Developing and evaluating interventions in a university setting: a pilot study of alcohol policy and social norms in four Welsh universities.

Graham F Moore, Annie Williams, Laurence Moore &
Simon Murphy

Background

- Excessive alcohol consumption among university students has been linked to:
  - educational difficulties,
  - psychosocial problems,
  - antisocial behaviours,
  - injuries
  - risky sexual behaviours (Wechsler et al 2000)

- Large proportions of UK students report drinking in excess of recommended limits (Bewick et al. 2008)

- Increasing proportion of young people going to university
  - Increasing numbers exposed to a very heavy drinking environment?
  - Opportunity for university intervention to reach large proportion of young people

The Social Norms Approach

- One intervention approach which has shown some promise in experimental studies is the social norms approach

- Key assumptions
  - Alcohol consumption is influenced by perceived norms
  - Perceived norms are often wrong (i.e. we overestimate what our peers drink)
  - Providing normative feedback may correct normative perceptions, and in turn influence behaviour

- One Cochrane (Moreira, Smith and Foxcroft 2012) review indicates that
  - web-based or one-to-one feedback reduced consumption
  - mailed or group feedback were ineffective
  - findings for social norms marketing campaigns equivocal

Plans to adopt the Social Norms approach in Wales

- Plans to deliver a social norms intervention in Welsh Universities cited as an example of good practice by Cabinet Office (2010)

  – Consistent with incoming UK government emphasis on liberal paternalism, and 'nudging' people toward healthier behaviour

- Research study subsequently commissioned to inform the development of core messages, and evaluate the intervention

  – Collaboration between CU researchers, ARUK, Drinkaware, NUS Wales and Welsh Government

The Social Norms Approach and the UK context: a need for caution

- BUT, most social norms studies come from the US. Can they work in the UK?
  - Alcohol consumption illegal for 18-21s in most US states
  - Consumption levels lower than in the UK (Gill et al. 2002)
  - Only available UK trial – substantially higher study attrition in the intervention group (Bewick et al. 2010)
    - Limited engagement / acceptability?

Key initial discussions

- Too many uncertainties to justify full-scale roll out (or even a definitive trial)
  - Do UK students overestimate peer drinking?
  - Will a campaign which aims to persuade students that heavy drinking is not the norm be credible to UK students?
  - Will universities engage with the campaign and ensure its implementation?
  - To what extent will intervention messages be drowned out by competing pro-alcohol messages?

- Negotiation that research would take the form of an exploratory trial, emphasising implementation/evaluation challenges and process measures
  - Would inform decisions on whether/how to proceed to full trial
  - Mixed method process evaluation to understand implementation and receipt

Key initial discussions

- Social norms interventions often viewed in isolation from their contexts

    – Scoping work and development of a toolkit to accompany SN intervention

        • provided universities with support and guidance in reviewing alcohol related needs, and implementing evidence based policies/practices

    – Aimed in part to provide fertile ground for implementation of approaches such as SN campaigns as one part of university alcohol policy

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Development of social norms intervention messages

Baseline survey of 1ˢᵗ year students

- 6 universities invited to take part – 4 agreed
  - 1 refusal due to concerns regarding local media representation of results
  - In the other site, unable to negotiate consent until after survey completed
- Web survey programmed externally by market research company
  - Nominated contacts in each university distributed survey via emails and electronic notice boards to first year students
  - Responses monitored and reminders sent as responses faded
- Response rates highly variable between institutions (6-20%) though 12% overall (n=998)

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Measures of alcohol consumption / norms

- **Daily Drinking Questionnaire**
  - Number of units by day of the week for a 'typical week' in second university semester

- **Alcohol Use Disorders Identification Tool (AUDIT)**
  - Likert scale measures of typical frequency and volume of consumption and frequency of 'binge drinking'

- **Normative questions following identical format as those used to measure consumption**
  - but with reference to 'a typical first year student, of your sex, in your university'

Key findings: alcohol consumption and perceived norms

- Geometric mean consumption of 18 units per week (7 per occasion)
  - 23 per week for men; 15 for women
- Geometric mean perceived norm of 33 units per week (9 per occasion)
  - 38 for men; 30 for women
- Average units per occasion on the border of NHS definitions of binge drinking
  - So, excessive drinking is the norm for 1st year students.
  - But perception is that norms are more hazardous still
- While most US interventions provide feedback on consumption level (average units per week), might doing so in the UK normalise hazardous drinking?
  - Emphasis on discrepancy rather than absolute drinking levels

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The social norms intervention

- Findings reported to steering group, who agreed core messages

- Marketing company commissioned to develop materials including posters, drinks mats and drinking glasses comprising key intervention messages

- Delivered via university halls of residence

Evaluation of the social norms intervention

Exploratory cluster randomised trial

- University maintained halls (n=50) randomly assigned to intervention and control groups and intervention materials distributed at start of terms 1 and 2

- Web survey repeated at the end of term 2. Repeat survey assessed
  - Drinking levels (DDQ & AUDIT-C) and perceived norms (DNRF)
  - Intervention exposure, recall, perceived impacts and contamination
  - Acceptability of alternative, objective measures to overcome self-report

- To boost responses, pen and paper questionnaire distributed to students in halls, as well as web survey

Results – response rates

- Response rate slightly higher than baseline survey, at approximately 15%

- As at baseline, ranged widely from 5.8% to 23.5%, perhaps reflecting varying university buy in to the project

    - One low response site blocked access to noticeboards used at baseline and refused to send more than one reminder due to clash with another survey (5.8%)
    - In another, the member of staff who agreed distribution went off sick as the survey became ready for distribution – passed from place to place to find an alternative (6.1%)
    - In sites with higher responses, emails sent directly to 1st year students

Percentage exposure to materials by trial arm

Material	Number (and percentage) students reporting having seen intervention materials	
	Intervention	Control
Drinks mats	77 (32.7)	67 (24.2)
Mirror stickers	60 (25.5)	62 (22.4)
Posters	188 (80.0)	120 (43.3)
Meal planners	141 (60.0)	69 (25.0)
Glasses	112 (47.8)	52 (18.8)
Postcards	91 (38.7)	64 (23.2)

- Nearly 90% reported exposure to competing pro-alcohol marketing materials during the study period

Evaluative responses among those having seen materials

- 61.6% (n=242) reported that social norms messages were believable
- 55.9% (n=214) that they were relevant
- 21.4% (n=89) stated that the materials influenced their perceptions of other students' drinking
- 31.9% (n=122) stated that materials made them more conscious of moderating the effects of alcohol
- 13.1% (n=50) stated that materials impacted their own alcohol consumption

   – Agreement negatively correlated with drinking levels prior to university.

Perceived drinking norm by trial arm and by self-reported exposure

	Intention to treat		Per protocol	
	Intervention	**Control**	**Seen**	**Not seen**
Geometric mean (and 95% CI)	28.0 (25.5 to 30.6)	29.1 (26.8 to 31.6)	28.0 (26.0 to 30.1)	32.9 (29.3 to 36.9)

*1-14 units for women; 1-21 for men; **15-21 for women; 22 to 28 for men; *** 22-35 for women; 29 to 50 for men; **** >35 for women; >50 for men

Significance of between group differences in perceived norms

		Intention to treat	**Per protocol**
		N=506/504	N=498
Descriptive norm – units per week*	Intervention	1.00 (0.66 to 1.51)	**0.61 (0.44 to 0.84)**
Injunctive norm**	Intervention	-0.80 (-1.76 to 0.18)	**-0.98 (-1.86 to -0.11)**

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Alcohol consumption figures by trial arm and self-reported intervention exposure

	Intention to treat		Per protocol	
	Intervention	**Control**	**Seen**	**Not seen**
Geometric mean units per week (and 95% CI)	15.8 (13.7 to 18.3)	16.6 (14.5 to 19.0)	16.0 (13.6 to 20.4)	16.7 (14.3 to 18.0)
Mean AUDIT C score	6.4 (6.1 to 6.8)	6.5 (6.2 to 6.9)	6.5 (6.2 to 6.8)	6.4 (5.8 to 7.1)
'Higher risk' drinkers	204 (86.1)	249 (87.4)	338 (86.7)	100 (87.7)
Median units on heaviest drinking occasion	17.5	16	17	17

- Consistent with more recent UK trial. Moreira and Foxcroft (2012) – no impact of emailed normative feedback on behaviour in 22 universities (among either heavy drinkers or whole population)

Conclusions for intervention

- Significant further development appears to be needed before a definitive evaluation can be recommended.
  - Need for more prolonged efforts to engage with universities, maximise buy-in and improve local ownership of alcohol related intervention.
  - Greater efforts to enhance the visibility, credibility and relevance of social norms intervention messages
    - Particularly amongst more hazardous drinkers who were more likely to dismiss intervention messages as untrue or irrelevant.
- Tentative suggestion of reductions in perceived drinking norms among students exposed to the social norms intervention
  - But preliminary data suggest impacts on behaviour likely to be very small
    - Consistent with emerging evidence that social norms interventions have not to date demonstrated success in a UK setting

Conclusions for evaluation of alcohol related interventions in university settings

- While progression to definitive evaluation not recommended in this case, some general challenges in relation to evaluating interventions in universities include:
  - Definitive evaluations would require improvements in response rates.
    - Greater efforts to improve university buy-in and overcome distribution barriers prior to evaluation
    - Greater incentives to improve student participation once distributed
  - Using cluster randomisation at the hall-level may not be viable, with substantial contamination between trial arms.
  - Testing acceptability of objective measures crucial to rule out chance that 'behavioural change' is simply enhanced social desirability bias.