

Investigating drinking behaviours and alcohol knowledge amongst people resident in the Linacre and Derby wards of Sefton: an evaluation of the It's Your Choice intervention

Final report

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Executive summary

In order to address the high levels of alcohol consumption and related harm in Linacre and Derby, Sefton PCT co-ordinated the *It's Your Choice* intervention. This aimed to raise awareness of the negative consequences of excessive alcohol use, units, and safer ways to drink alcohol. It provided information through formats such as posters, a telephone helpline, and information booklets. The Centre for Public Health at Liverpool John Moores University was commissioned to evaluate the impact of this intervention. Two surveys on alcohol consumption, related behaviour and knowledge were run before and after the intervention (in 2007 and 2008). In total, 1,057 individuals were surveyed. This report details the final analysis.

A. Changes in alcohol consumption and related behaviour

Survey results showed evidence of decreased alcohol consumption and related harm following the intervention:

- The proportion who drank at least occasionally decreased from 86.9% to 82.2% and the proportion of drinkers who drank in the last week from 79.0% to 71.5%;
- The proportion of drinkers who had exceeded the daily limits decreased from 93.9% to 87.3%;
- Drinking participants were 1.7 times less likely to report a binge drinking session in the last week;
- The average number of units consumed on a drinking day in the last week decreased by 0.8 units; and
- The proportion of drinkers who had experienced at least one alcohol-related harm in the last six months decreased dramatically from 66.9% to 47.4%.

There was also evidence of a rise in the potential for harmful consumption patterns particularly surrounding those who drink before going out (known as pre-loading), although the campaign did not seek to target this group specifically:

- Drinking participants in the follow-up survey were 1.7 times more likely to pre-load than those from the initial survey, and there was an increase in the proportion of pre-loaders who reported drinking "enough to be merry" before going out (from 44.3% to 55.9%);
- The proportion of drinkers buying alcohol from supermarkets rose from 50.6% to 64.6%; and
- There was no overall change in the proportion of problem drinkers, and little change witnessed in the levels of male consumption.

Thus, overall consumption has decreased particularly around bingeing but there has been little or no impact on pre-loaders and problem drinkers. Whilst levels of alcohol-related harm have decreased significantly (even amongst those most at risk such as males, those who drink before going out and heavier drinkers), the potential for harm may have increased due to the rise in pre-loading and supermarket purchasing, both of which have been linked with an increased risk of harm (Morleo et al. 2007; Harrington 2008).

B. Changes in knowledge

Key findings from the results showed a mixed picture of knowledge development:

- An increase in the proportion of individuals knowing the recommended maximum number of units for their respective gender, but this was not statistically significant;
- A rise in the proportion estimating that recommended maximum units were higher for males than females, but this was not statistically significant;
- Those who answered incorrectly continued to be more likely to underestimate the limits than overestimate;
- There was a rise in the proportion able to correctly estimate the number of units in a large glass of white wine and in a pint of Stella (but this was only statistically significant for the wine);
- The proportion who thought the body took over two hours to process one unit of alcohol rose (especially amongst females); and

- There was no change in knowledge surrounding the amount of alcohol that could be consumed whilst still being under the legal drink drive limit. This question was included in the questionnaire as a control question, and the topic of drink driving was not addressed in the intervention.

C. Intervention awareness

The proportion of participants who had seen an alcohol-related health intervention in the last six months decreased significantly by 15.6% to less than half of participants in the follow-up survey. Participants continued to be more likely to recall the communication method rather than the message itself suggesting that the message did not have a large impact. No participants mentioned the *It's Your Choice* intervention unprompted, although they may have been referring to this when they mentioned the advertisements seen at bus stops or on taxis etc. When prompted with *It's Your Choice* materials, nearly four in ten had seen the intervention, with main locations being bus stops. Similar levels of awareness have been found by other campaign and intervention evaluations (see Section 4 for further details). Further, it could be possible that a higher number of individuals saw the campaign subconsciously (see Section 4). However importantly, over a third of participants reported that they had not seen any alcohol-related health intervention, even when prompted, and those most at risk were no more likely to have done so.

D. Evaluation limitations

There are a number of factors which may have limited the evaluation in assessing the true impact of the intervention:

- The sampled population changed because of the increase in those not in paid employment, and because there was a decrease in the number surveyed in local pubs;
- The timings of the survey were slightly different;
- Associated changes may not always be immediate or sustained;
- Evaluations cannot measure the effect of external factors (such as the potential impact of the economic strain).

E. Recommendations

The research has generated a number of recommendations (more details on these can be found in Section 4):

- To continue to work with those in Linacre and Derby to provide information on issues surrounding alcohol to provide a more long-term impact on alcohol consumption and related harm.
- To continue to target moderate drinkers, as even low levels of drinking can increase levels of risk.
- To target those groups who continue to be most at risk of excessive consumption and related harm: males, young people, students, binge and problem drinkers, and pre-loaders.
- To consider ways of making the health-related messages more meaningful or salient so participants recall the message more easily.
- To continue to monitor the impact of alcohol consumption in Linacre and Derby to ascertain that the reduction in consumption is sustained.
- To further investigate understandings and motivations through the use of extended focus groups.

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1. Introduction

The negative consequences of excessive alcohol consumption are thought to cost the UK £20 billion each year through issues such as absence from work, crime, health treatment and premature mortality (Strategy Unit 2003). In the North West, levels of alcohol consumption and related consequences are particularly acute: the region has the highest level of harmful drinking in England (6.3%) and the second highest level of hazardous drinking (22.1%; NWPHO 2007a).¹ Yet even within the region, there are wide discrepancies in drinking behaviours and experiences of alcohol-related harm, with local authority areas such as Congleton and Eden experiencing much lower levels of alcohol-related harm than other areas such as Liverpool and Blackpool (Morleo et al. 2006; NWPHO 2007a). These variations are associated with levels of deprivation, whereby areas of higher deprivation are more likely to experience higher levels of alcohol consumption and related harms (Deacon et al. 2007; Morleo et al. 2006). Sefton experiences significantly higher levels of deprivation, binge drinking and alcohol-related harm (such as related hospital admission and mortality) than England overall (APHO and DH 2007; NWPHO 2007a). In Sefton, the wards of Linacre and Derby have particularly high levels of both deprivation (APHO and DH 2007) and alcohol-related harm: for example in 2005/06 there were an estimated 1,729 and 1,486 alcohol attributable hospital episodes per 100,000 of the population in Linacre and Derby respectively, compared with an estimated 1,084 episodes per 100,000 in the North West (NWPHO 2007b).

The national Alcohol Strategy (Strategy Unit 2004) and the updated Strategy '*Safe. Social. Sensible.*' (DH et al. 2007) seek to address alcohol-related harm by proposing the direction of policy and practice both locally and nationally. Communication and education are strong features of both documents, and Sefton Primary Care Trust (PCT) is seeking to develop interventions in both areas to tackle excessive alcohol consumption and related harm. Thus, Sefton PCT co-ordinated an intervention called *It's Your Choice* in Linacre and Derby that aimed to raise awareness of the negative consequences of excessive alcohol use, educate residents about calculating their own levels of consumption through units and inform them on how they can drink alcohol in a safer way to avoid experiencing associated harms. It provided information through, for example, posters on taxis, bus shelters, in chemists, public houses, Healthy Living Centres and libraries. A telephone helpline was established, and information booklets and alcohol unit calculators were dropped through household letterboxes. Further and as part of the intervention, eight taxi drivers were trained in delivering brief interventions and provided with brief intervention resources to distribute from their vehicles.

The Centre for Public Health at Liverpool John Moores University was commissioned to evaluate the impact of this intervention through a research project examining levels of alcohol consumption and related knowledge before and after the implementation of the intervention. To do this, researchers performed two surveys (in 2007 and in 2008): an initial survey to collect and analyse the baseline data and a follow-up survey to assess change after the intervention. An interim report was published in August 2007 and detailed the findings from the initial survey (Morleo et al. 2007). This document is the final report of the research project and discusses the impact that the intervention has had on the residents of Linacre and Derby in relation to alcohol consumption, related harm and knowledge.

¹ Hazardous drinking refers to drinking between 15 and 35 units for a woman, and 22 and 50 units for a man. Harmful drinking refers to drinking more than 35 units per week for a woman, and more than 50 units for a man.

2. Methodology

The research project was designed to evaluate the effectiveness and impact of the It's Your Choice intervention to combat excessive alcohol use in the Linacre and Derby wards of Sefton. The intervention aimed to increase alcohol knowledge and reduce levels of consumption and related harm amongst those aged 18 to 55 years living in the area.

There were three parts to the research project (see Table 1 for the project timeline):

1. The initial survey collected baseline data on alcohol consumption, related behaviour and knowledge of alcohol amongst the target population.
2. Interviews and group interviews were used to expand on the information collected by the survey and to help inform the development of the intervention.
3. The follow-up survey was conducted after the intervention and assessed whether the intervention had any impact on levels of consumption, related harm and knowledge.

Table 1: Project timeline

Date	Section
March 2007	Pilot study
April to June 2007	Initial survey to collect baseline data
May and July 2007	Focus groups
July 2007 to January 2008	It's Your Choice intervention
February to April 2008	Follow-up survey to assess impact

Ethical approval for the research project was received from Liverpool John Moores University, and the questionnaire was initially piloted amongst 42 individuals in a central shopping area in the study location. Small changes were subsequently made to the questionnaire for clarification purposes.

2.1 The surveys

The two surveys (Appendix 1 and Appendix 2) were administered in a central shopping area and the surrounding area (in pubs, a park, and the bus station; Table 2). More than three quarters of participants (86.7%) were recruited in the shopping centre. Two pubs asked not to be involved in the post-intervention survey, resulting in a drop in the number recruited in this way.² Both surveys were conducted opportunistically on all days of the week between 10am and 8pm (the majority of interviews were in the afternoon). Trained researchers approached potential participants to briefly explain the study and ask if they would like to participate (explaining that the questionnaire was short and that all answers were anonymous). Those who agreed were given further details of the study verbally and via a participant information sheet (Appendix 3), and asked to sign a consent form (Appendix 4). Researchers completed the questionnaires by interviewing participants on a one-to-one basis. For the first survey, if participants lived outside the target area or were under 18 years old, the interview was ended but if participants were over the age of 55 years, the interview was still conducted and their questionnaires were later excluded from the analysis. For the second survey, it was decided to also end the interview for those aged over 55 years. The final sample size for the two surveys combined was 1,057 (Table 3). In both surveys a large proportion of those approached refused to be involved before the survey had been explained to them, which may have biased the results. The proportion of participants who declined involvement either with or without knowledge of the survey decreased slightly in the follow-up survey (from 86.3% of the target population to 81.9%). Data were entered into a dedicated database and analysed using the statistical package SPSS version 14. The number of alcohol units consumed was

² In the follow-up survey, one pub said that it was company policy not to allow surveys to be conducted on the premises (although researchers had done so in the initial survey). For the second pub, staff requested that researchers did not conduct the survey on the premises because the turnover of customers was low and those customers who had wanted to be involved would already have done so.

calculated using Drinkaware's online unit calculator³ (wine was taken as having an alcohol content of 13% in line with leading brands).

Table 2: Location of participants in both surveys

Location	Number of participants (%)		
	Initial survey	Follow-up survey	Total number
Shopping centre	386 (72.0%)	449 (86.2%)	835 (79.0%)
Bars/pubs	108 (20.1%)	57 (10.1%)	165 (15.6%)
Contacts ⁴	33 (6.2%)	0	33 (3.1%)
Bus station	0	9 (1.7%)	9 (0.9%)
Town centre streets	5 (0.9%)	3 (0.6%)	8 (0.8%)
Park	4 (0.7%)	0	4 (0.4%)
Unknown	0	3 (0.6%)	3 (0.3%)
TOTAL	536	521	1,057

Percentages may not add up due to rounding.

Table 3: How the final sample was obtained in both surveys

	Number of participants		
	Initial survey	Follow-up survey	Total number
Total number approached	4,600	3,526	8,126
Number declining to participate after the study had been explained	390	430	820
Interview terminated or questionnaire not used because not in the target population	672	634	1,306
Number of questionnaires removed because vital data incomplete	7	10	17
FINAL ANALYSED SAMPLE	536	521	1,057

2.2 The interviews

Participants for the focus groups were recruited from those who had completed the initial survey (and involved the same target population). A £10 voucher was offered as an incentive. Of the 150 asked to participate in the focus groups, 50 indicated that they would like to be involved⁵. Although researchers provided participants with a range of different days and times for the focus groups, and organised the location to be within easy reach, recruitment was difficult (Morleo et al. 2007). In total eight participants were involved in four sessions. Because the number was too low to carry out any focus groups, interviews and/or group interviews were held instead. As an ice-breaker, interviewees were provided with various images showing people drinking alcohol in different settings and asked to discuss consumption within these contexts. The semi-structured interviews then went on to explore themes such as

³ Please see www.drinkaware.co.uk for further details.

⁴ There were no significant differences between the questionnaires obtained via contacts of the researchers and those completed by the rest of the sample population.

⁵ Contact details were taken from these participants for arranging the focus groups, but were held separately from their questionnaires to preserve anonymity.

concerns around drinking; motivation to change levels of alcohol consumption; and prevention ideas. For an overview of the findings from this section of the analysis, please see Appendix 5.

2.3 Study limitations

There were a number of limitations to this study:

- Large numbers of people refused to be involved in the survey before it had been explained to them. This may have biased the results. Further, the follow-up survey did not use the same cohort of participants, and any changes seen may have been based on population differences. However, a large sample size was achieved and participants were of mixed age, gender and occupation.
- The questionnaire relied on self-reported measures of alcohol consumption, a method vulnerable to influences such as social desirability, interviewer characteristics and selective recall (Clapp et al. 2006; Gruenewald and Johnson 2006; Heeb and Gmel 2001). However, as with other studies (Anderson et al. 2007), researchers of mixed age and gender were used, and were trained to encourage participants to be honest about their experiences.
- The number of participants involved in the more qualitative aspects of the research was not large enough to run full focus groups. Instead, group and single interviews were held with those participants who were involved.
- The number of participants recruited through local pubs halved in the follow-up study because a number of pubs declined their involvement. Whilst every effort was made to include the other local pubs, and to recruit people of mixed age and gender from the other recruitment locations, those recruited through the pubs and bars were more likely to be heavier drinkers in the initial survey (Morleo et al. 2007). This may affect the overall results.
- Any differences over the two periods cannot necessarily be attributed to the intervention alone, since other factors may influence drinking behaviour (e.g. national media campaigns, economic factors).
- The timings of the survey were slightly different: the initial survey was run from April to June 2007, and the follow-up survey was run from February to April 2008. This might have created bias in the results. However, it was essential to complete the second survey by the end of April as this was when the national campaign surrounding units was intended. Both surveys would have captured an expected rise in harm around Christmas.
- The same sample was not used in both surveys. This would have identified change in individuals. However, it would have been difficult to perform the first survey without raising awareness of alcohol issues, which may have meant that the respondents were more likely to notice the intervention materials. Further, a proportion of the sample would have been lost in the follow-up survey, and it is likely that those who would have been more difficult to find, would have been the more problematic drinkers.

3. Survey results

3.1 Demographics

There were slightly more females than males involved in the surveys (Table 4). Over both surveys, the largest concentration of participants were aged 18-24 years and employed full-time or self-employed. However, the proportion of those not in paid employment increased significantly from 26.1% to be a third of the sampled population in the follow-up survey.⁺⁺ (In this report, statistical significance is denoted by '+' symbols. For an explanation on levels of significance, see Box 1).

Table 4: Demographic details of participants for the two surveys

Sub-groups		Initial survey (%)	Follow-up survey sample (%)	Overall sample (%)
Gender	Male	253 (47.2%)	244 (46.8%)	497 (47.0%)
	Female	283 (52.8%)	277 (53.2%)	560 (53.0%)
Age	18-24	175 (32.6%)	146 (28.0%)	321 (30.4%)
	25-34	141 (26.3%)	118 (22.6%)	259 (24.5%)
	35-44	115 (21.5%)	120 (23.0%)	235 (22.2%)
	45-54	105 (19.6%)	137 (26.3%)	242 (22.9%)
Occupation	Employed full time or self employed	254 (47.4%)	182 (34.9%)	436 (41.2%)
	Employed part time	91 (17.0%)	98 (18.8%)	189 (17.9%)
	Not in paid employment	140 (26.1%)	173 (33.2%)	313 (29.6%)
	Student	51 (9.5%)	60 (11.5%)	111 (10.5%)
	Unknown	0	8 (1.5%)	8 (0.8%)
	TOTAL	536	521	1,057

Percentages may not add up due to rounding.

Box 1: Showing statistical significance

For analyses where statistical significance was identified (for example when testing results with chi-square tests), the following key displays the level of significance:

- + Statistically significant (P=<0.05)
- ++ Highly statistically significant (P=<0.01)
- +++ Very highly statistically significant (P=<0.001)

3.2 Alcohol consumption

3.2.1 Patterns of alcohol consumption

The follow-up survey found that there was an overall decrease in consumption compared with the initial survey:

- The proportion who drink alcohol at least occasionally decreased significantly from 86.9% to 82.2%.⁺
- Of those who drink at least occasionally, the proportion who drank alcohol in the last week decreased significantly from 79.0% to 71.5%.⁺⁺⁺
- There was a significant drop in the proportion of last week drinkers who had exceeded the recommended daily limits (see Box 2) at least once from 93.9% to 87.3%.⁺⁺
- There was a significant decrease in the proportion binge drinking at least once in the last week from 76.0% to 67.3% (of those who drank in the last week).⁺⁺ In fact, participants from the initial survey were 1.7 times more likely to report a binge drinking session than in the follow-up survey (Appendix 6, Table 7).⁺⁺
- The median number of units consumed on an average drinking day decreased significantly from 9.6 to 8.8 units.⁺⁶

Box 2: Recommended limits and binge drinking

Drinking over recommended *weekly units* was taken as drinking over 21 units for men and over 14 units for women in the week prior to survey (DH 1992).

Drinking over *daily limits* was taken as drinking over four and three units for men and women respectively in one day at least once in the last week (DH 1995).

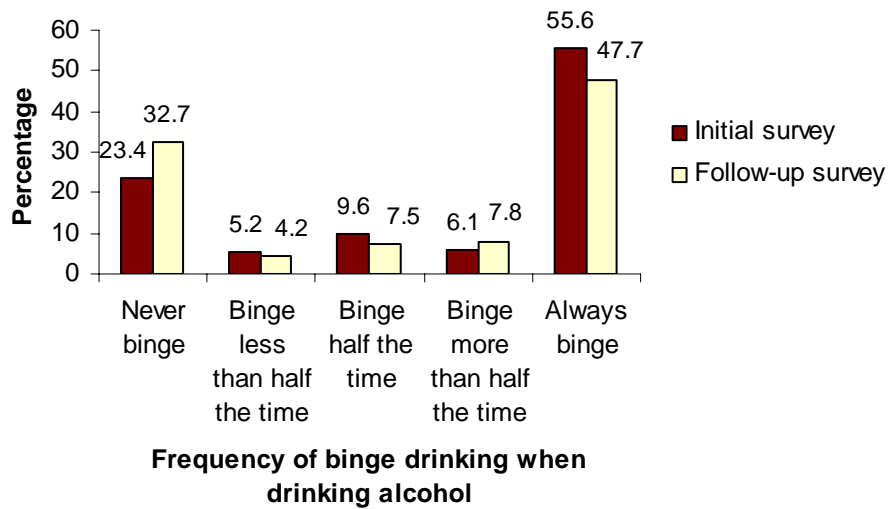
Binge drinking was defined as drinking over eight units for men and six for women in one session at least once in the last week, that is double the recommended daily limits in one session (NWPFO 2007a; Pickering et al. 2005).

Of those who drank alcohol in the last week, the mean number of drinking sessions and binge drinking sessions per participant increased slightly but not significantly (from 2.4 to 2.5 and 1.7 to 2.0 respectively). To investigate this further, an analysis was performed to look at the frequency of binge drinking within individuals. This showed a decrease in the proportion who always binged when they drank (from 55.6% to 47.7%; Figure 1).⁺⁺ There was no change in the levels of problem drinking (see Section 3.2.2). There were, however, important differences in the populations sampled between the two surveys and these may have affected the results:

- There was a significant increase in the proportion who were not in paid employment (Table 4).⁺⁺ Because a high proportion of problem drinkers (those who had binged three or more times in the last week) identified in the initial survey were in this group (Morleo et al. 2007), this might have created bias. However, when all the variables (such as age, gender, sample setting) were controlled in a multivariate analysis, no significant relationship between employment status and likelihood of binge drinking was found (Appendix 6, Table 7).
- There was a significant decrease in the number sampled through local pubs due to methodological issues (see Section 2.1). Those who were sampled through the pubs were overall nearly twice as likely to report a binge drinking session in the last week compared with those sampled elsewhere (Appendix 6, Table 7). However, when participants sampled in these locations were removed from the analysis, the significant decreases in prevalence of drinking at least occasionally, of drinking in the last week and of binge drinking still remained.

⁶ Updated data mean that the median numbers of alcohol units consumed for the initial survey participants have changed slightly when compared with those published in the interim report (Morleo et al. 2007).

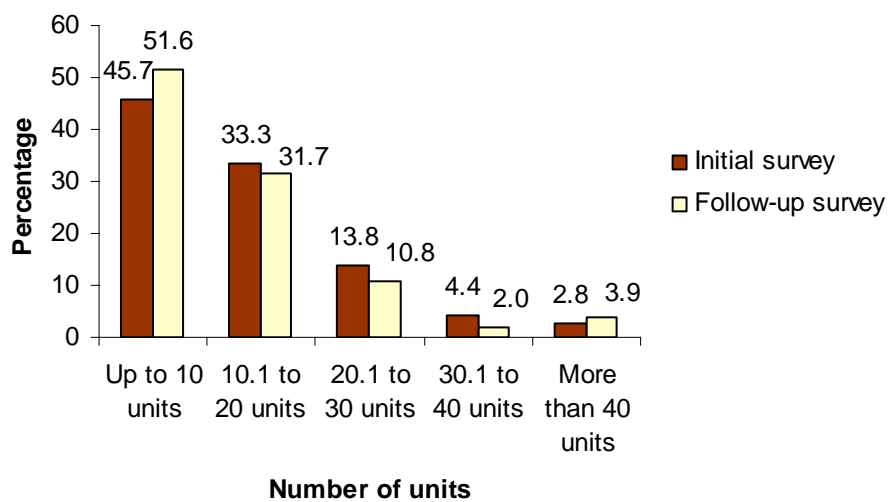
Figure 1: Frequency of binge drinking sessions when drinking alcohol by time of survey*



* Percentages may not add up due to rounding.

Actual levels of consumption continued to vary notably as although the majority reported consuming 20 units or less in their heaviest drinking session in the last week, 51 participants reported drinking over 20 units at least once (16.7% of those who had drunk in the last week), and 12 (3.9%) had consumed more than 40 units (Figure 2). Generally, there was an increase in the numbers drinking less than ten units in their heaviest drinking session compared with the initial survey. However, these differences were not statistically significant. On average, participants drank on two days in the last week (the same as in the interim report; Morleo et al. 2007), with 27 (8.8%) participants having consumed alcohol every day in the week prior to the follow-up survey (equivalent to the findings from the initial survey).

Figure 2: Quantities consumed by those who had drunk alcohol in the last week for the two surveys



Percentages may not add up due to rounding.

Gender differences

The interim report highlighted that there was a significant difference between levels of male and female consumption. This pattern has continued. Key findings include (Table 5):

- Overall males were 1.6 times more likely to binge drink than females (Appendix 6, Table 7).⁺
- The average number of units consumed on an average day by males and females decreased significantly.⁺
- The average number of units consumed on the heaviest drinking day for both genders decreased significantly.⁺
- The average total number of units consumed over the last week rose for males but decreased for females, but neither change was significant.
- Whilst the average number of days on which alcohol was drunk by females increased significantly, it decreased significantly for males.
- Males were significantly more likely than females to drink on Fridays (65.7% for males and 46.5% for females).⁺⁺⁺ This was also evident in the initial survey.

Table 5: Average levels of alcohol consumption in the week prior to the survey by gender*

Alcohol consumption	Survey	Male	Female	Significance** between genders
Median units consumed overall in the last week	Initial survey	25.5	13.3	+++
	Follow-up survey	27.4	9.8	+++
	Significance between surveys	NS	NS	
Median units consumed on the average drinking day	Initial survey	12.1	7.6	+++
	Follow-up survey	10.5	6.9	+++
	Significance between surveys	+	+	
Median units drunk on the heaviest day of consumption	Initial survey	14.0	8.6	+++
	Follow-up survey	12.5	7.1	+++
	Significance between surveys	+	+	
Mean days where alcohol was consumed	Initial survey	2.7	2.1	++
	Follow-up survey	2.1	1.8	+++
	Significance between surveys	+	+	

* Updated data mean that the median numbers of alcohol consumed for the initial survey participants have changed slightly when compared with those published in the interim report (Morleo et al. 2007).

** Levels of statistical significance are displayed through the following key: + statistically significant ($P < 0.05$); ++ highly statistically significant ($P < 0.01$); +++ very highly statistically significant ($P < 0.001$).

Pre-loading

Of those who drank alcohol, over half (53.4%) of those involved in the follow-up survey reported consuming alcohol before going out (either in their own or in a friend's house); this is known as pre-loading. Participants in the follow-up survey were 1.7 times more likely to pre-load compared with those in the initial survey (Appendix 6, Table 8; 46.9% of drinkers in the initial survey pre-loaded).⁺⁺ Pre-loading was not related to whether or not participants were surveyed in a pub (compared with other locations), and so it is unlikely that had the group been exactly same in terms of the proportion sample through the pub, the number of pre-loaders would have increased further. Pre-loaders were 1.8 times more likely to be female,⁺⁺⁺ and 8.7 times more likely to be aged 18-24 years (compared with those aged 45-55 years).⁺⁺⁺ Over both surveys, individuals who pre-loaded were 1.7 times more as likely to have binged at least once in the last week (Appendix 6, Table 7).⁺⁺ Although a third (34.9%) reported drinking only a little before going out, over half (55.9%) reported drinking "enough to be merry" before going out. This has increased significantly compared with the participants involved in the initial survey (44.3%).⁺ However, whilst these results are important in monitoring the impact of alcohol and related harm, the campaign did not aim to reach this group specifically.

3.2.2 Comparing drinkers

For analysis purposes, participants were categorised according to their levels of consumption (Box 3):

- Non drinkers;
- Other drinkers;
- Binge drinkers; and
- Problem drinkers.

Box 3: Definitions

Non drinker = those who do not drink alcohol.

Other drinker = those who drink alcohol but have not done so in the last week and those who have drunk alcohol in the last week but have not binged.

Binge drinker = females who have drunk over six units and males who have drunk over eight units in one session either once or twice in the last week.

Problem drinking = binge drinking three or more times in the last week.

Non drinkers

Ninety three participants (17.9%) in the follow-up survey reported that they did not consume alcohol, significantly more than in the initial survey (13.1%).⁺ The largest concentration of non-drinkers are female, aged between 45-55 years (the oldest age category surveyed) and are not in paid employment; Table 6). There was an increase in the proportion of those who were female and employed part-time in the second survey, but these were not significant. Over both surveys, 93.2% of this group were interviewed in the shopping centre.

Other Drinkers

In the follow-up survey a total of 222 participants (42.6% of the follow-up population, significantly more than in the initial survey)⁺⁺⁺ reported that they consumed alcohol at least occasionally but had not binged in the last seven days (Table 6). Nearly half of these (45%) reported drinking in the last week. Unlike the initial survey, this sub-group of drinkers represented the largest group (previously it was binge drinkers). In the follow-up survey, the largest concentrations were female with very small numbers being classified as students. The occupation pattern of this group changed significantly between the surveys, with the follow-up survey finding that participants were more evenly spread across the occupation categories.⁺ Over both surveys, 87.0% were interviewed in the shopping centre. Whilst a difference in the levels of consumption for other drinkers between the two surveys is shown, it cannot be used to evidence changes in consumption because the groups are defined by the number of units consumed. There was no significant change in the number of days where alcohol was consumed.

Binge Drinkers

In the initial survey, this group was the largest category of people (40.1%; Table 6). However, the number of binge drinkers has significantly decreased (to 26.7%),⁺⁺⁺ and this significant decrease remained even when those sampled from the pub were removed from the analysis. This group was evenly distributed by mixed gender and participants involved were more likely to be employed full-time or self-employed. The highest concentration of binge drinkers was aged 18-24 years (35.3%). Over both surveys, binge drinkers were 1.4 times more likely to be pre-loads (Appendix 6, Table 8),⁺ and 72.9% were interviewed in the central shopping centre (20.6% were interviewed in the pub).

Table 6: Demographics and alcohol consumption between non-drinkers and other drinkers for the two surveys*

		Non-drinkers		Other drinkers		Binge drinkers		Problem drinkers	
Subgroups		Initial survey	Follow-up survey	Initial survey	Follow-up survey	Initial survey	Follow-up survey	Initial survey	Follow-up survey
Sex	Male	47.1%	35.5%	39.4%	39.2%	47.9%	49.6%	68.3%	82.1%
	Female	52.9%	64.5%	60.6%	60.8%	52.1%	50.4%	31.7%	17.9%
Age	18-24	18.6%	19.4%	33.5%	27.5%	35.3%	35.3%	36.5%	26.9%
	25-34	25.7%	25.8%	25.0%	20.3%	28.8%	25.9%	22.2%	19.4%
	35-44	27.1%	21.5%	18.1%	23.4%	21.9%	25.2%	23.8%	19.4%
	45-55	28.6%	33.3%	23.4%	28.8%	14.0%	13.7%	17.5%	34.3%
Occupatio n**	Employed full time or self-employed	34.3%	31.9%	45.7%	32.4%	52.1%	43.0%	50.8%	35.4%
	Employed part time	8.6%	23.1%	18.6%	23.0%	19.5%	15.6%	12.7%	7.7%
	Not in paid employment	48.6%	35.2%	25.5%	33.8%	17.7%	25.9%	31.7%	47.7%
	Student	8.6%	9.9%	10.1%	10.8%	10.7%	15.6%	4.8%	9.2%
Alcohol consumption***	Median units consumed overall in the last week	-	-	5.5	4.6	19.0	19.7	62.1	73.6
	Median units consumed on the heaviest consumption day	-	-	4.6	4.6	13.0	11.5	19.6	18.4
	Median units consumed on the average consumption day	-	-	4.6	4.2	10.2	9.9	14.4	16.1
	Mean number of days when alcohol was consumed	-	-	1.9	1.6	1.9	2.0	4.9	5.1
	TOTAL CLASSIFIED SAMPLE	70 (100%)	93 (100%)	188 (100%)	222 (100%)	215 (100%)	139 (100%)	63 (100%)	67 (100%)
Proportion of sample in the category		13.1%	17.9%	35.1%	42.6%	40.1%	26.7%	11.8%	12.9%

* Percentages may not add up due to rounding.

** Occupation was missing for two non-drinkers in the follow-up sample, and so here the percentages are based on a total of 91.

*** Differences in levels of consumption between the two surveys cannot be used to evidence changes in consumption because the groups are defined by the number of units consumed.

Problem Drinkers

In the follow-up survey, 12.9% (67) were classified as problem drinkers, slightly more than in the initial survey (Table 6). These participants were more likely to be male (although there was a rise in male participants, this was not significant), and half were not in paid employment. Participants were most likely to be in the oldest or youngest age groups. Over both surveys, problem drinkers were nearly twice as likely to pre-load (Appendix 6, Table 8).⁺ Over both surveys, 54.6% were interviewed in the central shopping centre, with 38.5% interviewed in a local pub (a pattern also found in the initial survey). Because in the follow-up survey, there was a smaller number of participants involved who had been sampled in the local pubs, it is possible that had the sampling methods been the same, the number of problem drinkers identified would have increased.

3.2.3 Self-reported change in consumption

Of the participants who reported drinking in the last seven days in the follow-up survey, nearly three quarters (73.3%) reported that this was the usual amount they drank (significantly more than in the initial survey; 55.1%).⁺⁺⁺ Over a tenth (12.7%) said that the quantities outlined were more than they would normally drink and 14.0% said that it was less. Reasons for increased consumption continued to centre-around celebrations, and reasons for decreased consumption focused on being ill or on medication (Appendix 6, Tables 9 and 10).

The follow-up survey introduced new questions surrounding individuals' perceptions of whether their drinking had changed or was likely to change. Nearly three quarters of those who drink alcohol (72.5%) reported that the amount they drank had not changed in the last six months, one fifth (20.0%) said it had decreased and 7.5% that it had increased. Females and those classified as other drinkers were more likely to say that their consumption had decreased whilst younger participants, problem drinkers and pre-loaders were more likely to say that their consumption had increased (Box 4). Self-reported increased consumption was particularly high amongst problem drinkers (17.9%); however, whilst this is of concern, it should be noted that the numbers involved were small and caution must be used when interpreting the data (n=12). When asked if participants thought the amount they drank would change in the next six months, three quarters (77.4%) thought it would not, 14.4% thought it would decrease and 8.3% thought it would increase. Students (20.0%), younger age groups (16.5% of 18-24 year olds) and pre-loaders (11.5%) were the most likely to think their consumption would increase in the next six months. However, 18.0% of students also thought that their consumption would decrease in the next six months. There were no groups that stood out as being particularly more likely to decrease their consumption in the next months. Non-drinkers were asked when they had stopped drinking and whether they intended to continue abstaining. The vast majority (86.4%) intended to maintain their abstinence. However, of the 13.6% who had reported that they would not, half said that they would stop drinking for less than six months.

Box 4: Self-reported changes in consumption in the last six months for specific groups

- Females were more likely to report a decrease in consumption in the last six months (24.4%; 15.3% for males).⁺
- Younger participants and students were more likely to report an increase in consumption (14.1% of 18-24 year olds;⁺ 22.0% of students⁺⁺).
- Those classified as other drinkers were more likely to say that their consumption had decreased (25.9%), whilst problem drinkers were more likely to say that their consumption had increased (17.9%).⁺⁺⁺
- Pre-loaders were more likely to say that their consumption had increased compared with non-pre-loaders (11.1% compared with 3.6%).⁺⁺

3.3 Alcohol-related behaviour

3.3.1 Pub/club attendance

Of those who drink alcohol 56.7% reported visiting pubs and 39.8% reported visiting clubs at least weekly. Those visiting pubs at least weekly were significantly more likely to be male,

aged 18-24, be employed full-time or be self-employed, be binge drinkers and to pre-load. Those reporting visiting clubs at least weekly were significantly more likely to be male, aged 18-24, be employed full-time or be self-employed and be binge drinkers and to pre-load. These patterns are broadly similar with the initial survey.

3.3.2 Alcohol purchasing

Participants were asked to nominate where they purchased and drank alcohol at least occasionally (and could select as many options as appropriate). Key findings from the follow-up survey showed:

- Nearly nine in ten drinkers reported buying alcohol in pubs or clubs (88.3%), which was similar to the previous survey.
- The proportion reporting buying alcohol in supermarkets increased significantly between the two surveys from 50.6% to 64.6%.⁺⁺⁺ Women remain significantly more likely to do so (in the follow-up survey: females 70%; males 59.0%).⁺ Similarly and as with the initial survey, significantly more females reported drinking at home (females 76.4%; males 65.9%).⁺
- Those aged 18-24 were significantly more likely to report drinking alcohol in both pubs/clubs (96.1%)⁺⁺, whereas those from the 25-34 age group were the most likely to buy from supermarkets (79.6%).⁺⁺
- Binge drinkers (95.0%) and problem drinkers (92.5%) were more likely to report buying alcohol in pubs/clubs than other drinkers (82.8%).⁺⁺ They were also more likely to buy alcohol from off-licences (39.6% and 46.3% respectively compared with 21.7%).⁺⁺⁺ These findings are similar to the initial study. They are also more likely to drink at home, at friends' or family's homes and in pubs or clubs.
- Those who drink alcohol before going out were more likely to report buying alcohol from pubs or clubs (94.7%),⁺⁺⁺ supermarkets (74.1%),⁺⁺⁺ corner shops (37.7%),⁺⁺⁺ and off-licences (41.2%).⁺⁺⁺ Further, they were more likely to drink in pubs or clubs, at home, and/or in the home of friends or family.

3.3.3 Alcohol-related harm

Over half of drinkers (55.6%) thought that the amount they drank was safe, while over a third (37.4%) thought it was not. Perceptions of safety decreased with increased consumption: those classified as other drinkers were more likely to think that their consumption was safe (73.1%), compared with binge (41.8%) and problem drinkers (27.7%).⁺⁺⁺ However, over a third of drinkers who thought that their consumption levels were safe had in fact experienced at least one alcohol-related harm investigated in the last six months (termed as any harm; Box 5). Of the total drinking sample, just under half of participants (47.4%) had experienced at least one of the forms of harm investigated in the last six months. This is a significant decrease compared with the initial survey (66.9%).⁺⁺⁺ In fact, those in the initial survey were more than twice as likely to have experienced harm in the last six months compared with the follow-up survey participants (Appendix 6, Table 11).⁺⁺⁺ Changes in the sample population (due to increased numbers who were not in paid employment and a decrease in those surveyed in the pubs) may have impacted on the levels of harm reported. However, overall, those not in paid employment were no more likely to have experienced any harm (Appendix 6, Table 11). Further, whilst those surveyed in local pubs compared with elsewhere were twice as likely to have experienced any harm (Appendix 6, Table 11),⁺⁺ when they were removed from the analysed sample, there was still a significant and large decrease in the proportion reporting such harm.

Box 5: Possible negative consequences investigated

- Accidents;
- Arguments;
- Fights;
- Being sick;
- Blackouts;
- Having regrets;
- Missing an appointment, lecture or work; and
- Being in trouble with the police.

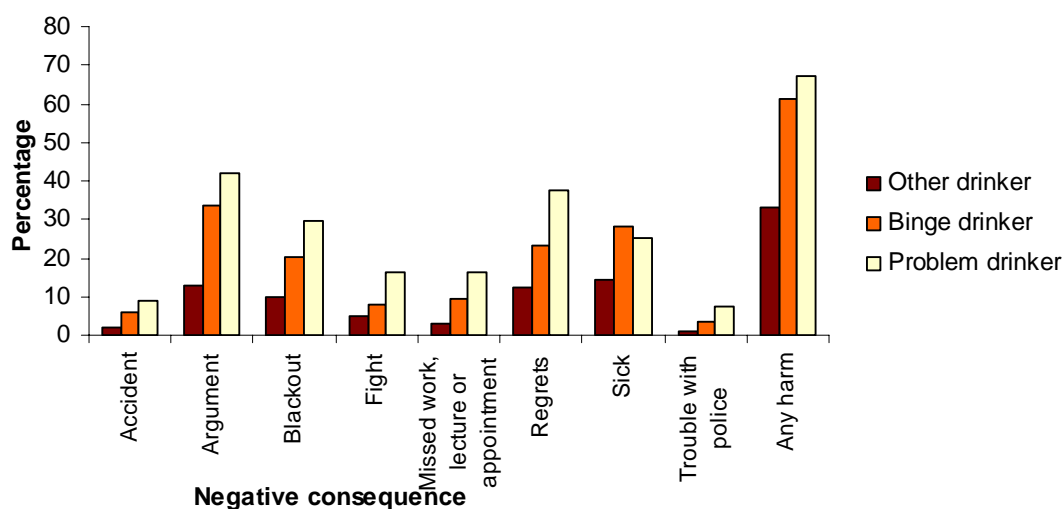
The same groups (as in the initial survey) continued to be at higher risk of experiencing alcohol-related harm: males, younger age groups (both 18-24 years and 25-34 years), students, binge and problem drinkers, and pre-loaders remained at higher risk of having

experienced any harm in the last six months. For both surveys combined (Appendix 6, Table 11):

- Those aged 18-24 were 3.5 times more likely to have experienced any harm, and 25-34 years olds were 2.3 times more likely compared with the oldest age category (45-55 years);⁺⁺⁺
- Students were 2.3 times more likely than those employed full-time to have experienced any harm;⁺
- Binge drinkers were 2.4 times more likely to have experienced any harm and problem drinkers were 3.8 times more likely compared with other drinkers;⁺⁺⁺ and
- Those who pre-loaded were twice as likely to have experienced any harm.⁺⁺⁺

However, each individual group has seen a decrease in harm experienced when compared with the initial survey (although these decreases were not always significant). Figure 3 highlights levels of harm experienced by drinking classification. In general, most of these experiences related to the less serious categories of harm such as arguing, being sick, having regrets, or having blackouts. However, a notable proportion had experienced more serious harm: in the follow-up sample, participants had been involved in a total of 80 fights, 28 accidents and had been in trouble with the police 26 times in the last six months.⁷ Males and problem drinkers were the most likely to have been involved in fights and been in trouble with the police. Decreases in experiences of specific harm can be seen for all harms investigated between the two surveys (Figure 4). The largest decreases were seen in experiences of regrets and sickness, both of which halved. There was no statistical decrease for accidents, involvement in fights or being in trouble with the police.

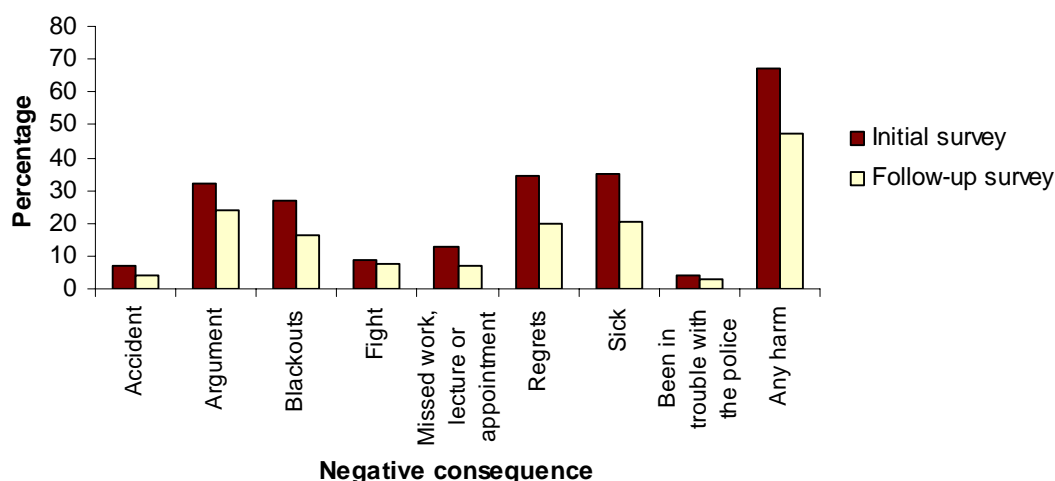
Figure 3: Experiences of alcohol-related harm* at least once in the last six months by drinking classification in the follow-up survey



*Any harm relates to whether participants experienced any of the harms listed. Percentages may not add up due to rounding. Participants may have experienced one or more alcohol-related harms. Please see Appendix 6, Table 12 for the accompanying data.

⁷ Participants were asked the number of times that they had experienced alcohol-related harms in the last six months. The numbers provided here represent the total number of fights, accidents and occasions when in trouble with the police for all participants combined (in the follow-up survey).

Figure 4: Experiences of alcohol-related harm* in the last six months by survey



*Any harm relates to whether participants experienced any of the harms listed. Percentages may not add up due to rounding. Participants may have experienced one or more alcohol-related harms. Please see Appendix 6, Table 13 for the accompanying data.

3.4 Alcohol knowledge

3.4.1 Recommended daily limits

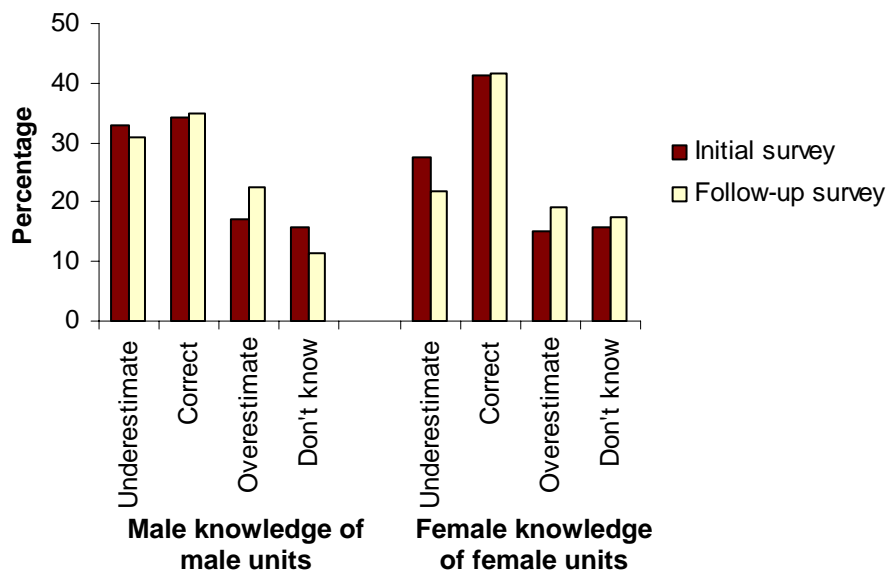
In the follow-up survey, over a third of males (35.0%) and 41.6% of females knew the correct number of recommended units for their gender (Figure 5). Although there was an increase in the proportion who provided the correct answer compared with the initial survey, this was not significant. Females were more likely to know the correct number of units for their gender than males, but both were more likely to underestimate the recommended level than overestimate. In particular, those women who had reported reducing their alcohol consumption in the last six months in the follow-up survey were significantly more likely to correctly estimate the correct maximum number of units for a woman. There was no such relationship for males or for those who intended to reduce their alcohol consumption in the next six months. Those aged 25-34 and 35-44 years and either in full-time or part-time employment, and those classified as problem drinkers were more likely to know the correct daily limits of alcohol consumption for males and for females. Of note, 11.5% of males and 17.5% of females did not know their respective maximum daily limit in the follow-up survey. This may be an underestimate as others who did not know may have guessed instead. There was an increase in the proportion who estimated that male limits were higher than female from 78.0% to 83.0% but this was not significant (of those who had provided estimates for both males and females).

Box 6: Units

The questionnaire (Appendix 1) asked participants to estimate the unit content of various drinks. The following units were used as the correct answers:

- A large glass of white wine is three units (with wine of 13% ABV or alcohol by volume).
- A pint of strong lager (such as Stella) is three units.

Figure 5: Knowledge of recommended daily alcohol limits

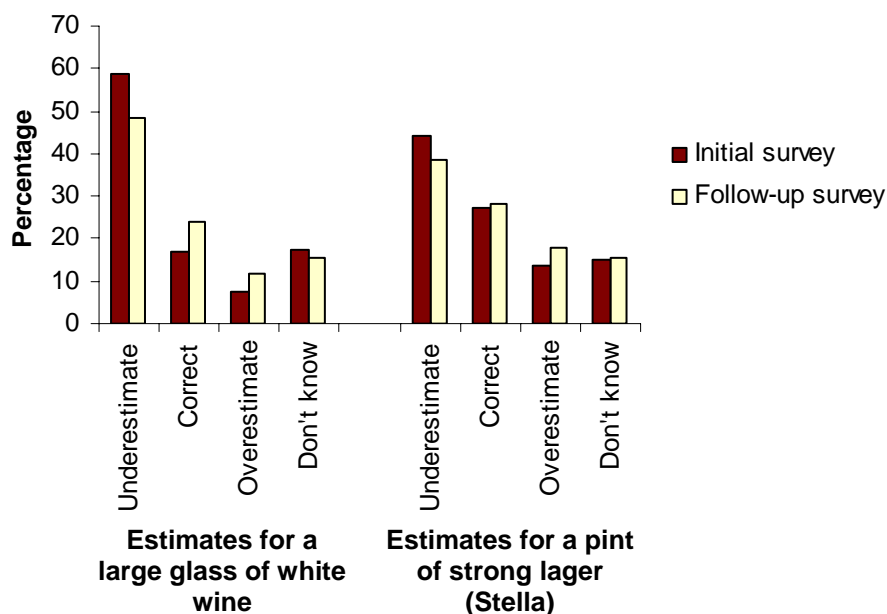


* National guidelines recommend a maximum of three to four units a day for males, and two to three for females. Please see Appendix 6, Table 14 for the accompanying data.

3.4.2 Unit estimates

There was a significant increase in the proportion of participants successfully estimating the number of units in a large glass of wine compared with the previous survey (Figure 6; Box 6). Whilst there was an increase in the proportion able to provide the correct number of units in a pint of strong lager (such as Stella), this was only slight. For both white wine and Stella, approximately 15% did not know the correct number of units in the follow-up survey. Within these overall figures, other drinkers showed a significant increase in the proportion who were able to correctly estimate the number of units in a large glass of white wine between surveys (from 12.8% to 25.6%),⁺⁺ whilst the proportion of binge drinkers able to accurately estimate the contents of a pint of Stella significantly decreased from (34.0% to 28.8%).⁺ Females were no more likely to correctly estimate the number of males compared with males. As with the initial survey and for both drink types, participants were more likely to underestimate the number of units than overestimate.

Figure 6: Knowledge of alcoholic contents of white wine and strong lager



Please see Appendix 6, Table 15 for the accompanying data.

3.4.3 Driving

Participants were asked whether they would still be able to drive legally after consuming specific quantities of alcohol. There were no differences between the initial and follow-up survey. As with the initial survey, follow-up participants thought that they would most likely be able to drink one pint of medium strength lager such as Fosters and still be able to drive (68.5%). In fact of the choices given, two shots of 25ml of vodka contained the least alcohol but only 10.4% thought that they would be able to drink this and drive legally. Participants may have focused on the number of drinks rather than their unit content when answering this question. However, this question was included in the questionnaire as a control question, and the topic of drink driving was not addressed in the intervention. Thus, no change would be expected. In addition, it is difficult to quantify exactly how much an individual can drink legally before driving (Box 7).

Box 7: Alcohol and driving

The UK drink driving limit is 80mg of alcohol per 100ml of blood. However, the rate at which the body absorbs alcohol can be very unpredictable because of factors including age, food consumed, metabolism, sex, weight etc. To stay below the limit, official advice is to drink nothing at all (see www.thinkroadsafety.gov.uk).

3.4.4 The nature of alcohol

Alcohol's primary effect is that of a depressant, but it can have some stimulant qualities as well (Lewis and June 1990). When asked whether alcohol was a depressant or a stimulant, more than three quarters (78.2%) of participants thought that alcohol was either wholly or partially a depressant, as with the initial survey. In addition, participants were asked about the effects of drinking small amounts of alcohol regularly. Opinions were mixed as to whether this could have a beneficial effect on colds, blood pressure and heart disease. Some changes were seen in the follow-up survey, with higher proportions suggesting that such consumption could increase blood pressure or have no effect, and increased numbers thought that there was no protective effect against catching a cold. Finally, participants were also asked about the length of time it takes for the body to process one unit. Whilst the proportion who provided the correct answer of one hour remained stable (approximately a quarter of the sample), the proportion who thought that it was more than two hours had increased from 32.1% to 40.9%. Whilst this was not statistically significant for the population overall, it was for females (where the proportion increased from 29.7% to 43.5%).⁺

3.4.5 Health information campaigns and interventions

In the initial survey, participants were asked whether they had seen any alcohol-related health information in the last six months. Nearly two thirds (65.1%) had done so. This mainly referred to television advertisements and the drink driving campaign (Appendix 6, Tables 16 and 17). In the follow-up survey, the proportion who had seen such campaigns in the last six months had significantly decreased to less than half of the participants (46.5%; n=193).⁺⁺⁺ Analyses were performed to see if gender, occupation, age, drinking classification, experience of pre-loading, and experience of at least one alcohol-related harm was associated with the likelihood of having seen alcohol-related health information. No relationships were identified. As with the initial survey, participants were more inclined to recall the communication method used rather than the actual message. The most common alcohol-related health messages recalled were those delivered by television (21.7% of participants who had seen information in the previous six months from the follow-up survey). Relatively low numbers of participants reported seeing information in pubs, at work, in health settings, at college or university, or in police stations. No participants reported seeing information in any off-licensed settings. The campaign most commonly reported by participants was that for drink-driving (6.3% of participants who had seen information in the last six months from the follow-up survey).

No participants reported seeing the *It's Your Choice* intervention in Sefton without prompting. However, it may be when participants reported seeing health information on bus stops and taxis, that they were referring to the *It's Your Choice* intervention. When shown an example poster from the *It's Your Choice* intervention in Sefton, 38.9% reported seeing the intervention. An analysis was performed to see if gender, occupation, age, drinking classification,

experience of pre-loading, and experience of at least one alcohol-related harm was associated with an increased (or decreased) chance of having seen the intervention. No relationships were identified. When asked where participants had seen the intervention, the most common answer provided was bus stops (25.4% of those who had seen the intervention) and on television advertisements (17.2%; Appendix 6, Table 18). Thus caution is required when interpreting this information as the intervention was restricted to the Linacre and Derby wards, and so was not shown on the television. It may be that participants are confusing different campaigns. Of note, a tenth of participants (10.8%) who had seen the intervention reported seeing it in pubs or bars and a further tenth (10.8%) reported seeing it on taxis.

Over a third of participants (37.5%) from the follow-up survey reported that they had not seen any alcohol-related health campaign (either generally or when prompted with the *It's Your Choice* poster). In this survey, a number of groups were identified as being more at risk of alcohol-related harm. These groups included males, young people, students, binge drinkers, problem drinkers and pre-loaders. These groups were no more likely to have seen at least one campaign than any other group. Further those who reported that they had either reduced their alcohol consumption and/ or were likely to in the next six months were no more likely to have seen at least one campaign.

4. Discussion

This section summarises the key findings of both stages of the research project, that is the initial survey prior to the *It's Your Choice* intervention and the follow-up survey afterwards, and evaluates these alongside other studies already published for validity and comparative purposes.

4.1 Key findings

4.1.1 Alcohol consumption and related harm

Overall, people surveyed in the follow-up drank less and experienced less harm:

- The proportion who drink at least occasionally has decreased from 86.9% to 82.2% and the proportion of drinkers who drank in the last week decreased from 79.0% to 71.5%;
- The proportion of drinkers who had exceeded the daily limits had decreased from 93.9% to 87.3%;
- The proportion of drinkers who binge in the last week decreased from 76.0% to 67.3% and drinking participants were 1.7 times less likely to report a binge drinking session in the last week;
- The average number of units consumed on a drinking day in the last week decreased by 0.8 units;
- There was a decrease in the proportion of individuals who always binge when they drank from 55.6% to 47.7%; and
- The proportion of drinkers who had experienced at least one alcohol-related harm in the six months prior to the surveys decreased dramatically from 66.9% to 47.4%.

However, findings also pointed towards a change in drinking patterns, which could increase the risk of potential harm. A number of these were surrounding pre-loaders (those who drink before going out), who were not targeted specifically by the campaign. Such findings included:

- Drinking participants in the follow-up survey were 1.7 times more likely to pre-load than those from the initial survey
- There was an increase in the proportion of pre-loaders who reported drinking “enough to be merry” before going out from 44.3% to 55.9% (although consumption overall has decreased);
- The proportion of drinkers buying alcohol from supermarkets rose from 50.6% to 64.6%; and
- There was no overall change in the proportion of problem drinkers, and little change was witnessed in levels of male consumption.

There was a decrease in alcohol consumption and related harm over the period of the intervention. While it is not possible to attribute the changes directly to the intervention, these findings suggest that the local population may have modified their drinking behaviour. It will be important to monitor whether this trend has continued. However, there was much less impact on males and people who drink at home before going out (pre-loaders), although the campaign did not seek to reach this group specifically. Moreover, the proportion of the sampled population who are problem drinkers has not decreased (12.9%). Whilst levels of alcohol-related harm have decreased significantly (even amongst those who are most at risk), the potential for harm may have risen due to the increase in pre-loading (evidence, in addition to that in this report, has linked pre-loading with an increased risk of alcohol-related harm; Anderson et al. 2007; Morleo et al. 2007). The increased purchasing from supermarkets may provide further evidence for a rise in pre-loading but may also mean an increase in the potential for harm just through at-home drinking. A number of sources point to at-home drinking (even without the addition of them going to a pub or club) to being linked to an increased risk of harm because:

- Pubs are seen as being a more controlled environment for alcohol consumption (Harrington 2008);

- Individuals may be more likely to pour themselves larger measures of alcohol when at home, and so may not be aware of how much they are drinking (Kerr et al. 2005); and
- Alcohol purchased through supermarkets is generally cheaper and more accessible than in on-licensed premises (Harrington 2008; Morleo et al. 2008a). Cheap alcohol and increased accessibility have been linked with increased levels of consumption and harm (Morleo et al. 2008a; Phillips-Howard et al. 2008).

Further, whilst levels of consumption have decreased significantly, the vast majority of people have still consumed quantities of alcohol in the last week that are over the recommended limits. Although the decrease in short-term or acute harm is important, large numbers of people are still at risk from longer term risk of chronic harm. Increased risks are measurable even at relatively low levels of consumption (including below the recommended daily limits; Morleo et al. 2008b). For example, those consuming two drinks a day may develop Alzheimer's Disease nearly five years earlier than those who drink less (AAN 2008).

4.1.2 Alcohol knowledge

There was no significant increase in the proportion of individuals who knew the recommended maximum number of units for their respective gender. Further, there was no significant increase in the proportion who estimated that recommended maximum units were higher for males than females. As with the initial survey, those who answered incorrectly were more likely to underestimate the limits than overestimate. Whilst it might be seen as beneficial that people thought the safe level was lower than it is, their belief that various alcoholic drinks were less alcoholic than they are, which was also shown in the study, would counteract any benefit. Thus it seems likely that knowledge of units is insufficient for individuals to effectively monitor their level of risk. In Gill and O'May's (2006) study, only a quarter of participants reported using units and associated limits to monitor consumption.

There was an increase in the proportion able to correctly estimate the number of units in a large glass of white wine, but there was no significant increase in the proportion correctly estimating unit content for a pint of strong lager such as Stella. As mentioned, participants continued to be more likely to underestimate unit contents than overestimate. There was also an increase in the proportion who thought that the body took over two hours to get rid of one unit of alcohol (especially amongst females), and no change relating to knowledge surrounding amount of alcohol able to be consumed whilst still being within the legal drink drive limit. Participants did not realise that two small single measures of spirits contained less alcohol than a medium strength beer, as in the initial survey. However, this question was included in the questionnaire as a control question, and the topic of drink driving was not addressed in the intervention. Thus, no change would be expected.

4.1.3 Campaign and intervention awareness

The proportion of participants reported having seen an alcohol-related health information campaign in the last six months prior decreased significantly between the two surveys from two third to less than half of participants (46.5%). Those who were more at risk from excessive consumption and related harm (males, young people, students, binge and problem drinkers, and pre-loaders) were no more likely to have seen such information. No participants reported seeing any such information in off-licensed premises in either the initial or follow-up survey, which may be an important avenue to explore in the future because of the high proportion buying alcohol from such retailers and the increasing proportion of pre-loaders. Sefton Primary Care did attempt to explore this route further for *It's Your Choice*, but off-licensed venues were unwilling to display the campaign material. That participants were more likely to recall the medium of the information rather than the alcohol-related harm reduction message attached may suggest that the message itself did not have a large impact. Evaluations of marketing strategies have also observed a tendency for individuals not to recall specific messages in a campaign (Soars 2003). One way that campaigns could better catch people's attention would be through graphic imagery on alcohol-related harm. In fact, the campaign most often remembered by participants was for drink driving – a campaign known both for its longevity and graphic method of delivery (Alcohol Concern 2003; Rohrer 2004). Researchers investigating the impacts of tobacco labelling have highlighted that in order to be

effective, labels need to be bigger, more graphic and more comprehensive (Hammond et al. 2006). The need for shocking imagery was also mentioned in the interviews as a way in which consumption could be reduced (see Appendix 5). However, a number of sources note that such tactics are not always successful (Aggleton et al. 2005; Sherr 1990).

None of the participants mentioned the *It's Your Choice* intervention unprompted in the follow-up survey, although they may have been referring to this intervention when they mentioned the advertisements seen at bus stops or on taxis. When prompted with one of the posters, nearly four in ten had seen the intervention, with main locations being bus stops. Whilst this is a similar proportion to that found in a number of American evaluations of campaigns aiming to improve nutrition (Snyder 2007), it is a much higher proportion than the number who saw a drugs campaign in Liverpool in 2004⁸, (Roberts and McVeigh 2004). Further, the level of awareness is notably higher than that thought to be needed as part of the starting point in behavioural change (MacDonald et al. 1996). The results obtained are particularly encouraging because of the type of area targeted, as evidence shows that lower levels of education can make it more difficult to raise awareness of health issues (Wardle 2001).⁹ Finally, it could be possible that a higher number of individuals saw the campaign subconsciously (and so were affected by it but did not report seeing it). This is evidenced by the literature surrounding marketing, for example, which shows that consumers may not always absorb the advert's existence but that it can still impact on consumer choice through the subconscious (Consterdine 2000; Perfect and Askew 1994). However importantly, over a third of participants reported that they had not seen any alcohol-related health campaign, even when prompted with the poster, and that those most at risk were no more likely to have seen any health-related information.

A number of reviews have pointed to ways in which effectiveness of health campaigns can be increased. These include:

- Using multiple channels to increase exposure, which this campaign did (Snyder 2007);
- Providing frequent point of contact with the campaign materials (Snyder 2007);
- Using short intense campaigns, which can be more effective than long-term ones (Snyder 2007).
- Challenge social norms and the industry (Siegel 1998); and
- Moving beyond information provisions – evaluations of school education campaigns show that information provision alone is not effective especially long-term (Jones et al. 2007). Researchers instead highlight how programmes which aim to improve social skills are more effective (for example, so pupils are more able to resist social influences to smoke, drink and so on). However, this is more difficult to achieve with the general population outside educational establishments.

4.2 Evaluation limitations

There are a number of possible limitations to the intervention and its evaluation:

- Large numbers of people were approached who refused participation. Further, the follow-up survey did not use the same cohort of participants, and any changes seen may have been based on population differences. Although these factors may have biased the results, a large sample size was achieved, a range of people were sampled and multivariate statistics were used to adjust for differences in the two surveys.
- There was a change in the population sampled, with an increase in the numbers involved who were not in paid employment. This increase may reflect the increase in the rise in unemployment recorded for early 2008 in England (ONS 2008). However, occupation was not found to have a significant relationship with prevalence of binge drinking or alcohol-related harm.

⁸ Where only 15% of those sampled reported seeing the campaign once prompted with the campaign materials (although the campaign materials were not as widely distributed; Roberts and McVeigh 2004).

⁹ Both Linacre and Derby have a higher proportion of residents with no qualifications compared with England overall (ONS 2004).

- Methodological issues meant that researchers were unable to access the same proportion of participants from local pubs. Whilst a significant relationship was identified between participants sampled in pubs and both binge drinking or alcohol-related harm, after the removal of such participants from the analysis, significant decreases in consumption and related harm were still evident.
- The timings of the survey were slightly different: the initial survey was run from April to June 2007, and the follow-up survey was run from February to April 2008. This might have created bias in the results. However, it was essential to complete the second survey by the end of April as this was when the national campaign surrounding units was intended. While both surveys would have captured an expected rise in harm around Christmas, the initial survey may have recorded elevated levels of consumption that can be witnessed around the summer months.
- It can be difficult to measure the precise impact of such an intervention since it is not possible to isolate its impact from other environmental factors. Research has highlighted how evaluations can be hampered because changes may not always be immediate or sustained (Morleo et al. 2008b). Where information-based interventions are successful, the impact is usually short-term (Jones et al. 2007), so it is important to develop interventions that can be sustained over the long-term.
- Individuals involved in the intervention may be affected by environmental factors (Morleo et al. 2008b). This can make it difficult to isolate the campaign's effects. One environmental factor which may be relevant is the potential impact of the economic strain as concerns about long-term finances may have caused individuals to reduce their consumption regardless of the campaign. This could also explain why more individuals are pre-loading and buying alcohol from supermarkets, behaviours which may increase their risk of harm (see Section 4.1). Research on the impact of the economy shows that economic downturns can lead to a rise in light drinking but a decrease in heavy drinking (Ruhm and Black 2002). The pattern seen here was different as there was a decrease in light and binge drinking, while levels of problem drinking remained the same.

4.3 Recommendations

The research has generated a number of recommendations:

- To continue to work with the population in Linacre and Derby to provide information on issues surrounding alcohol (such as units, levels of harm, the impacts of pre-loading) to provide a more long-term impact on alcohol consumption and related harm (see Section 4.1.3 for information on how this can best be achieved).
- To continue to target moderate drinkers, as even low levels of drinking can increase levels of risk.
- To target those groups who continue to be most at risk of excessive consumption and related harm, that is males, young people, students, binge and problem drinkers, and pre-loaders.
- To consider ways of making the health-related messages more meaningful or salient so that participants recall the message as well as the medium or format.
- To continue to monitor the impact of alcohol consumption on the population in Linacre and Derby to ascertain that the reduction in consumption is sustained, and that the potential for increased harm (linked to increased pre-loading) is not realised. This could be achieved by repeating the survey in one or two years, or by closely monitoring levels of harms likely to be experienced because of excessive alcohol misuse in these areas (such as related hospital admissions, accident and emergency presentations, number of violent crimes and so on).
- To further investigate understandings and motivations through the use of extended focus groups.

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6. Appendices

Appendix 1: Pre-intervention questionnaire

First four characters of postcode e.g. L20 1: <input style="width: 40px; height: 20px;" type="text"/> <input style="width: 40px; height: 20px;" type="text"/>	Occupation: Employed full-time <input type="checkbox"/> Employed part-time <input type="checkbox"/> Unemployed <input type="checkbox"/> Student <input type="checkbox"/> Other (please specify) <input style="width: 250px; height: 25px;" type="text"/>
Age: 18-24 <input type="checkbox"/> 25-34 <input type="checkbox"/> 35-44 <input type="checkbox"/> 45-55 <input type="checkbox"/> 56+ <input type="checkbox"/>	Sex: Male <input type="checkbox"/> Female <input type="checkbox"/>



1. Do you drink alcohol? Yes No If no, please go to question 9

2. Have you drunk any alcohol in the past 7 days?
 Yes No If no, please go to question 4.

3. In the past 7 days, which days did you drink alcohol and how much did you have?

Alcohol drunk	Mon <input type="checkbox"/>	Tue <input type="checkbox"/>	Wed <input type="checkbox"/>	Thu <input type="checkbox"/>	Fri <input type="checkbox"/>	Sat <input type="checkbox"/>	Sun <input type="checkbox"/>
Lager/beer/bitter/cider etc. What is your usual brand?							
Bottle of alcopop e.g. Smirnoff Ice, WKD etc.							
Glass of spirit e.g. vodka. Circle your usual measure: single, double, don't know.							
A glass of wine. Circle your usual measure: standard - 175ml, large - 250ml, don't know.							
A glass of fortified wine e.g. sherry, port, martini etc.							

4. Is this more or less than you would usually drink?

More If more or less, is there a reason? (E.g. holiday, ill etc.)
 About the same
 Less

5. Do you normally drink alcohol before going on a night out? Yes No

a). If so, before leaving the house would you usually drink:

A little
 Enough to feel merry
 Enough to be drunk

6. In the last 6 months, how often has the following happened to you due to drinking?

Had an accident	<input type="text"/>
Had an argument	<input type="text"/>
Been in a fight	<input type="text"/>
Been sick	<input type="text"/>
Regretted something you have said or done	<input type="text"/>
Missed work, a lecture or an appointment	<input type="text"/>
Been unable to remember the night before	<input type="text"/>
Been in trouble with the police	<input type="text"/>

7. Where do you buy alcohol? (Circle where you buy it most often).

Pub/club
 Supermarket
 Corner shop
 Specialist alcohol shop e.g. Bargain Booze
 Abroad/duty free
 Telephone delivery
 Other (please specify)

8. Where do you drink alcohol? (Circle where you drink it most often.)

Pub/club
 Home
 Friends' or family's home
 Other (please specify)

9. How often do you go out to?

	Pub	Clubs
Never	<input type="checkbox"/>	<input type="checkbox"/>
Less than once a month	<input type="checkbox"/>	<input type="checkbox"/>
1-3 days a month	<input type="checkbox"/>	<input type="checkbox"/>
Once a week	<input type="checkbox"/>	<input type="checkbox"/>
2-4 days a week	<input type="checkbox"/>	<input type="checkbox"/>
5 or more days a week	<input type="checkbox"/>	<input type="checkbox"/>

Alcohol-related knowledge

10. What are the recommended daily alcohol limits?

	Male	Female
1 unit or less	<input type="checkbox"/>	<input type="checkbox"/>
2-3 units	<input type="checkbox"/>	<input type="checkbox"/>
3-4 units	<input type="checkbox"/>	<input type="checkbox"/>
4-5 units	<input type="checkbox"/>	<input type="checkbox"/>
6 or more	<input type="checkbox"/>	<input type="checkbox"/>
Don't know	<input type="checkbox"/>	<input type="checkbox"/>

11. Approximately how many units of alcohol, would you estimate are in:

	1	2	3	4	5 or more	Don't know
A large (250ml) glass of white wine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A pint of strong lager (e.g. Stella Artois)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A single measure (25ml) of vodka	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A bottle of alcopop (e.g. WK)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. How long do you think it takes your body to get rid of one unit of alcohol?

15 minutes	<input type="checkbox"/>
30 minutes	<input type="checkbox"/>
1 hour	<input type="checkbox"/>
2 hours	<input type="checkbox"/>
More than two hours	<input type="checkbox"/>
Don't know	<input type="checkbox"/>

13. Which of the following could you drink in an hour without being over the legal drink driving limit?

	Yes	No	Don't know
One pint of medium strength lager (e.g. Fosters)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Two standard (175ml) glasses of wine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Two (25ml) shots of vodka	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Three alcopops (e.g. WKD)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Drinking small amounts of alcohol regularly (e.g. one glass of red wine three times a week):

a	Reduces blood pressure	<input type="checkbox"/>
	Increases blood pressure	<input type="checkbox"/>
	Has no effect	<input type="checkbox"/>
	Don't know	<input type="checkbox"/>
b	Helps protect against colds	<input type="checkbox"/>
	Increases your risk of catching a cold	<input type="checkbox"/>
	Has no effect	<input type="checkbox"/>
	Don't know	<input type="checkbox"/>
c	Helps protect against heart disease	<input type="checkbox"/>
	Increases your risk of heart disease	<input type="checkbox"/>
	Has no effect	<input type="checkbox"/>
	Don't know	<input type="checkbox"/>

15. Do you think alcohol is a...

Stimulant	<input type="checkbox"/>
Depressant	<input type="checkbox"/>
Don't know	<input type="checkbox"/>
Depends	<input type="checkbox"/>

16. Have you seen any health information on alcohol in the last 6 months?

Yes No

If yes, please give details:

17. Would you be interested in taking part in a focus group to discuss drinking behaviours, alcohol knowledge and alcohol awareness campaigns? A £10 voucher will be given to all participants.

Yes No

For interviewer use

Date and time: _____

Interviewer: _____

Location: _____

Thank you



Appendix 2: Post-intervention questionnaire

First four characters of postcode e.g. L20 1:

Age: 18-24 25-34 35-44 45-55

Sex: Male Female

Occupation: Employed full-time Employed part-time Unemployed Student Other (please specify)

Sefton NHS Primary Care Trust  

For interviewer use

Date and time: _____

Interviewer: _____

Location: _____

1. Do you drink alcohol? Yes No If no, please go to q 10
2. Have you drunk any alcohol in the past 7 days? Yes No If no, please go to question 4.
3. In the past 7 days, which days did you drink alcohol and how much did you have?

Alcohol drunk	Mon <input type="checkbox"/>	Tue <input type="checkbox"/>	Wed <input type="checkbox"/>	Thu <input type="checkbox"/>	Fri <input type="checkbox"/>	Sat <input type="checkbox"/>	Sun <input type="checkbox"/>
Lager/beer/bitter/cider etc. What is your usual brand?							
Bottle of alcopop e.g. Smirnoff Ice, WKD etc.							
Glass of spirit e.g. vodka. Circle your usual measure: single, double, don't know.							
A glass of wine. Circle your usual measure: standard - 175ml, large - 250ml, don't know.							
A glass of fortified wine e.g. sherry, port, martini etc.							

4. Is this more or less than you would usually drink?
 More If more or less, is there a reason? (E.g. holiday, ill etc.)
 About the same
 Less

5. Do you normally drink alcohol before going on a night out? Yes No

a). If so, before leaving the house would you usually drink:

- A little
 Enough to feel merry
 Enough to be drunk

6. In the last 6 months, how often has the following happened to you due to drinking?

	Yes?	Number
Had an accident	<input type="checkbox"/>	<input type="text"/>
Had an argument	<input type="checkbox"/>	<input type="text"/>
Been in a fight	<input type="checkbox"/>	<input type="text"/>
Been sick	<input type="checkbox"/>	<input type="text"/>
Regretted something you have said or done	<input type="checkbox"/>	<input type="text"/>
Missed work, a lecture or an appointment	<input type="checkbox"/>	<input type="text"/>
Been unable to remember the night before	<input type="checkbox"/>	<input type="text"/>
Been in trouble with the police	<input type="checkbox"/>	<input type="text"/>

7. Where do you buy alcohol? (Tick all and circle where you buy it most often).

- Pub/club
 Supermarket
 Corner shop
 Specialist alcohol shop e.g. Bargain Booze
 Abroad/duty free
 Telephone delivery
 Other (please specify)

8. Where do you drink alcohol? (Tick all and circle where you drink it most often.)

- Pub/club
 Home
 Friends' or family's home
 Other (please specify)

9. How often do you go out to?

- | | Pub | Clubs |
|------------------------|--------------------------|--------------------------|
| Never | <input type="checkbox"/> | <input type="checkbox"/> |
| Less than once a month | <input type="checkbox"/> | <input type="checkbox"/> |
| 1-3 days a month | <input type="checkbox"/> | <input type="checkbox"/> |
| Once a week | <input type="checkbox"/> | <input type="checkbox"/> |
| 2-4 days a week | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 or more days a week | <input type="checkbox"/> | <input type="checkbox"/> |

Please go to question 11

Non-drinkers only:	Drinkers only:
10. When did you stop drinking? <input style="width: 100%; height: 20px;" type="text"/>	11. Has the amount you drink changed in the last six months? No it has not changed <input type="checkbox"/> Yes, it has decreased <input type="checkbox"/> Yes, it has increased <input type="checkbox"/>
Do you intend to maintain this? Yes <input type="checkbox"/> No <input type="checkbox"/> For less than six months <input type="checkbox"/>	12. Do you think the amount you drink will change in the next six months? (compared with now) No it will not change <input type="checkbox"/> Yes, it will decrease <input type="checkbox"/> Yes, it will increase <input type="checkbox"/>
Please go to question 14	13. Do you think the amount you drink is safe for your health? Yes <input type="checkbox"/> No <input type="checkbox"/> DK <input type="checkbox"/>

Alcohol-related knowledge

14. What are the recommended daily alcohol limits? <table border="0" style="width: 100%;"> <thead> <tr> <th></th> <th style="text-align: center;">Male</th> <th style="text-align: center;">Female</th> </tr> </thead> <tbody> <tr> <td>1 unit or less</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>2-3 units</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>3-4 units</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>4-5 units</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>6 or more</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Don't know</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </tbody> </table>		Male	Female	1 unit or less	<input type="checkbox"/>	<input type="checkbox"/>	2-3 units	<input type="checkbox"/>	<input type="checkbox"/>	3-4 units	<input type="checkbox"/>	<input type="checkbox"/>	4-5 units	<input type="checkbox"/>	<input type="checkbox"/>	6 or more	<input type="checkbox"/>	<input type="checkbox"/>	Don't know	<input type="checkbox"/>	<input type="checkbox"/>	18. Which of the following could you drink in an hour without being over the legal drink driving limit? <table border="0" style="width: 100%;"> <thead> <tr> <th></th> <th style="text-align: center;">Yes</th> <th style="text-align: center;">No</th> <th style="text-align: center;">Don't know</th> </tr> </thead> <tbody> <tr> <td>One pint of medium strength lager (e.g. Fosters)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Two standard (175ml) glasses of wine</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Two (25ml) shots of vodka</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Three alcopops (e.g. WKD)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </tbody> </table>		Yes	No	Don't know	One pint of medium strength lager (e.g. Fosters)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Two standard (175ml) glasses of wine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Two (25ml) shots of vodka	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Three alcopops (e.g. WKD)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Thank you

Appendix 3: Participant information sheet



Participant information sheet

Researcher: Michela Morleo

Supervisor: Karen Hughes

Title of study: Investigating drinking behaviours and alcohol knowledge amongst people resident in the Linacre and Derby wards of Sefton.

Purpose of the study: To investigate the drinking behaviours and alcohol knowledge of people from the Linacre and Derby wards of Sefton to inform an alcohol awareness campaign.

Procedures and participants' role: The information you provide will help inform a local alcohol awareness campaign. You will be asked to complete a questionnaire, which will be administered by one of the researchers and will take about 5 to 10 minutes. You will be asked to provide consent to take part in the research. The questionnaire is confidential and you have the right to withdraw from the study at any time.

You will also be asked if you would like to participate in a focus group, which will look into drinking behaviours and alcohol knowledge in more depth. If you agree to take part, you will be asked to provide your name and contact details. You will be given an incentive taking the form of a token gift such as a gift voucher worth a maximum of £10 on the day of the focus group. Contact forms will be kept separate from your completed questionnaire and you have the right to withdraw at any time. Nearer the time you will be contacted and asked if you would still like to participate in the focus group and provided with further details including when and where it will take place. Discussions arising from the focus group will remain anonymous and will take place in a convenient venue in Bootle. You will be provided with a participant information sheet on the day and asked to sign a consent form.

If you have any questions or would like any further information please contact Michela Morleo on 0151 231 4535 or m.j.morleo@ljamu.ac.uk

Please note:

All participants have the right to withdraw from the project/study at any time without prejudice to access of services which are already being provided or may subsequently be provided to the participant.

Appendix 4: Consent form



Consent form

Title of project: Investigating drinking behaviours and alcohol knowledge amongst people resident in the Linacre and Derby wards of Sefton.

Iagree to take part in
(Subject's initials)

the above project, which has been fully explained to me and described in writing.

Signed..... Date.....
(Subject)

I.....certify that the
details of this
(Investigator's full name)

project have been fully explained and described in writing to the subject named above and have

been understood by him/her.

Signed..... Date.....
(Investigator)

Appendix 5: Interview results

For a full discussion, please see the interim report (Morleo et al. 2007). Because the number of participants is very low, the views discussed may not represent those of the local area.

Interviewees

There were eight participants: seven females and one male of mixed ages. Seven drank alcohol at least occasionally and one no longer drank. Five started drinking at 12 years old mainly in places such as parks but one started at home (with parents). Six participants were binge drinkers and four binged at least weekly. All drinking participants drank in Bootle and Liverpool City Centre.

Concerns around drinking

- The main issue discussed was **arguing and fighting on the streets**, specifically after closing time. All had seen alcohol-related violence on a night out, and five had been involved in an argument or fight instigated by an intoxicated individual. They felt aggression had become more commonplace after drinking (even amongst more passive people), especially amongst women.
- One participant reported **domestic violence** as an alcohol-related issue.
- Six participants knew someone who thought they had had their **drink spiked** and four thought they had had their own drink spiked.
- **Underage drinking**, specifically in parks and on the streets, regarding children asking adults to buy alcohol for them outside off-licences.
- When prompted, participants noted **long term effects** such as liver damage.

Motivation to change alcohol consumption

Two participants said that alcohol-related health impacts on close family had affected their own consumption. One had completely stopped drinking; the second drank only on special occasions (when consumption would still be low). None of the others (who described their consumption in terms of binge drinking at least occasionally) showed any motivation to change their consumption even though two had also witnessed the negative effects of alcohol on close family and friends. In fact, they did not perceive binge drinking when out as a problem, linking the damaging effects of alcohol to daily drinking at home. This might be because all drinking participants enjoyed drinking to relax and being drunk to increase confidence. Further, some only drank in order to get drunk. Therefore, they would be unlikely to want to reduce their consumption.

Prevention ideas

Participants suggested a number of prevention ideas:

- **Shock tactics in posters and on television** would be the most effective.
- **Increasing the price** of alcohol and banning promotions would affect consumption, especially amongst students.
- **Government campaigns should target young people at a young age** (before they start binge drinking) through school
- **Bottle top protectors** should be cheaper and more readily available.
- An **increased police presence** specifically around pub closing times.
- **Affordable alternative activities** for children but some felt there was no alternative to drinking and getting drunk with friends.
- **Leaflets** posted through the door on related health problems would be unsuccessful and ignored but two thought unit information could be useful.
- **Phone calls** offering alcohol-related advice would not be successful because people would hang up. However, one participant thought it could help.

Appendix 6: Further figures

Table 7: Likelihood of binge drinking in the last week in the total sample

Category*	Sub-category	Significance	Odds ratio	95.0% Confidence Interval	
				Lower	Upper
Time of survey	Follow-up survey (ref)	0.002	1.746	1.223	2.493
	Initial survey				
Sex	Female (ref)	0.014	1.563	1.093	2.234
	Male				
Pre-loading	Did not pre-load (ref)	0.004	1.683	1.176	2.408
	Did pre-load				
Sampled in local pub	No (ref)	0.006	1.972	1.217	3.197
	Yes				

* Analysis was controlled for age and occupation as well, but the associations with these were not significant (backwards stepwise logistic regression). Ref = reference category.

Table 8: Likelihood of pre-loading in the total sample

Category*	Sub-category	Significance	Odds ratio	95.0% Confidence Interval	
				Lower	Upper
Time of survey	Initial survey (ref)	0.001	1.683	1.247	2.273
	Follow-up survey				
Sex	Male (ref)	0.000	1.834	1.355	2.481
	Female				
Age	45-55 year olds (ref)	0.000	8.667	5.599	13.416
	18-24 year olds	0.000			
	25-34 year olds	0.000			
	35-44	0.030			
Drinking classification	Other drinker (ref)	0.011	1.405	1.017	1.941
	Binge drinker	0.039			
	Problem drinker	0.005			

* Analysis was controlled for whether individuals were sampled in a local pub and occupation as well, but the associations with these were not significant (backwards stepwise logistic regression). Ref = reference category.

Table 9: Reasons for increased consumption*

Reason provided*	Number		
	Initial	Follow-up	Total
Celebration (birthday, new house, communion, party, end of exams)	17	13	30
Day off work, on holiday or bank holiday	16	0	16
Sports and leisure	9	0	9
No reason	0	4	4
Stress	4	0	4
Attended a funeral	2	0	2
Night out	2	0	2
Car window smashed	1	0	1
Friends visiting	1	0	1
It was sunny	1	0	1
No baby	1	0	1
Working in a bar	1	0	1
Boredom	0	1	1
Pay day	0	1	1
Ill	0	1	1
TOTAL NUMBER OF REASONS GIVEN FOR INCREASED CONSUMPTION	55	20	75

* Participants may have provided one or more reasons for their change in alcohol consumption.

Table 10: Reasons for decreased consumption*

Reasons provided*	Number		
	Initial	Follow-up	Total
On medication, ill or doctor's advice	9	6	15
No money or too expensive	10	1	11
At work or worked overtime	9	1	10
Cutting down	3	2	5
Did not fancy it or did not go out	2	1	3
No reason	0	3	3
Pregnant/maternity	0	2	2
Football	1	1	2
Diet	1	0	1
Doctors' advice	1	0	1
Driving test	1	0	1
Too hungover	1	0	1
Birthday	0	1	1
TOTAL NUMBER OF REASONS GIVEN FOR DECREASED CONSUMPTION	38	18	56

* Participants may have provided one or more reasons for their change in alcohol consumption.

Table 11: Likelihood of experiencing any alcohol-related harm in the last six months in the total sample

Category	Sub-category	Significance	Odds ratio	95.0% Confidence Interval	
				Lower	Upper
Time of survey	Follow-up survey (ref)	0.000			
	Initial survey		2.276	1.664	3.113
Age	45-54 year olds (ref)	0.000			
	18-24 year olds	0.000	3.456	2.134	5.596
	25-34 year olds	0.000	2.321	1.461	3.687
	35-44 year olds	0.317	1.262	0.800	1.993
Occupation	Employed full-time or self-employed	0.035			
	Employed part-time	0.336	0.816	0.538	1.235
	Not in paid employment	0.886	1.028	0.705	1.500
	Student	0.013	2.290	1.194	4.391
Pre-loading	Did not pre-load (ref)	0.000			
	Did pre-load		2.082	1.504	2.883
Sampled in local pub	No (ref)	0.001			
	Yes		2.040	1.315	3.163
Drinking classification	Other drinker (ref)	0.000			
	Binge drinker	0.000	2.384	1.708	3.328
	Problem drinker	0.000	3.811	2.313	6.280

Logistic regression. Ref = reference category.

Table 12: Experience of alcohol-related harm* amongst drinkers in the last six months by drinking classification for those in the follow-up survey

Alcohol-related harm	Other drinker (%)	Binge drinker (%)	Problem drinker (%)	Total (%)	Significance
Accident	4 (1.8%)	8 (5.8%)	6 (9.0%)	18 (4.2%)	0.021
Argument	28 (12.6%)	47 (33.8%)	28 (41.8%)	103 (24.1%)	0.000
Blackout	22 (9.9%)	28 (20.1%)	20 (29.9%)	70 (16.4%)	0.000
Fight	11 (5.0%)	11 (7.9%)	11 (16.4%)	33 (7.7%)	0.009
Missed work, lecture or appointment	7 (3.2%)	13 (9.4%)	11 (16.4%)	31 (7.2%)	0.001
Regrets	27 (12.2%)	32 (23.0%)	25 (37.3%)	84 (19.6%)	0.000
Sick	32 (14.4%)	39 (28.1%)	17 (25.4%)	88 (20.6%)	0.004
Trouble with police	2 (0.9%)	5 (3.6%)	5 (7.5%)	12 (2.8%)	0.014
Any harm**	73 (32.9%)	85 (61.2%)	45 (67.2%)	203 (47.4%)	0.000
TOTAL NUMBER OF DRINKERS	222	139	67	428	

* Participants may have experienced one or more alcohol-related harms in the last six months.

** Any harm relates to having experienced at least one of the harms listed.

Table 13: Experience of alcohol-related harms* at least once amongst drinkers in the last six months by survey

Alcohol-related harm	Initial survey (%)	Follow-up survey (%)	Significance
Accident	32 (6.9%)	18 (4.2%)	Not significant
Argument	150 (32.3%)	103 (24.1%)	0.007
Blackouts	126 (27.1%)	70 (16.4%)	0.000
Fight	40 (8.6%)	33 (7.7%)	Not significant
Missed work, lecture or appointment	61 (13.1%)	31 (7.2%)	0.004
Regrets	159 (34.2%)	84 (19.6%)	0.000
Sick	164 (35.3%)	88 (20.6%)	0.000
Been in trouble with the police	20 (4.3%)	12 (2.8%)	Not significant
Any harm*	311 (66.9%)	203 (47.4%)	0.000
TOTAL NUMBER OF DRINKERS	465	428	

* Participants may have experienced one or more alcohol-related harms in the last six months.

** Any harm relates to having experienced at least one of the harms listed.

Table 14: Knowledge of maximum recommended daily units*

Knowledge of maximum recommended daily units		Initial survey (%)	Follow-up survey (%)
Male knowledge of male units (Not significant)	Underestimate	83 (32.9%)	75 (30.9%)
	Correct	86 (34.1%)	85 (35.0%)
	Overestimate	43 (17.1%)	55 (22.6%)
	Don't know	40 (15.9%)	28 (11.5%)
	TOTAL	252	243
Female knowledge of female units (Not significant)	Underestimate	78 (27.6%)	60 (21.9%)
	Correct	117 (41.3%)	114 (41.6%)
	Overestimate	43 (15.2%)	52 (19.0%)
	Don't know	45 (15.9%)	48 (17.5%)
	TOTAL	283	274

* Percentages may not add up due to rounding

Table 15: Units estimates for specific drinks *

Unit estimates		Initial survey (%)	Follow-up survey (%)
Large glass of white wine (P=0.001)	Underestimate	313 (58.5%)	251 (48.5%)
	Correct	90 (16.8%)	124 (24.0%)
	Overestimate	39 (7.3%)	61 (11.8%)
	Don't know	93 (17.4%)	81 (15.7%)
	TOTAL	535	517
Pint of strong lager (Stella) (Not significant)	Underestimate	237 (44.3%)	198 (38.4%)
	Correct	145 (27.1%)	145 (28.1%)
	Overestimate	72 (13.5%)	93 (18.0%)
	Don't know	81 (15.1%)	80 (15.5%)
	TOTAL	535	516

* Percentages may not add up due to rounding

Table 16: The format and location of health information seen by participants

Format and location*	Number		
	Initial	Follow-up	Total
Television	187	52	239
Posters / billboards / banners	18	45	63
Doctors	25	30	55
In a pub	37	8	45
Bus / bus station / stop	7	27	34
On / in taxi	8	15	23
Other health setting e.g. healthy living centre, hospital, pharmacy, walk-in centre	12	10	22
Newspaper / magazine	11	9	20
Through work	17	2	19
Radio	15	2	17
Cannot remember	0	15	15
Education setting (university, college and school)	3	3	6
Leaflets	0	6	6
Alcohol treatment / intervention setting	4	1	5
On packaging	4	0	4
Online	3	0	3
On motorway	2	1	3
Verbally	1	1	2
Shops / shopping centre	0	2	2
Police and fire station	1	0	1
Ships	0	1	1
TOTAL NUMBER OF SIGHTINGS SPECIFYING LOCATION OR FORMAT	355	230	585

* Participants may have provided one or more sightings.

Table 17: The specific campaigns mentioned by those participants who had seen health surveys

Specific campaigns*	Number		
	Initial	Follow-up	Total
Drink driving campaign	49	15	64
“Know your limits” superhero advert	14	9	23
“Do you want to remember the night before” campaign	0	1	1
Campaigns specifically surrounding negative impacts on health	4	0	4
Drink spiking	3	0	3
Drinkaware Trust	2	0	2
Drink sensibly/responsibly ads	2	0	2
TV advert about rape	0	1	1
Kids/underage drinking	0	2	2
TOTAL NUMBER OF CAMPAIGNS RECALLED	74	28	102

* Participants may have provided one or more campaigns.

Table 18: Format and location of information seen relating to *It’s Your Choice* Campaign in the follow-up survey

Format and location*	Number
Bus signs/stops	52
Television advertisements	35
Pubs/bars/clubs	22
Taxis	22
Posters/Billboards	19
The Strand shopping centre	18
Health setting	15
Magazine/newspapers	10
Cannot remember	8
Post	6
Other shops	5
Work	3
Liverpool city centre	2
Cars	1
Ladies toilet	1
Alcohol intervention setting	1
Advertisements (unspecified)	1
Education setting	1
TOTAL NUMBER OF SIGHTINGS	222

* Participants may have provided one or more sightings.