have raised concern that guidelines may increase per-capita alcohol consumption (9). Rather than examine any impact on consumption levels, studies have generally focussed on public awareness of guidelines. In general, these studies have found limited public knowledge of drinking guidelines. For example, a study in Christchurch found that none of the 250 people sampled could accurately quote the New Zealand drinking guidelines (10), while in a more recent study, fewer than 5 per cent of Swedes knew the Swedish hazardous drinking limits (11). Similarly, De Visser and Birch found low knowledge of drinking guidelines in high school and university samples in England (12). In contrast, a ten year long public education campaign following the introduction of guidelines in Denmark in 1990 resulted in more widespread public knowledge, with more than half of respondents aware of Danish drinking guidelines for their gender by 1999 (13).

The current study examines Australians' knowledge of low-risk drinking guidelines in two ways. Firstly it investigates how well Australians can estimate low-risk drinking levels in the short- and long-term, exploring the relationship between age, gender and drinking pattern and perceptions of low-risk drinking. Secondly, it makes use of a recent change to the official guidelines to examine the potential impact of guidelines on public perceptions of safe drinking levels. In 2009 the National Health and Medical Research Council (NHMRC) announced the *Guidelines to Reduce Health Risks from Drinking Alcohol* (hereafter the 2009 guidelines) (1), superseding the 2001 *Australian Alcohol Guidelines: Health Risks and Benefits* (14) (hereafter the 2001 guidelines). The new guidelines made some substantial changes to the previous advice, with safe drinking levels for males in particular changing. A further complication was the release in late 2007 of a draft version of the 2009 guidelines for public consultation. This version varied slightly from the final 2009 guidelines and received substantial publicity, meaning that respondents to the 2010 survey may have heard of either the draft or final versions of the updated guidelines (15). The main sets of guidelines are presented below in Table 1.

TABLE 1 – NHMRC DRINKING GUIDELINES FOR MALES AND FEMALES, 2001, 2007 (DRAFT) AND 2009

	2001 guidelines	2007 draft guidelines	2009 guidelines
Male long-term limits	4 drinks per day	2 drinks per day	2 drinks per day
Female long-term limits	2 drinks per day	2 drinks per day	2 drinks per day
Male episodic limits	6 drinks on an occasion	2 drinks on an occasion	4 drinks on an occasion
Female episodic limits	4 drinks on an occasion	2 drinks on an occasion	4 drinks on an occasion

Method

Survey

The data used in this study were taken from two waves of the *National Drug Strategy Household Survey* (NDSHS), conducted by the Australian Institute of Health and Welfare (AIHW) in 2007 and 2010 (16, 17). The 2007 wave of the survey used both Computer Assisted Telephone Interviewing (CATI) and paper-based drop and collect data collection with a longer questionnaire. The questions relating to the Australian Alcohol Guidelines were only asked of respondents who received the drop and collect form, meaning that the sample size for 2007 was slightly smaller than the 2010 sample (N = 19,818 and 26,648 respectively). Data were weighted to account for the probability of a respondent being selected and to best approximate the Australian population. The original intention was to include data from the 2004 NDSHS to provide a more complete picture of trends over time, however changes in question format between 2004 and 2007 make any comparison problematic. Full details of the survey methodology are available in the survey reports produced by the AIHW (16, 17).

It is necessary to note that the 2007 draft guidelines were released on 13 October to some publicity (15). The 2007 NDSHS was in the field from July until 23 October, meaning the very tail end of data collection in the 2007 survey overlapped with the public announcement of these draft guidelines. Only a very small number of respondents were interviewed for the 2007 survey after the draft guidelines were released, meaning that the 2007 survey is still appropriate to be used to measure people's perceptions of safe drinking under the 2001 Guidelines.

Measures

Respondents were presented with a figure describing the number of Australian standard drinks (which contain 10grams of alcohol) in typical beverages and were then asked a range of questions on their knowledge and perceptions of low-risk alcohol consumption levels. In 2007, these questions included a basic question on their knowledge of the Australian Alcohol Guidelines. Across both waves four questions on their perceptions of levels of low-risk drinking levels for both males and females in the long and short term were asked. These questions are provided in full below.

1. How many standard drinks do you think an adult male could drink every day for many years without adversely affecting his health?
2. How many standard drinks do you think an adult female could drink every day for many years without adversely affecting her health?
3. Again, thinking in terms of standard drinks, how many standard drinks do you think an adult male could drink in a six hour period before he puts his health at risk?
4. How many standard drinks do you think an adult female could drink in a six hour period before she puts her health at risk?

While respondents were asked all four questions, the analyses presented here focus on the responses provided for a respondent's own gender. In other words, we only examine female respondent estimates of safe drinking levels for female drinkers. Respondents provided a range of other information including their own alcohol consumption (collected using standard graduated quantity-frequency questions) and a range of demographics.

Analysis

All analyses were undertaken using simple descriptive approaches based on weighted survey data. Standard errors for the proportions presented below were derived from the published standard error information provided in the NDSHS reports. Differences between survey waves were considered significant if the confidence intervals of the survey estimates did not overlap.

Results

2010 data

Initial analyses were undertaken using just the 2010 NDSHS data to assess the proportion of respondents that could provide accurate estimates for both long-term and short-term drinking limits (based on the 2009 guidelines) for their gender and to examine how low-risk drinking estimates varied by a range of factors.

Across the whole sample, a modest proportion of respondents accurately estimated low-risk drinking levels for long-term drinking (21.1 per cent of males and 14.9 per cent of females estimated two drinks per day), while fewer knew the low-risk limit for episodic drinking (6.4 per cent of males and 8.2 per cent of females estimated four drinks per occasion). When overall accuracy was examined, very small proportions of respondents accurately estimated both guidelines (2.6 per cent for males, 2.5 per cent for females). The large proportions who did not accurately report low-risk levels included a substantial proportion of respondents who did not estimate low-risk drinking levels at all, instead responding that they did not know what safe levels were. The proportions who did not respond to each question in each wave are provided below in Table 2.

TABLE 2 – RESPONDENTS WHO ANSWERED "DON'T KNOW" TO LOW-RISK DRINKING LEVEL QUESTIONS, 2007 AND 2010 NDSHS

	Short-term drinking level		Long-term drinking level	
	2007	2010	2007	2010
Male	42.5 per cent (4160)	41.8 per cent (5623)	37.5 per cent (3677)	38.5 per cent (5181)
Female	50.2 per cent (5031)	49.4 per cent (6525)	42.9 per cent (4306)	45.9 per cent* (6060)

* estimates different at p<0.05 level

The proportion of male respondents who did not respond to these questions did not change significantly across the two survey waves, while there was a small but significant increase in the proportion of females responding "don't know" to the long-term drinking question in 2010. An examination of the non-responders found no significant differences in terms of age or drinking patterns. Therefore, the remainder of this paper examines only people who responded to these questions.

Effects of age

Looking at estimates of low-risk levels for daily drinking over the long-term, there were some substantial variations by age. Older male respondents provided substantially higher estimates than younger males, while the youngest and oldest female respondents provided the highest estimates (Table 3).

TABLE 3 – MEAN ESTIMATES FOR LONG-TERM LOW-RISK DRINKING LEVELS AND PROPORTION OF RESPONDENTS WHOSE ESTIMATES EXCEEDED THE 2009 GUIDELINES, BY AGE AND SEX, 2010 NDSHS

Age group	Estimate for male drinkers			Estimate for female drinkers		
	n	Mean estimate	Proportion estimating a level exceeding 2009 guidelines	n	Mean estimate	Proportion estimating a level exceeding 2009 guidelines
14-19	780	2.7	35.8 per cent	679	1.6	16.6 per cent
20-29	1570	2.6	32.5 per cent	1436	1.2	6.6 per cent
30-39	1499	2.2	30.2 per cent	1368	1.2	5.5 per cent
40-49	1409	2.4	35.3 per cent	1341	1.3	6.5 per cent
50-59	1194	2.6	42.6 per cent	1055	1.4	8.9 per cent
60+	1303	2.9	51.0 per cent	1064	1.6	14.8 per cent
Total	7755	2.5	37.6 per cent	6943	1.4	8.9 per cent

An even clearer pattern was evident when looking at respondents' estimates of low-risk drinking levels for a single six hour drinking occasion, with younger respondents providing significantly higher estimates (Table 4).

TABLE 4 – MEAN ESTIMATES FOR SHORT-TERM LOW-RISK DRINKING LEVELS AND PROPORTION OF RESPONDENTS WHOSE ESTIMATES EXCEEDED THE 2009 GUIDELINES, BY AGE AND SEX, 2010 NDSHS

Age group	Estimate for male drinkers			Estimate for female drinkers		
	n	Mean estimate	Proportion estimating a level exceeding 2009 guidelines	n	Mean estimate	Proportion estimating a level exceeding 2009 guidelines
14-19	776	8.8	71.5 per cent	677	6.5	47.4 per cent
20-29	1521	7.9	67.4 per cent	1442	5.7	40.4 per cent
30-39	1428	7.1	67.0 per cent	1295	5.2	32.1 per cent
40-49	1336	6.7	66.8 per cent	1262	4.8	30.8 per cent
50-59	1078	6.5	62.2 per cent	919	4.7	24.0 per cent
60+	1203	5.9	57.3 per cent	883	4.2	17.8 per cent
Total	7342	7.1	65.2 per cent	6478	5.2	32.2 per cent

Effects of drinking behaviour

Respondents' estimates of low-risk drinking levels in the long-term varied substantially according to the amount of alcohol they consumed, with heavier drinkers estimating substantially higher levels (Table 5). The mean estimates of male and female drinkers who drank more than four drinks per day in the year before the survey was roughly double that of those who did not drink or who drank within the 2009 guidelines.

TABLE 5 – MEAN ESTIMATES FOR LONG-TERM LOW-RISK DRINKING LEVELS AND PROPORTION OF RESPONDENTS WHOSE ESTIMATES EXCEEDED THE 2009 GUIDELINES, BY ALCOHOL CONSUMPTION AND SEX, 2010 NDSHS

Alcohol consumed in last 12 months	Estimate for male drinkers			Estimate for female drinkers		
	n	Mean estimate	Proportion estimating a level exceeding 2009 guidelines	n	Mean estimate	Proportion estimating a level exceeding 2009 guidelines
No drinks	1666	2.4	31.8 per cent	2092	1.2	9.7 per cent
Up to 2 drinks per day	3878	2.1	27.0 per cent	4160	1.3	6.7 per cent
>2 to 4 drinks per day	1319	3.1	52.9 per cent	612	1.8	19.1 per cent
>4 drinks per day	1108	4.0	67.0 per cent	267	2.4	22.5 per cent

Similarly, estimates for low-risk short-term drinking levels varied along with drinking pattern, with respondents who engaged in heavy drinking episodes providing higher estimates than those who did

not drink or who drank below the 2009 guideline levels. For example, more than 80 per cent of males and 50 per cent of females who had a drinking occasion of 11 or more drinks in the last 12 months nominated short-term low-risk drinking levels in excess of those laid out in the 2009 guidelines.

TABLE 6 – MEAN ESTIMATES FOR LONG-TERM LOW-RISK DRINKING LEVELS AND PROPORTION OF RESPONDENTS WHOSE ESTIMATES EXCEEDED THE 2009 GUIDELINES, BY DRINKING PATTERN AND SEX, 2010 NDSHS

Heaviest drinking occasion in the last 12 months	Estimate for male drinkers			Estimate for female drinkers		
	n	Mean estimate	Proportion estimating a level exceeding 2009 guidelines	n	Mean estimate	Proportion estimating a level exceeding 2009 guidelines
No drinks	1503	5.6	45.0 per cent	1891	3.5	24.0 per cent
Up to 4 drinks	1752	5.7	55.0 per cent	2304	3.8	25.5 per cent
>4 to 10 drinks	2044	7.1	71.1 per cent	1671	4.7	42.8 per cent
11 or more drinks	2240	9.2	80.4 per cent	789	5.9	51.6 per cent

Effects of socio-economic status

Despite the limited differences in the prevalence of drinking patterns observed by socio-economic status (17, p60), there were substantial variations in the perceptions of safe drinking levels across SEIFA[1] disadvantage quintiles. For long-term drinking levels, these trends were evident for both male and female respondents, with low-risk estimates generally higher for respondents living in more disadvantaged areas (Table 7).

[1] Socio-Economic Index for Areas

TABLE 7 – MEAN ESTIMATES FOR LONG-TERM LOW-RISK DRINKING LEVELS AND PROPORTION OF RESPONDENTS WHOSE ESTIMATES EXCEEDED THE 2009 GUIDELINES, BY SEIFA QUINTILE AND SEX, 2010 NDSHS

SEIFA Quintile	Estimate for male drinkers			Estimate for female drinkers		
	n	Mean estimate	Proportion estimating a level exceeding 2009 guidelines	n	Mean estimate	Proportion estimating a level exceeding 2009 guidelines
1 (most disadvantaged)	1246	2.7	42.0 per cent	1079	1.9	13.4 per cent
2	1391	2.7	42.7 per cent	1204	1.9	9.4 per cent
3	1645	2.6	38.4 per cent	1408	1.7	9.3 per cent
4	1778	2.5	34.6 per cent	1649	1.6	8.8 per cent
5 (least disadvantaged)	1913	2.5	34.1 per cent	1790	1.6	6.6 per cent

In contrast, there was little variation in low-risk levels for episodic drinking for female drinkers, with around one-third of respondents providing estimates in excess of the 2009 guidelines across all SEIFA quintiles. For males, the picture was mixed. More respondents in the least disadvantaged quintiles provided estimates in excess of the 2009 guidelines than in the most disadvantaged quintiles (23.9 per cent vs 15.6 per cent). However, those who did exceed the guidelines in disadvantaged areas exceeded them substantially, as seen in the higher mean value in those areas (7.3 per cent vs 6.9 per cent) (Table 8).

TABLE 8 – MEAN ESTIMATES FOR SHORT-TERM LOW-RISK DRINKING LEVELS AND PROPORTION OF RESPONDENTS WHOSE ESTIMATES EXCEEDED THE 2009 GUIDELINES, BY SEIFA QUINTILE AND SEX, 2010 NDSHS

SEIFA Quintile	Estimate for male drinkers			Estimate for female drinkers		
	n	Mean estimate	Proportion estimating a level exceeding 2009 guidelines	n	Mean estimate	Proportion estimating a level exceeding 2009 guidelines
1 (most disadvantaged)	1160	7.3	15.6 per cent	979	5.4	33.9 per cent
2	1328	7.2	17.7 per cent	1132	5.2	32.0 per cent
3	1535	7.1	20.6 per cent	1340	5.1	30.4 per cent
4	1703	7.0	22.1 per cent	1548	5.1	33.3 per cent
5 (least disadvantaged)	1813	6.9	23.9 per cent	1656	5.1	33.0 per cent

Effects of rurality

In line with the differences in patterns of drinking across Australia, respondents living in regional and remote areas generally estimated higher long-term low-risk drinking levels. For males, the difference was particularly large, with 45 per cent of respondents in outer-regional and remote areas providing estimates above the 2009 guideline levels compared with 35 per cent of those living in major cities (Table 9).

TABLE 9 – MEAN ESTIMATES FOR LONG-TERM LOW-RISK DRINKING LEVELS AND PROPORTION OF RESPONDENTS WHOSE ESTIMATES EXCEEDED THE 2009 GUIDELINES, BY RURALITY AND SEX, 2010 NDSHS.

Rurality	Estimate for male drinkers			Estimate for female drinkers		
	n	Mean estimate	Proportion estimating a level exceeding 2009 guidelines	n	Mean estimate	Proportion estimating a level exceeding 2009 guidelines
Major city	5468	2.5	35.1 per cent	4955	1.7	8.4 per cent
Inner regional	1646	2.7	42.9 per cent	1392	1.9	10.5 per cent
Outer regional/remote	858	2.8	45.3 per cent	784	1.9	12.6 per cent

The differences were less stark for short-term low-risk drinking levels, although for male respondents there remained higher estimated low-risk levels outside of the major cities. Differences for females were less clear on this measure.

TABLE 10 – MEAN ESTIMATES FOR SHORT-TERM LOW-RISK DRINKING LEVELS AND PROPORTION OF RESPONDENTS WHOSE ESTIMATES EXCEEDED THE 2009 GUIDELINES, BY RURALITY AND SEX, 2010 NDSHS.

Rurality	Estimate for male drinkers			Estimate for female drinkers		
	n	Mean estimate	Proportion estimating a level exceeding 2009 guidelines	n	Mean estimate	Proportion estimating a level exceeding 2009 guidelines
Major city	5151	6.9	63.9 per cent	4608	5.0	32.3 per cent
Inner regional	1541	7.4	66.4 per cent	1322	5.4	32.9 per cent
Outer regional/remote	846	7.4	68.6 per cent	726	5.3	33.3 per cent

Changes in perceptions of long-term low-risk drinking levels

Overall respondents provided quite low estimates for long-term low-risk drinking levels. In both survey waves, around 90 per cent of male respondents provided estimates for four drinks or fewer per day (consistent with the 2001 guidelines), while more than half estimated two drinks or fewer per day (consistent with the 2009 guidelines). Generally speaking, male respondents estimated lower levels in 2010 than 2007, with statistically significant increases in the proportion estimating zero and one to

two drinks and significant reductions in the proportions estimating three to four drinks and 7+ drinks (Table 11).

TABLE 11 – ESTIMATED LOW-RISK LONG-TERM DAILY DRINKING LEVEL FOR MALE DRINKERS, NDSHS 2007 AND 2010

Estimated low-risk, long-term daily drinking level for male drinkers	Male respondents	
	2007 (n=6116)	2010 (n=8271)
0	8.5 per cent	11.2 per cent *
1 to 2	47.0 per cent	53.1 per cent *
3 to 4	34.0 per cent	29.0 per cent *
5 to 6	7.1 per cent	6.3 per cent
7 or more	3.5 per cent	0.4 per cent *

* estimates different at p<0.05 level

Female respondents were even more conservative with respect to female drinking, with around 90 per cent estimating two or fewer drinks per day as a low-risk level (consistent with both sets of guidelines). Estimates for low-risk female drinking levels had changed less than those for males, although there was some shift towards lower levels, with a significant increase in the proportion of respondents who said that zero drinks per day was the low-risk level (Table 12).

TABLE 12 – ESTIMATED LOW-RISK LONG-TERM DAILY DRINKING LEVEL FOR FEMALE DRINKERS, NDSHS 2007 AND 2010

Estimated low-risk, long-term daily drinking level for male drinkers	Female respondents	
	2007 (n=5719)	2010 (n=7136)
0	17.2 per cent	20.4 per cent *
1 to 2	70.5 per cent	70.9 per cent
3 to 4	10.2 per cent	7.7 per cent *
5 to 6	1.3 per cent	0.9 per cent
7 or more	0.8 per cent	0.1 per cent *

* estimates different at p<0.05 level

It is worth noting that the shift from three to four drink estimates to one to two drink estimates for male drinkers is consistent with the changes to the drinking guidelines for males that took place in 2009 and was much more substantial than the changes found for female drinkers (for whom the guidelines did not change).

Changes in perceptions of short-term low-risk drinking levels

Respondents provided substantially higher estimates for episodic drinking, with around two-thirds of males and one-third of females providing estimates in excess of the 2009 guidelines of four drinks per occasion (Table 13).

TABLE 13 – ESTIMATED LOW-RISK SHORT-TERM DRINKING LEVEL FOR MALE AND FEMALE DRINKERS, NDSHS 2007 AND 2010

Estimated number of drinks in six hour period before putting health at risk	Level for male drinkers		Level for female drinkers	
	2007	2010	2007	2010
0	1.9 per cent	2.0 per cent	2.5 per cent	3.5 per cent
1-2	7.2 per cent	9.1 per cent *	23.2 per cent	26.6 per cent *
3-4	22.5 per cent	23.9 per cent	40.0 per cent	37.3 per cent
5-6	24.9 per cent	25.8 per cent	21.0 per cent	19.4 per cent
7-10	27.4 per cent	25.2 per cent	10.1 per cent	10.1 per cent
11 or more	16.3 per cent	14.0 per cent	3.2 per cent	3.0 per cent

* estimates different at p<0.05 level

The only significant changes between 2007 and 2010 were slight increases in the proportion of respondents estimating that one to two drinks as the low-risk level for episodic drinking. There were no significant changes relevant to the revised guidelines (recommended limits for males revised downwards from six to four drinks), although the increases in estimates of one to two drinks may relate to the well publicised short-term limit of two drinks per occasion in the draft version of the guidelines (18).

Discussion

The results of the analyses presented here highlight Australians' lack of knowledge of the official safe drinking guidelines, with fewer than 5 per cent of respondents able to accurately name low-risk levels for short- and long-term drinking. Between 30 per cent and 50 per cent of respondents could not even provide estimates of low-risk drinking levels. Of those who did, the estimates provided for low-risk long-term drinking were generally quite conservative, with around one-third of males and one-tenth of females estimating levels exceeding the current guidelines. In contrast, two-thirds of males and one-third of females estimated short-term drinking levels above the current guidelines. Of particular concern was the clear association between age, drinking levels and estimates of low-risk drinking in the short-term, with younger, heavier drinkers generally estimating substantially higher low-risk thresholds. The overall lack of knowledge among Australians as to recommended low-risk drinking levels fits broadly into the limited literature that has explored knowledge of guidelines in other settings (10-12). The results of Grønbæk et al.'s study in Denmark (13) highlight the potential effectiveness of a long-lasting, concerted public education campaign for improving population knowledge of low-risk drinking guidelines, although there remains no evidence that this will necessarily have any impact on consumption (19).

Despite the overall lack of knowledge within the population, there were small but significant changes to Australians' estimates of low-risk drinking levels between the 2007 and 2010 waves of the NDSHS survey. While this study cannot definitively assess whether these changes were related to the release of new official guidelines in 2009, there was at least potential evidence that they were. In particular, there was a significant reduction in male respondents estimating their long-term low-risk drinking level at around four drinks which was reflected in an increase in the proportion estimating it at around two drinks. These changes correspond precisely with the changes between the 2001 and 2009 editions of the guidelines. In contrast, there was a general lowering of long-term estimates for female respondents, but not the same sharp shift between categories, potentially reflecting the lack of change to the female guidelines. The evidence was less compelling for short-term drinking, with little change in estimates of low-risk episodic drinking levels seen between 2007 and 2010.

Even if the changes observed reflect the impact of the new guidelines, the overarching conclusion of this analysis is that Australians do not have a good sense of low-risk drinking levels, with many respondents either unable to answer or answering incorrectly questions relating to low-risk levels of short-term and long-term drinking. Given the time and energy expended on developing official drinking guidelines by the NHMRC, this is problematic. If the 2009 guidelines are to have any major impact on how people think about alcohol consumption in Australia, a concerted public education campaign is necessary.

References

1. National Health and Medical Research Council. Australian Guidelines to Reduce Health Risks from Drinking Alcohol. Canberra: NHMRC 2009.
2. Dawson D. US low-risk drinking guidelines: an examination of four alternatives. Alcohol Clin Exp Res. 2000;24(12):1820-9.
3. Wilkinson C. Responses to risk: Public submissions on Australian alcohol guidelines for low-risk drinking. Drug and Alcohol Review. 2012; DOI: 10.1111/j.1465-3362.2011. 00413.x.
4. Anderson P. Guidelines on sensible drinking. Addiction. 1996;91(1):25-33.
5. Casswell S. Drinking guidelines offer little over and above the much needed public health policies. Addiction. 1996;91(1):26-9.
6. Shaper AG. Sensible, but not particularly logical. Addiction. 1996;91(1):29-31.
7. Rehm J, Bondy S, Room R. Towards effective low-risk guidelines on alcohol consumption. Addiction. 1996;91(1):31-2.
8. Doll R. The beneficial effects of alcohol on vascular disease. Addiction. 1996;91(1):32-3.
9. Hawks D. Is it possible to recommend safe drinking levels without increasing per capita consumption? Another aspect of the prevention paradox. British Journal of Addiction. 1989;84(4):371-5.
10. Sellman J, Ariell G. Public knowledge and attitudes towards the use of alcohol and drinking guidelines. NZ Med J. 1996;109(1029):337-9.
11. Bendtsen P, Karlsson N, Dalal K, Nilsen P. Hazardous drinking concepts, limits and methods: low levels of awareness, knowledge and use in the Swedish population. Alcohol and Alcoholism. 2011 June 10, 2011.
12. De Visser RO, Birch JD. My cup runneth over:Young people's lack of knowledge of low-risk drinking guidelines. Drug and Alcohol Review. 2011; DOI:10.1111/j.1465-3362.2011. 00371.x.
13. Grønbæk M, Strøger U, Strunge H, Møller L, Graff V, Iversen L. Impact of a 10-year nation-wide alcohol campaign on knowledge of sensible drinking limits in Denmark. European Journal of Epidemiology. 2001;17(5):423-7.
14. National Health and Medical Research Council. Australian Alcohol Guidelines: Health Risks and Benefits. Canberra: NHMRC2001.
15. Wilkinson C. Public discourse on the revised Australian alcohol guidelines for low-risk drinking. Australian Professional Society on Alcohol and Other Drugs; 24/11/2008; Sydney 2008.
16. Australian Institute of Health and Welfare. National drug strategy household survey 2007: First results. Drug statistics series number 20. Cat. no. PHE 98. Canberra: AIHW 2008.
17. Australian Institute of Health and Welfare. 2010 National drug strategy household survey. Canberra: AIHW 2011.
18. Cresswell A, Wilson L. New booze guidelines slash daily drinking limits. The Australian. October 13, 2007.
19. Casswell S. Why have guidelines at all? A critical perspective. Drug and Alcohol Review. 2011; DOI: 10.1111/j.1465-3362. 2011.00376.x.

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