



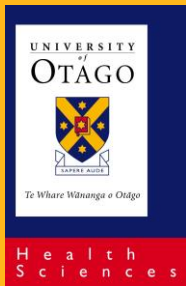
The UNIVERSITY
of NEWCASTLE
AUSTRALIA

Electronic screening and brief intervention (e-SBI) for unhealthy alcohol use in university students

***Society for the Study of Addictions
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Kyp Kypri PhD

School of Medicine and Public Health,
University of Newcastle, Australia



Contributors

Professor John Langley

Professor John Saunders

A/Professor Rob McGee

Martine Cashell-Smith

Dr Steve Gallagher

Peter Herbison

Sheila Williams

Funding: Health Research Council of New Zealand
Alcohol Advisory Council of New Zealand

Outline

1. Rationale for opportunistic e-SBI
2. Efficacy/effectiveness trials:
 - (a) small RCT of e-SBI in primary care
 - (b) larger RCT of e-SBI in primary care
 - assessment effects
 - effects of booster
3. Preliminary results of large RCT of routine e-SBI
4. Models for implementation:
 - "pulse" e-SBI in primary care
 - routine e-SBI in all universities

Rationale for opportunistic e-SBI with university students

1. University students drink more heavily than their non-student peers

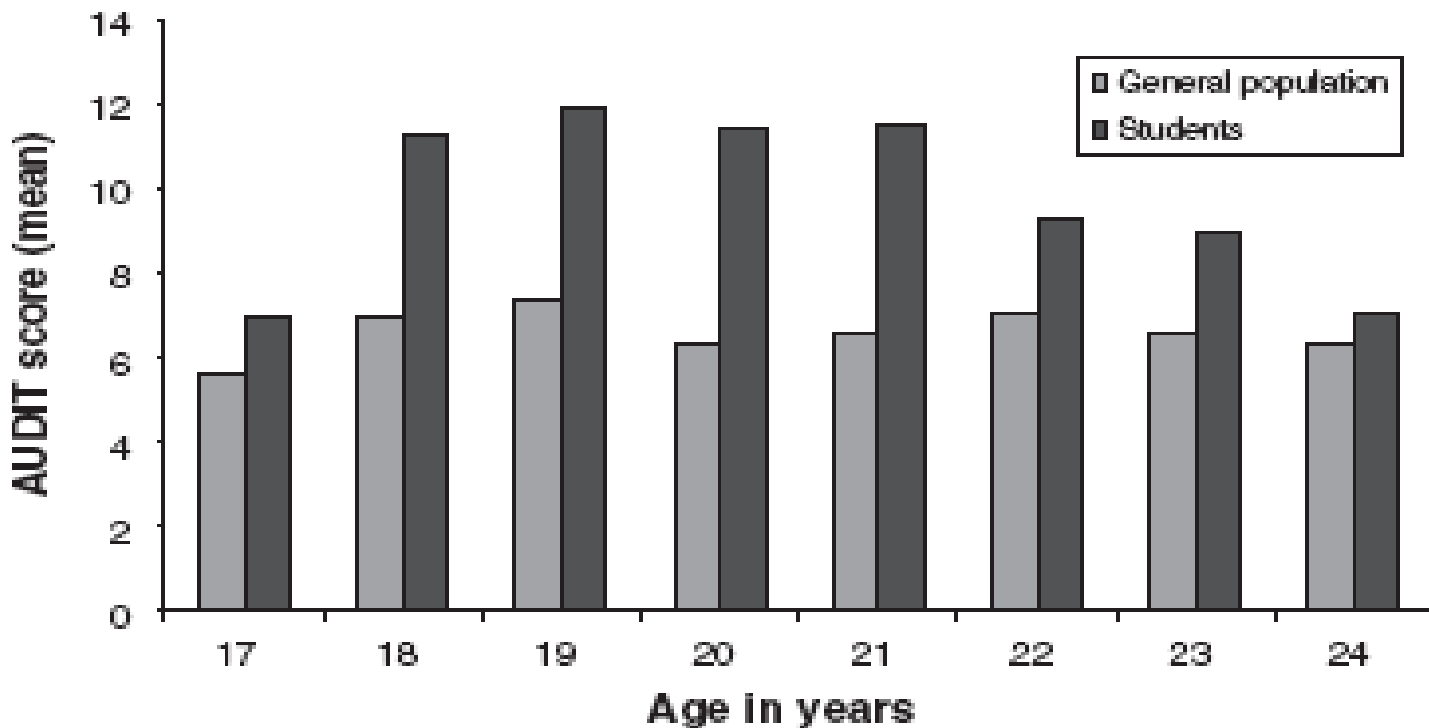


Figure 1 Mean scores on the Alcohol Use Disorders Identification Test: University of Otago students (2002) vs. general population peers (New Zealand Health Survey 2002/3)

Kypri K, Cronin M, Wright C (2005). Do university students drink more hazardously than their non-student peers? *Addiction* 100(6) 713-4.

2. Most students are pre-contemplative and don't wish to talk to a health professional about their drinking

3. Students dramatically over-estimate the drinking levels of their peers

<i>Your drinking compared with Otago students of the same gender</i>	Women (n=841) %	Men (n=617) %	All (n=1458) %
<i>A lot less</i>	34	33	34
<i>A bit less</i>	30	26	28
<i>About the same</i>	28	31	29
<i>A bit more</i>	7	10	8
<i>A lot more</i>	1	1	1

4. Primary healthcare setting has potential to reach large number of students



University of Otago Student Health Service - 42,000 consultations with >10,000 students per year (2/3 of population)

5. Students said that web-based screening and brief intervention is an acceptable means of intervention

Random sample of 1519 students from University of Otago in 2002 (82% response rate)	<i>It should be available to students</i>	<i>I would use it if I had a problem</i>
	%	%
Reading materials/leaflets	95	73
Health education seminars	82	41
Anonymous web-based alcohol risk assessment and personalised feedback (e-SBI)	92	81
Alcohol risk assessment and advice from a nurse, counsellor, or psychologist (BI)	91	61
Alcohol risk assessment and advice from a doctor (BI)	88	61

Kypri K, Saunders JB, & Gallagher SJ (2003). Acceptability of various brief intervention approaches for hazardous drinking among university students. *Alcohol and Alcoholism* 38, 626-628.

Efficacy/effectiveness trials

Pilot RCT (n=104)* showed

- (1) high acceptability in practice (93% of invitees)
- (2) efficacy in line with practitioner-delivered brief intervention, i.e., 20-30% reductions in consumption and problems over 6 months
- (3) some evidence of a Hawthorne effect

*Kypri K, Saunders JB, Williams SM, McGee RO, Langley JD, Cashell-Smith ML & Gallagher S (2004). Web-based screening and brief intervention for hazardous drinking: A Double-blind randomised controlled trial. *Addiction* 99 (11) 1410-7.

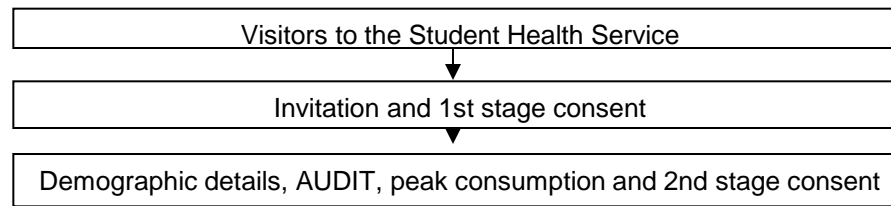
Photo: University Student Health Service - 42,000 consultations with >10,000 students per year (2/3 of population)

Research questions arising from the pilot trial

1. Are we seeing assessment reactivity (a Hawthorne effect)? Are we (and others) therefore under-estimating the effects of brief intervention?
2. Can we enhance the intervention with on-going feedback ?
3. Do effects last beyond 6 months ?

Photo: Patient completing e-SBI at Student Health

e-SBI main trial (n=576)



R

Study groups

A
Screening-only control
Limited follow-up
(n=146)

B
Screening + 4 week
assessment
(n=147)

C
Brief intervention
(n=138)

D
Brief intervention +
booster (n=145)

Intervention

Two-week drinking diary
Weight
APS
AREAS
Perceived norms

Two-week drinking diary
Weight
APS
AREAS
Perceived norms

Descriptive summation
Criterion feedback
Normative feedback
Correction of norm
misperception

Descriptive summation
Criterion feedback
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Correction of norm
misperception

Four week follow-up

Two-week drinking diary, APS, AREAS

Booster: feedback as
above plus comparison
with baseline

Six month follow-up

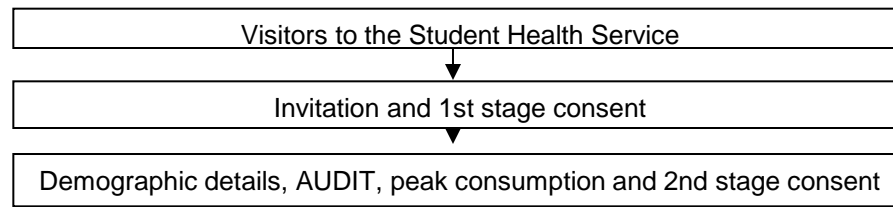
Two-week drinking diary, APS, AREAS

Booster: feedback as
above plus comparison
with 4 weeks and
baseline

One year follow-up

AUDIT, two-week drinking diary, APS, AREAS

Follow-up rates



R

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Four week follow-up

88%

Two-week drinking diary, APS, AREAS

Booster: feedback as
above plus comparison
with baseline

Six month follow-up

84%

Two-week drinking diary, APS, AREAS

Booster: feedback as
above plus comparison
with 4 weeks and
baseline

One year follow-up

85%

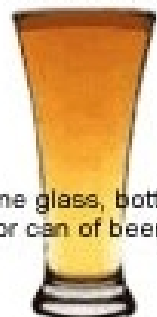
AUDIT, two-week drinking diary, APS, AREAS

DRINKING DIARY

For each of the following days, please specify the **number of standard drinks** you consumed during that day.

Use the definitions of Standard Drinks at the side of the page as a guide. We understand that it can be difficult to remember exactly. For these questions **please give your best estimates**

What's a Standard Drink?



One glass, bottle or can of beer



One small glass of wine



A double measure of spirits (30mls)

A pre-mixed drink (e.g. Cruiser, Stoli) approx **1.5 drinks**

A jug of beer equals **3 drinks**

Day

Today

Yesterday

Wednesday, 20 August

Tuesday, 19 August

Monday, 18 August

Sunday, 17 August

Saturday, 16 August

Friday, 15 August

Thursday, 14 August

Wednesday, 13 August

Tuesday, 12 August

Monday, 11 August

How many drinks?

None drinks

None drinks

None drinks

None drinks

None drinks

None drinks

None drinks

None drinks

None drinks

None drinks

None drinks

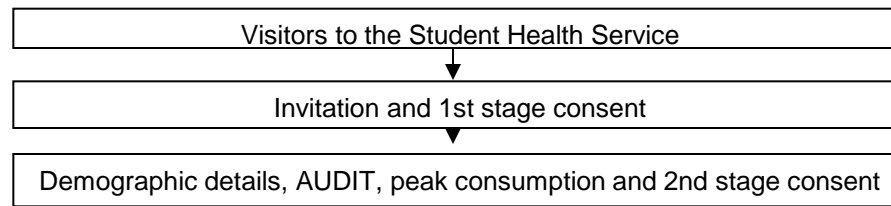
None drinks

Results

Baseline: gender, age and AUDIT scores

	Group A Control: Screening only with partial follow-up (n=146)		Group B Screening + 4 week assessment (n=147)		Group C Brief intervention (n=138)		Group D Brief intervention with booster sessions (n=145)	
Number (%) females	76	(52)	77	(52)	71	(51)	76	(52)
Mean age (SD)	20.1	(2.2)	20.3	(1.8)	20.1	(1.9)	20.1	(1.9)
Mean AUDIT score (SD)	15.1	(5.5)	14.9	(5.0)	14.9	(5.1)	14.7	(4.7)

e-SBI main trial (n=576)



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Six month follow-up

Two-week drinking diary, APS, AREAS

Booster: feedback as
above plus comparison
with 4 weeks and
baseline

One year follow-up

AUDIT, two-week drinking diary, APS, AREAS

Assessment effect analysis: B/A

<i>Outcome</i>	Treatment effect ratio Group B / Group A	(95% CI)	P
1. Frequency of drinking			
6 months	0.90	(0.77 to 1.06)	0.20
12 months	0.95	(0.82 to 1.11)	0.53
2. Typical occasion quantity			
6 months	0.92	(0.81 to 1.05)	0.21
12 months	0.98	(0.86 to 1.11)	0.71
3. Total consumption			
6 months	0.87	(0.71 to 1.05)	0.14
12 months	0.82	(0.68 to 0.98)	0.03
4. Frequency of very heavy episodic drinking			
6 months	0.81	(0.58 to 1.13)	0.21
12 months	0.66	(0.47 to 0.91)	0.01
5. Personal, social, sexual, legal consequences			
6 months	0.90	(0.74 to 1.09)	0.29
12 months	0.81	(0.67 to 0.99)	0.04
6. Academic problems			
6 months	0.78	(0.58 to 1.05)	0.10
12 months	0.85	(0.62 to 1.16)	0.31
7. AUDIT score (beta coefficient)			
12 months	-1.63	(-2.65 to -0.62)	0.00

Kypri K, Langlely JD, Saunders JB et al. (2007). Assessment may conceal therapeutic benefit: findings from a randomized controlled trial for hazardous drinking. *Addiction* 102(1) 62-70.

Treatment effect analysis: D/A

<i>Outcome</i>	Treatment effect ratio Group D / Group A	(95% CI)	P
1. Frequency of drinking			
6 months	0.87	(0.74 to 1.01)	0.08
12 months	0.91	(0.78 to 1.06)	0.21
2. Typical occasion quantity			
6 months	0.87	(0.76 to 0.99)	0.04
12 months	0.85	(0.75 to 0.97)	0.02
3. Total consumption			
6 months	0.85	(0.70 to 1.03)	0.09
12 months	0.88	(0.73 to 1.07)	0.20
4. Frequency of very heavy episodic drinking			
6 months	0.66	(0.47 to 0.94)	0.02
12 months	0.65	(0.47 to 0.90)	0.01
5. Personal, social, sexual, legal consequences			
6 months	0.91	(0.75 to 1.11)	0.35
12 months	0.84	(0.69 to 1.01)	0.07
6. Academic problems			
6 months	0.65	(0.49 to 0.88)	0.01
12 months	0.58	(0.42 to 0.80)	0.00
7. AUDIT score (beta coefficient)			
12 months	-2.19	(-3.22 to -1.16)	0.00

Kypri K, Langlely J, Saunders JB, Cashell-Smith M, Herbison P (in press Feb 2008). Randomized controlled trial of web-based alcohol screening and brief intervention in primary care. *Archives of Internal Medicine*.

Conclusions

- Assessment effect – treatment effects underestimated in trials which assess the control group?
 - ~ Minimise assessment of control group when looking for small effects
- Time to disseminate e-SBI
- Trial e-SBI with delivery via sampling of student enrolment (routine screening)

**THRIVE study:
Curtin University of Technology
Perth, Western Australia**

**Peter Howat PhD
Alexandra McManus PhD
Kypros Kypri PhD
Bruce Maycock PhD
Jonathan Hallett BHealProm**

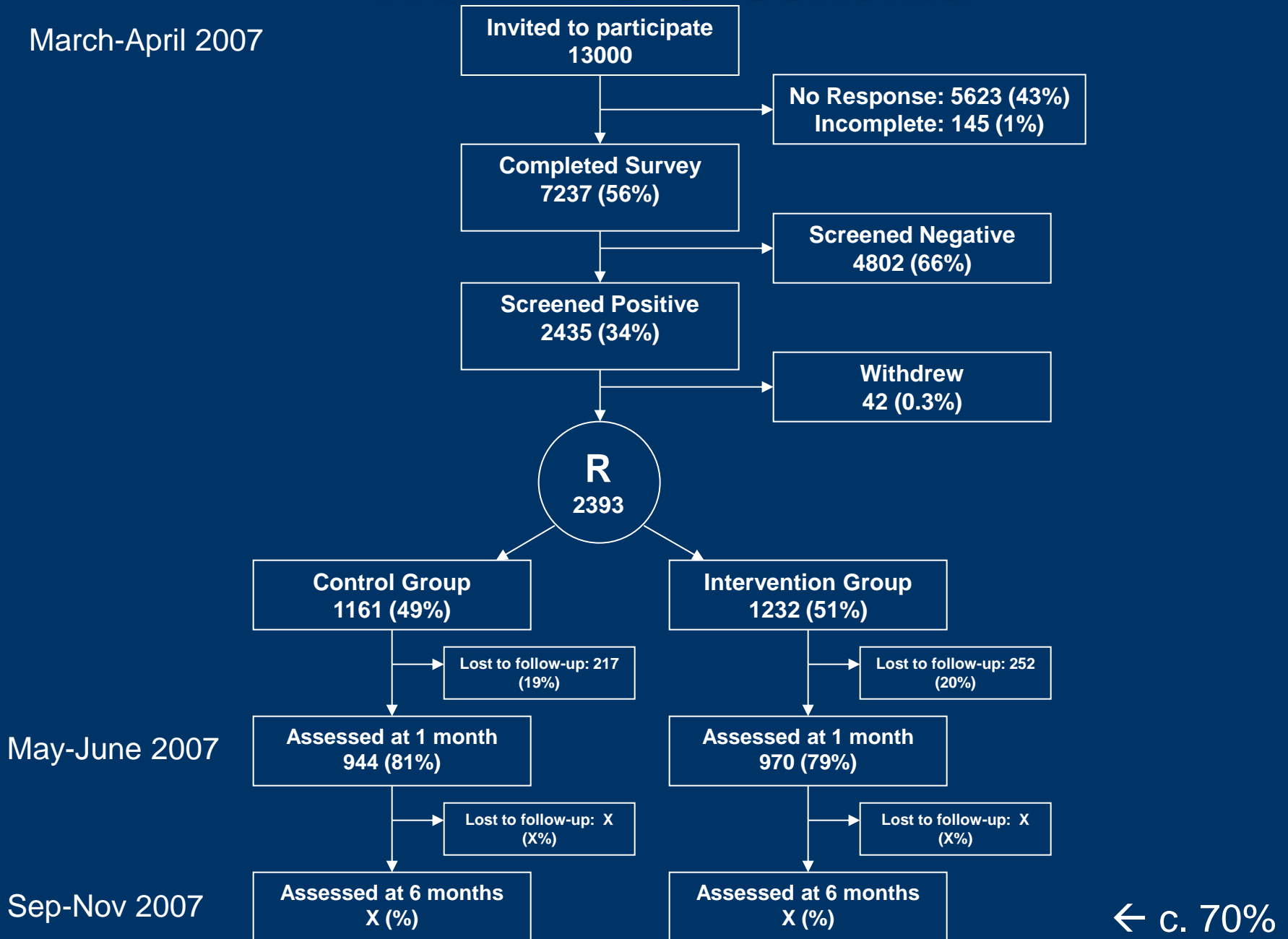
THRIVE: Tertiary Health Research Intervention Via Email

Funding: Western Australian Health Promotion Foundation project grant

Aims:

- ~ To estimate the prevalence of hazardous drinking in an Australian university population
- ~ To determine the efficacy of universal web-based screening and brief intervention for reducing hazardous drinking in university students

THRIVE trial schema



PAST & CURRENT DRINKING

Standard Drinks Guide



=1

Spirit Shot/Nip (30ml)
Port/Sherry (60ml)
Full Strength Beer (Middy)



=1.5

Full Strength Beer (375ml)



=1.5

Pre-Mix Drinks (375ml)
Champagne (170ml)
Wine (150ml)



=0.8

Light Beer (375ml)

Now we'd like to ask some questions about your past alcohol use.

Please tick the box that relates best to your answer using the definitions of Standard Drinks on the left as a guide.

1. How often do you have a drink containing alcohol?

Once a week

2. How many Standard Drinks containing alcohol do you have on a typical day when you are drinking?

12

3. How often do you have six or more Standard Drinks on one occasion?

Weekly

4. How often during the last year have you found that you were not able to stop drinking once you had started?

Monthly

5. How often in the last year have you failed to do what was normally

[Feedback](#)

[Facts](#)

[Tips](#)

[Support](#)

Thanks for completing the survey John.

Here you will find some feedback based on the answers you have provided as well as some other information on staying safe whilst drinking which you may find useful.

YOUR ALCOHOL USE

0-7	Moderate Drinking
8-14	Hazardous Drinking
15-19	Harmful Drinking
20-40	Alcohol Dependence

Some of the questions you answered regarding your drinking come from the Alcohol Use Disorders Identification Test, a questionnaire developed by the World Health Organisation to determine whether a person's drinking might be becoming problematic.

Your AUDIT score was 20

MODERATE DRINKING (0-7) Low risk of alcohol related harm.

HAZARDOUS DRINKING (8-14) High risk of experiencing alcohol related harm and some people in this range may already be experiencing significant harm.

HARMFUL DRINKING (15-19) A person scoring in this range will already be experiencing significant alcohol related harm.

ALCOHOL DEPENDENCE (20-40) A person scoring in this range may be alcohol dependent and advised to have a clinical assessment of their drinking. To find out some services that might be useful go to the [support](#) page.

The main way to reduce your risk level (and AUDIT score) is to reduce the number of drinks you consume per occasion. You may like to check out the [tips](#) section for ideas on reducing your consumption.

YOUR BLOOD ALCOHOL CONTENT

Your estimated Blood Alcohol Content (BAC) for your heaviest drinking occasion is **0.23%**

Your BAC is an indication of how intoxicated you are, with a higher BAC corresponding with a greater likelihood of experiencing alcohol-related harm, especially when driving.

This estimate takes into account your gender, weight, the number of standard drinks consumed and the number of hours over which you reported drinking this amount.



At a BAC of 0.15 and above you are 380 times more likely to be killed in a single-vehicle crash than a driver with a zero BAC.

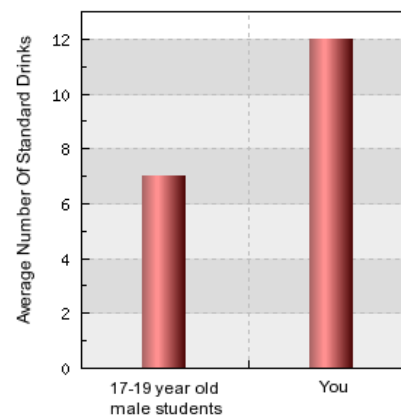
YOUR MONEY

Depending on where you buy your drinks (i.e. a bottle store, pub or club), you have spent between **\$936** and **\$3744** on alcohol in the last year.

YOUR DRINKING AMOUNT COMPARED

Standard Drinking Consumed Per Occasion

You reported having approximately **12** drinks on a typical occasion. The graph on the right shows how this compares to other people your age and gender.



[Get support to quit smoking here](#)

Had enough of other people's drinking getting you down?

Preliminary 1-month results

- Results deleted for publication of slide show on website. Please contact the author to see if paper has been accepted for publication:

kypros.kypri@newcastle.edu.au

Models of implementation for e-SBI

- “Pulse e-SBI”: 1-month program in the university primary healthcare centre at the start of each semester with on-site health promoter.
 - ~ Suits campuses which provide health services to large numbers of students;
 - ~ Requires tailoring to specific service features.
- Routine e-SBI in all universities: single database and e-SBI instrument for all universities in a country, with e-mailed hyperlink to all 1st year students.
 - ~ Takes advantage of economy of scale;
 - ~ Requires a national champion/funding source.

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Drug and Alcohol

R E V I E W

Special Issue: *New technologies for treating
substance use problems*

Editors: Kyp Kypri, Nicole Lee

