

## Alcohol Intake and Pattern of Alcohol Consumption

<b>Age Cohorts</b>	Younger, Mid-age and Older
<b>Surveys</b>	Surveys 1 & 2
<b>Derived Variable</b>	AlcNHMRC
<b>Definition</b>	Long-term risk associated with alcohol consumption, (combining frequency and quantity of alcohol consumed)
<b>Source Items (Index Numbers)</b>	ALCFREQ (ALCS-001) ALCQTY (ALCS-002)
<b>Statistical Form</b>	Categorical variable
<b>Index Number</b>	ALCS-012
<b>Derived Variable</b>	AlcPatt
<b>Definition</b>	Combines long-term and short-term risks associated with alcohol consumption
<b>Source Items (Index Numbers)</b>	AlcNHMRC (ALCS-012) AlcSTR (ALCS-003)
<b>Statistical Form</b>	Categorical variable
<b>Index Number</b>	ALCS-013
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<b>Endorsed</b>	28 May 2003

**NOTE:** AlcSt (Index number ALCS-007) and AlcBng (Index number ALCS-008) were the measures of alcohol consumption included in SAS datasets for surveys 1 and 2 that were distributed before May 2003. AlcNHMRC and AlcPatt have replaced these two variables respectively.

## Source Items – Surveys 1 & 2

### Frequency of alcohol consumption

ALCFREQ How often do you usually drink alcohol?

	Cohort:		Younger		Mid-age		Older	
	Survey:	1	2	1	2	1	2	
<i>Response</i>					<i>Codes</i>			
I never drink alcohol		1	1	1	1	1	1	1
I drink rarely		2		2	2		2	2
Less than once a month			2					
Less than once a week		3	3	3	3	3	3	3
On 1 or 2 days a week		4	4	4	4	4	4	4
On 3 or 4 days a week		5	5	5	5	5	5	5
On 5 or 6 days a week		6	6	6	6	6	6	6
Every day		7	7	7	7	7	7	7

### Quantity of alcohol consumed

ALCQTY On a day when you drink alcohol, how many standard drinks do you usually have?

	Cohort:		Younger		Mid-age		Older	
	Survey:	1	2	1	2	1	2	
<i>Response</i>					<i>Codes</i>			
I don't drink alcohol								0
Non-drinker		5	0	5	0	5		
1 or 2 drinks per day		1	1	1	1	1	1	1
3 or 4 drinks per day		2	2	2	2	2	2	2
5 to 8 drinks per day		3	3	3	3	3	3	3
9 or more drinks per day		4	4	4	4	4	4	4

### Frequency of short term risk drinking

ALCSTR How often do you have five or more standard drinks of alcohol on one occasion?

	Cohort:		Younger		Mid-age		Older
	Survey:	1	2	1	2	1	
<i>Response</i>					<i>Codes</i>		
Never		1	1	1	1	1	
Less than once a month		2	2	2	2	2	
About once a month		3	3	3	3	3	
About once a week		4	4	4	4	4	
More than once a week		5	5	5	5	5	
Non-drinker		6	0	6	0	6	

## Derived Variables

### Alcohol Intake

The ALSWH originally based its definition of risk associated with alcohol intake on National Heart Foundation criteria<sup>1</sup>. Subsequently, the definition has been revised in light of National Health and Medical Research Council (NHMRC) guidelines<sup>2</sup>. The 3 categories of risk endorsed currently are: 'Low risk' (Up to 14 drinks per week), 'Risky' (15 to 28 drinks per week) and 'High risk' (More than 28 drinks per week).

Based on NHMRC guidelines, a variable for alcohol consumption status (AlcNHMRC) was derived from the frequency and quantity items. The ALSWH has defined 4 categories of risk. The NHMRC definitions for 'Risky' and 'High risk' drinking are adopted in full. For women defined as 'Low risk' by NHRMC, the ALSWH have separately defined as 'Rarely drinks' those who drink only rarely, leaving the remainder of this group to be classified as 'Low risk'. A fifth category for 'non-drinkers' was added. Table 1 shows how the NHMRC guidelines were implemented in the ALSWH data.

**Table 1 Risk of harm in the longer term associated with alcohol consumption – using NRMRC guidelines**

Frequency of drinking alcohol	Quantity of alcohol consumed					Missing
	I don't drink alcohol	1 or 2 drinks	3 or 4 drinks	5 to 8 drinks	9 or more drinks	
I don't drink alcohol	2					2
I rarely drink		3	3	3	3	3
Less than once a week		1	1	1	1	
1 or 2 days		1	1	1	4	
3 or 4 days		1	1	4	5	
5 or 6 days		1	4	5	5	
Every day		1	4	5	5	
Missing	2	1				

#### Legend

Risk category	Average number of drinks per week (per day)
1 Low Risk	Up to 14 drinks per week (Up to 2 drinks per day)
2 Non-drinker	
3 Rarely drinks	
4 Risky	15 to 28 drinks per week (3 to 4 drinks per day)
5 High risk	More than 28 drinks per week (5 or more drinks per day)

Note that published research from the ALSWH<sup>3</sup> used a similar variable, based on earlier NHMRC recommendations<sup>4</sup>. The categories for risk used were: 'Rarely drinks', 'Low intake', 'Hazardous intake' and 'Harmful intake' and these correspond to 'Rarely drinks', 'Low risk', 'Risky' and 'High risk' respectively.

Percentages of women from the three age cohorts in each category of AlcNHMRC at surveys 1 and 2 are shown in Table 2.

**Table 2**      **Percent in each category for alcohol related health risk**

	Cohort:		Younger		Mid-age		Older	
	Survey:	1	2	1	2 <sup>a</sup>	1	2 <sup>a</sup>	
Number surveyed		14 779	9 685	14 099	11 648	12 940	9 501	
<i>Percent missing</i>		1.1	0.7	1.0	0.9	4.0	2.8	
Number classified		14 614	9 620	13 957	11 547	12 422	9 235	
Low risk		50.9	58.2	47.9	52.4	32.4	34.5	
Non-drinkers		9.0	9.1	15.3	13.4	35.1	34.6	
Rarely drinks		34.5	29.0	31.4	28.7	29.1	27.0	
Risky		4.9	3.5	4.4	4.8	3.1	3.6	
High risk		0.7	0.3	0.9	0.8	0.4	0.3	

<sup>a</sup> Full survey only

The SAS code defining the NHRMC alcohol intake categories at surveys 1 and 2 is:

```

/*****
Alcohol risk based on NHMRC recommendations
1 = Low risk drinker
2 = Non-drinker
3 = Rarely drinks
4 = Risky drinker
5 = High risk drinker
*****/;

    if freqalc = 1 then y1alcnhmrc = 2 ;
else if freqalc = 2 then y1alcnhmrc = 3 ;
else if qtyalc = 1 then y1alcnhmrc = 1 ;
else if freqalc = . or qtyalc = . then y1alcnhmrc = . ;
else if qtyalc = 2 then do ;
    if freqalc in (3,4,5) then y1alcnhmrc = 1 ;
    else if freqalc in (6,7) then y1alcnhmrc = 4 ;
end ;
else if qtyalc = 3 then do ;
    if freqalc in (3,4) then y1alcnhmrc = 1 ;
    else if freqalc in (5) then y1alcnhmrc = 4 ;
    else if freqalc in (6,7) then y1alcnhmrc = 5 ;
end ;
else if qtyalc = 4 then do ;
    if freqalc in (3) then y1alcnhmrc = 1 ;
    else if freqalc in (4) then y1alcnhmrc = 4 ;
    else if freqalc in (5,6,7) then y1alcnhmrc = 5 ;    end ;

```

Table 3 shows how the original ALSWH categories (AlcSt) and the categories based on NHMRC guidelines differ.

**Table 3 Survey items for quantity and frequency of alcohol consumption, estimated number of drinks per week and categories for risk, ALSWH and NRMRC**

Quantity Item	Frequency Item	Drinks per week:		
		Minimum to Maximum <sup>a</sup>	Categories for risk: ALSWH <sup>b</sup>	Categories for risk: NHMRC <sup>3</sup>
	Non-drinker		Non-drinker	Non-drinker
Any	Rarely drinks		Rarely drinks	Rarely drinks
1-2 drinks	Any	1 to 14	No risk	Low risk
3-4 drinks	Less than once week	3 to 4	No risk	Low risk
	1-2 days	3 to 8		
	3-4 days	9 to 16		
3-4 drinks	5-6 days	15 to 24	Low risk	Risky
	Every day	21 to 28		
5-8 drinks	Less than once week	5 to 8	Low risk	Low risk
	1-2 days	5 to 16		
5-8 drinks	3-4 days	15 to 32	Low risk	Risky
5-8 drinks	5-6 days	25 to 48	Intermediate risk	High risk
	Every day	35 to 56		
9+ drinks	Less than once week	About 10	Intermediate risk	Low risk
9+ drinks	1-2 days	10 to 20	Intermediate risk	Risky
9+ drinks	3-4 days	30 to 40	Intermediate risk	High risk
9+ drinks	5-6 days	50 to 70	High risk	High risk
	Every day	70 or more		

<sup>a</sup> Minimum=Minimum frequency \* Minimum quantity; Maximum=Maximum frequency \* Maximum quantity

<sup>b</sup> Included in datasets for surveys 1 and 2 distributed prior to April 2003. No longer included after that date.

### ***Pattern of Alcohol Consumption***

A composite variable was derived which describes the pattern of alcohol consumption (AlcPatt). The variable reflects NHMRC risk categories and separately identifies differences in short-term risk drinking (defined as having 5 or more drinks about once per week or more) among women defined as being at low risk on the basis of the usual volume of alcohol they consume.

<b>Code</b>	<b>Category</b>
1	Low long-term risk, drinks at short-term risk less than weekly <i>Usually drinks rarely or at low risk levels and drinks at short-term risk either never or no more than monthly</i>
2	Non-drinker
3	Low long-term risk, drinks at short-term risk weekly or more <i>Usually drinks rarely or at low risk levels and drinks at levels of short-term risk weekly or more often</i>
4	Risky or high risk drinking <i>Hazardous/harmful level of drinking, regardless of short-term risk drinking behaviour</i>

#### *Inconsistencies in data on frequency of drinking at short-term risk*

Inconsistencies were found between responses to the survey item concerning the frequency of drinking at short-term risk and an estimate of *usual* short-term risk frequency (based on alcohol frequency and quantity items). Information from both these sources was used to identify those regularly drinking at levels of short-term risk.

Usually drinking at levels of short-term risk was defined as 'weekly or more' if usual consumption frequency is one or more days each week and usual quantity consumed of 5 or more drinks. Drinking at short-term risk 'about once a week' and 'more than once a week' was categorised as 'weekly or more'.

Women who 'drink rarely' or at low levels of long-term risk (based on NHMRC recommendations) were further categorised according to the frequency of drinking at short-term risk as follows.

Low long-term risk, drinks at short-term risk less than weekly

- o *usually drinks rarely or at low risk levels AND*
- o *the reported frequency of drinking at short-term risk is NOT weekly or more AND*
- o *the usual frequency of drinking at short-term risk is NOT weekly or more*

or

- o *usually drinks rarely AND*
- o *does NOT report the quantity of alcohol usually consumed AND*
- o *the reported frequency of drinking at short-term risk is not weekly or more*

Low long-term risk, drinks at short-term risk weekly

- o *Usually drinks rarely or at low risk levels AND*
- o *usual short-term risk drinking frequency is weekly or more*

or

- o *Usually drinks rarely or at low risk levels AND*
- o *reported short-term risk drinking frequency is weekly or more*

Women from the Older cohort were not asked about drinking at short-term risk at Survey 2. Values for AlcPatt were derived for the Mid-age and Younger cohorts at surveys 1 and 2 and older women at Survey 1 (Table 4).

**Table 4 Percent in each category for pattern of alcohol consumption**

	Cohort: Younger		Mid-age		Older
	Survey: 1	2	1	2 <sup>a</sup>	1
Number surveyed	14 779	9 685	14 099	11 648	12 940
<i>Number missing</i>	281	148	248	137	847
<i>Percent missing</i>	1.9	1.5	1.8	1.2	6.6
Number classified	14 498	9 537	13 851	11 511	12 093
Low risk drinker, binges less than weekly	70.9	75.2	75.9	77.8	59.6
Non drinker	9.1	9.1	15.5	13.4	36.0
Low risk drinker, binge drink weekly	14.4	11.9	3.4	3.2	0.9
Risky/high risk drinker	5.6	3.8	5.3	5.6	3.6

<sup>a</sup> Full survey only

The SAS code defining the pattern of alcohol consumption at surveys 1 and 2 is:

```

/** Collapse binge frequency categories */;
    if binge in (1,2,3,6) then y1binge = 0 ;
else if binge in (4,5) then y1binge = 1 ;
/*****

Derive a variable for 'drinks at short-term risk once per week or more' from
Qty and Freq. Use to correctly assign alcpatt where estimates of bingeing
(based on quantity and frequency usually consumed) conflict with reported
binge frequency.
*****/;

if freqalc in (4,5,6,7) and qtyalc in (3,4) then usualbinge = 1 ;
else if freqalc ne . and qtyalc ne . then usualbinge = 0 ;
else usualbinge = . ;
/*****

Combine alcohol risk (NHMRC) and binge frequency.
Ref : Jonas et al
1 = Low risk drinker, drinks at short-term risk less than weekly
2 = Non-drinker
3 = Low risk drinker, binge drinks weekly
4 = Risky or high risk drinker
*****/;

if y1alcnhmrc = 2 then y1alcpatt = 2 ;
else if y1alcnhmrc in (1,3) then do ;
    if y1binge = 1 or usualbinge = 1 then y1alcpatt = 3 ;
    else if y1binge = 0 and usualbinge = 0 then y1alcpatt = 1 ;
    else if freqalc = 2 and qtyalc = . and y1binge = 0 then

```

```
y1alcpatt = 1 ;  
else y1alcpatt = . ;  
end ;  
else if y1alcnhmrc in (4,5) then y1alcpatt = 4 ;
```

## References

1. National Heart Foundation. *National Heart Foundation Risk Factor Prevalence Study: Report No. 1* 1980
2. National Health and Medical Research Council. *Australian Alcohol Guidelines: Health Risks and Benefits. Endorsed October 2002*. Canberra (ACT): Commonwealth of Australia; 2001
3. Jonas HA, Dobson AJ & Brown WJ. Patterns of alcohol consumption in young Australian women: associations with socio-demographic factors, lifestyle, health practices and physical health. *Australian and New Zealand Journal of Public Health* 2000;24(2):185-191
4. Pols RG, Hawks DV. *Is there a safe level of daily consumption of alcohol for men and women?* Canberra. Australian Government Publishing Service; 1992.