



Centre for
Public Health



Investigating drinking behaviours and alcohol knowledge amongst people resident in Linacre and Derby: An updated evaluation of It's Your Choice: Final Report

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Executive summary

Background

To address high levels of alcohol consumption and associated harm amongst residents of Derby and Linacre wards, NHS Sefton delivered a health intervention campaign entitled *It's Your Choice* between September and November 2010. The campaign targeted residents of Linacre and Derby aged 30-60 years. It included the distribution of posters and leaflets in multiple locations such as shopping centres, streets and GP surgeries to provide information on alcohol-related harms, units, and recommended consumption limits. Health checks were also provided in local pubs. The campaign was an updated version of that originally delivered between July 2007 and January 2008. The Centre for Public Health, Liverpool John Moores University, was commissioned to evaluate the impact of the updated campaign by exploring alcohol consumption and knowledge amongst residents of Derby and Linacre pre and post-intervention. This report builds on the interim report to present the final analysis.

Method

A cross-sectional survey was conducted twice in and around the Strand Shopping Centre, Bootle in August (pre-campaign, n=510) and December 2010 (post-campaign, n=504) with participants aged 30-60 years who were resident in Derby and Linacre. The survey investigated: alcohol consumption and knowledge; experiences of alcohol-related negative consequences in the last month (such as arguments, injuries or vomiting); and awareness of alcohol-related health campaigns. Pre- and post-intervention data were compared to evaluate the potential impact of the intervention using chi-square analysis. Participants' demographics changed between surveys (the sample were significantly more likely to be female, aged 40-60 years [compared to 30-39 years] and employed [full- or part-time], compared to unemployed, student or retired). Thus, to counteract the effects of the demographic changes, logistic regression was used to identify whether potential changes were associated with the time of survey even when accounting for the differing demographic characteristics. In order to provide an account of changes between the surveys, the executive summary will focus on those changes which remained significant even after accounting for demographic shifts.

Findings

Changes in alcohol consumption and related harms

In total, 83% of the pre-intervention sample and 88% in the post intervention sample reported consuming alcohol at least occasionally (with no significant change between surveys according to the logistic regression analysis). Of these drinkers, there was no change between surveys in the proportion exceeding their recommended weekly limits in the last week, the proportion binge drinking, the proportion pre-loading¹ and the proportion experiencing at least one alcohol-related negative consequence (using logistic regression to account for demographic characteristics). However, changes were seen between surveys in: likelihood of consuming alcohol in the last week; frequency of drinking; and the proportion of increasing risk drinkers. For the former, the post-intervention sample had over threefold higher odds of drinking in the last week compared with pre-intervention (so that the percentage of drinkers who were last week drinkers increased significantly from 69% to 87%). They were also over twice as likely (compared to pre-intervention participants) to drink on four or more occasions in the last week. Increasing risk drinkers had almost twofold higher odds of being in the post-intervention survey (45%) compared to pre-intervention (29%). In fact, participants in the post-intervention survey were significantly more likely to report that their consumption in the last week had been higher than normal.

¹ Consuming alcohol in the home or someone else's home before going out to a pub/club.

Changes in knowledge of and beliefs about alcohol

Changes between surveys in knowledge of alcohol units were not consistent. Whilst logistic regression showed that post-intervention participants were more likely to know the daily limits for alcohol consumption for *both* genders, only post-intervention males significantly increased their knowledge of daily limits for their *own* gender. There was no significant difference amongst post-intervention females in knowledge of daily limits for own gender.

Awareness of health information campaigns, including *It's Your Choice*.

The proportions reporting not seeing some kind of health information in the three months prior to survey decreased significantly from 74% to 62%. Where such campaigns were seen, TV was the most often recalled location (35%), followed by health care settings (24%). The most commonly recalled campaign was *Drinkaware* (3.9% of those who could recall seeing information/campaigns). However, when prompted by example materials, 19% of participants recalled seeing the target campaign (compared to 1.2% unprompted).

Conclusions and recommendations

In summary, there was mixed evidence as to whether consumption and/or knowledge had changed between the surveys. However, considering the time of year that the post-intervention survey was conducted (at Christmas, when consumption and related harms are known to increase), it could be difficult to show any decrease in consumption in response to the campaign. Further research would be required to establish whether or not the campaign itself was the cause of any changes seen (for example, by comparing changes in consumption in campaign areas with those in non-campaign areas, or comparing data from different time points within a single area exposed to the campaign). Consequently, the following recommendations are made:

- Further work should be conducted with Derby and Linacre residents to target alcohol misuse and reduce consumption. To maximise the benefits of this work, any such campaigns should offer alternatives to drinking, go beyond provision of information and continue to involve local retailers (such as pubs and supermarkets). Long-term evaluations should be conducted to understand the potential effect of such campaigns.
- Consideration should be given to linking future evaluation data to other data, such as local alcohol-related emergency department presentations and crime data to see if the campaign has the potential for impacting on these areas.
- Qualitative research should be conducted to understand the motivations for alcohol use in the target population and to understand the types of alternatives that can be offered to this population instead of alcohol consumption (for example, discounts/vouchers for gym memberships/outdoor/family pursuits etc). Research could also be conducted to identify how best to utilise social marketing techniques in order to target future interventions towards specific drinkers who are most at risk (for example, younger females, pre-loaders, higher risk drinkers).

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1. Introduction

In 2008, it was estimated that alcohol-related harm cost the UK economy up to £25.1 billion per year^[1]. In addition to health-related costs, this included the cost of lost productivity, crime and premature mortality associated with alcohol. Within England, this cost is not equally distributed: there is a sharp north/south divide, with two-thirds of local authorities with the highest rates of overall alcohol-related harm located in northern England^[2]. In relation to this, the prevalence of alcohol-related harm has been clearly linked with deprivation (northern England experiences higher levels of deprivation overall). Of 28,839 alcohol-related deaths in England and Wales between 1999 and 2003, 29% involved people from the most deprived 20% of areas^[3]. The North West of England has the highest regional level of higher risk drinking² (6.3%) and the second highest for increasing risk drinking³ (22.1%) in England^[4] among those aged 16 years or over. Even within the region, there are variations in drinking behaviours and experiences of alcohol-related harms. Sefton, a borough in the North West, experiences levels of deprivation exceeding the regional and England averages^[5], and levels of binge, increasing and higher risk drinking, and hospital admission rates for alcohol-related harm which are higher than England overall^[4, 5]. In 2007, two-thirds of alcohol-related hospital admissions in Sefton involved people who lived in Derby and Linacre (two of the poorest wards in the borough);^[6] and males from these areas accounted for 40% of all admissions^[7].

The national alcohol strategy^[8, 9] and Public Service Agreements (PSA)^[10], published under the previous Government, set the agenda for addressing alcohol-related harm. Here, the Strategy highlighted the importance of education and communication. Thus in 2007 NHS Sefton developed a social marketing campaign (*It's Your Choice*)^[11, 12]. Designed to raise awareness of the negative consequences of alcohol misuse, this campaign sought to educate some of the most vulnerable groups (Derby and Linacre residents) about alcohol units and safer consumption. A before and after cross-sectional survey revealed that whilst there was an overall significant decrease in consumption (especially in binge drinking), and alcohol-related harm, certain drinking practices (for example, pre-loading⁴) remained unchanged^[12]. There were also increases in participants' knowledge of units and the physical effects of alcohol. However, fewer than half of participants in the post-intervention survey acknowledged having seen any health information in the previous six months and it was unclear as to what extent seasonality had affected the results (the surveys were conducted at different times of the year). As part of their ongoing commitment to PSA 25 and NI39⁵ (calling for a reduction in the number of alcohol-related hospital admissions), NHS Sefton ran an updated campaign (see Section 1.1). The Centre for Public Health, Liverpool John Moores University, was commissioned to evaluate this through pre- and post-intervention cross-sectional surveys designed to examine the potential impact on drinking behaviours, alcohol-related knowledge and opinions. This report builds upon the interim report^[13] and explores use, knowledge and opinions of alcohol amongst residents of Derby and Linacre before and after the delivery of the campaign.

1.1. It's Your Choice (updated)

The campaign targeted residents of Linacre and Derby aged 30-60 years. It aimed to improve their understanding of alcohol and related harms (and thereby reduce consumption). A range of posters and flyers were distributed throughout Derby and Linacre illustrating the alcohol content of certain drinks, providing information about recommended intake and highlighting the harms associated with over consumption. The materials also provided contact details for services for those seeking help. The campaign took place alongside a

² Defined as drinking >50 units of alcohol per week (males) and >35 units (females).

³ Defined as drinking 22-50 units of alcohol per week (males) and 15-35 units (females).

⁴ Consuming alcohol in the home or someone else's home before going out to a pub/club.

⁵ National Indicator 39, the number of alcohol-related hospital admissions, is one of the various indicators used to assess progress toward meeting Public Service Agreement 25 (PSA 25), which is a statement of intent by government and services to reduce the harm caused by alcohol and drugs.

series of pub-based health checks that evolved from a January 2010 pilot study. The study was co-ordinated by the Cheshire and Merseyside Partnerships (ChaMPs) for Health network to examine whether such an intervention could encourage hard to reach people to engage with health services. Pubs were chosen as intervention locations due to their importance as a social hub for the target audience^[14] and in order to raise awareness even amongst those who did not sign up for the health checks (through conversations generated amongst the customers). Following the pilot, NHS Sefton included a programme of pub health checks (known as *See a Better You*) within the *It's Your Choice* campaign. In total, 93 people received a health check^[15]. Of these, 61% were male, 72% were aged 40 to 60 years (89% were in the *It's Your Choice* target age range of 30 to 60 years) and 69% lived in the target postcodes of L20 and L21 (Appendix 1). The potential for health problems was evident:

- 29% were increasing risk drinkers; 27% were higher risk drinkers.
- Of current smokers (59% of the sample), 49% smoked twenty or more cigarettes per day.
- One quarter (25%) performed no activity during the week; 39% were overweight (but not obese) and 29% were obese.
- 37% were at risk of hypertension, as indicated by their systolic blood pressure, and 33% were at risk of hypertension, as indicated by their diastolic blood pressure.
- 61% were at an elevated risk of heart disease (as indicated by their total/HDL cholesterol ratio).
- 13% had a raised glucose reading.
- 17% were at high risk of cardiovascular disease, 17% at high risk of coronary heart disease.

These findings are important because evidence suggests a strong association between risky lifestyle behaviours such as alcohol misuse and unhealthy food consumption^[16], and strong associations between risk behaviour (such as alcohol misuse) and health conditions such as high blood pressure and diabetes^[16, 17]. As part of the health check, 42% of those involved received lifestyles advice (Appendix 1, Table 19). The most common types of advice received were related to diet (38%) and exercise (38%). In total, 33 referrals were offered, of which 29 (88%) were accepted. Whilst it is not known whether these referrals were acted upon or whether either the advice effectively and sustainably changed behaviour, existing evidence shows brief interventions delivered in health or treatment settings are effective in changing lifestyle behaviours (such as alcohol misuse) at least in the short term^[18, 19]. However, evidence is more limited for community settings.

2. Methodology

The project was designed to assess the impact of the social marketing campaign *It's Your Choice*. The campaign targeted 30-60 year old residents of Derby and Linacre and aimed to increase alcohol knowledge in order to reduce alcohol consumption (see Section 1.1). The evaluation consisted of a cross-sectional survey, delivered before and after the intervention (Table 1). In order to evaluate change over time and enable comparison between evaluations, the questionnaire was based on the original evaluation (Appendix 2)^[11, 12]. In light of recent Government discussions around harm reduction strategies incorporating minimum pricing^[20] and alcohol-taxation changes^[21], questions examining these issues were added. The project obtained ethical approval from Liverpool John Moores University ethics committee.

Table 1: Project timelines

<i>Date</i>	<i>Stage</i>
<i>Aug 2010</i>	<i>Collection of baseline data through first (pre-campaign) administration of survey</i>
<i>Sept 2010 - Nov 2010</i>	<i>Delivery of the 'It's Your Choice' social marketing campaign</i>
<i>Dec 2010</i>	<i>Second run of survey collecting data for comparison with pre-campaign data</i>

2.1. The survey

Trained researchers collected data opportunistically, administering the questionnaire in a central shopping area, on surrounding streets, in nearby parks and public spaces. Data were collected between 10:00 and 16:00 hours, Monday to Saturday. Late night Christmas shopping hours (up until 20:00 hours) were also used for the second survey. Participants who appeared to fit the age criteria (30-60 years old) were approached and a brief outline of the study was provided verbally (Appendix 3). Those who agreed to take part were given a written information sheet containing further details (Appendix 4). If participants fell outside the age range or lived outside Linacre and Derby, the survey was terminated. Questionnaire completion implied consent. Across the two surveys, 39,124 people were approached. Of these, 53.3% refused participation immediately upon approach (without full knowledge of the study; Table 2). Of those to whom the study was explained, 45.3% refused participation and 35.3% were not in the target population (Table 2). Responses from 1,014 participants were analysed across the two surveys (pre-intervention n=510; post-intervention n=504). Over both surveys, the most common recruitment location was the shopping centre (Table 3). To facilitate comparison with large-scale surveys^[22], alcohol units have been updated from the previous evaluation^[11, 12] and were calculated using the average unit content as found in the General Lifestyle Survey^[23] (Appendix 5, Table 21).

Data were cleaned and analysed using SPSS v.17. Analysis involved binomial and t-tests to examine differences between groups, and logistic regression and chi-square to explore relationships between variables. Where sample size varies due to missing data, or exclusion through previous responses, the amended sample size is noted. Statistical significance is indicated by the following symbols: *NS* not statistically significant; * statistically significant ($p < 0.05$); ** highly statistically significant ($p < 0.01$); *** very highly statistically significant ($p < 0.001$).

Table 2: Refusals and inclusions by survey time period⁺

	<i>Time of survey</i>					
	<i>Pre-intervention</i>		<i>Post-intervention</i>		<i>Combined</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
<i>Total approached</i>	18,054	100.0	21,070	100.0	39,124	100.0
<i>Immediate refusal</i>	8,511	47.1	12,356	58.6	20,867	53.3
<i>Of individuals to whom the study was explained</i>						
<i>Refusal after explanation</i>	3,449	36.1	4,818	55.3	8,267	45.3
<i>Wrong postcode</i>	3,933	41.2	2,513	28.8	6,446	35.3
<i>Wrong age</i>	1,651	17.3	879	10.1	2,530	13.9
<i>Participated in the study</i>	510	5.3	504	5.8	1,014	5.6

⁺Percentages may not sum to 100 due to rounding.

Table 3: Location of participants by survey time period⁺

<i>Location</i>	<i>Survey time period</i>					
	<i>Pre-intervention</i>		<i>Post-intervention</i>		<i>Combined</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
<i>Shopping centre</i>	340	66.7	379	75.2	719	71.0
<i>Streets near the shopping centre</i>	165	32.4	125	24.8	290	28.6
<i>Other (e.g. parks, local residential streets)</i>	5	1.0	0	0	5	0.5
TOTALS	510	100.0	504	100.0	1,014	100.0

⁺Percentages may not sum to 100 due to rounding.

2.2. Project limitations

2.2.1. Sampling

As with many street based surveys^[12, 24], a large number of those approached declined to participate. Whilst this may have affected the representativeness of the sample, those that participated were of mixed gender, age and employment status.

2.2.2. Questionnaire

The accuracy of self-reported data on alcohol use can be affected by many factors, including: social desirability^[25], interviewer characteristics^[26], and selective recall^[27]. However, as in other studies^[12, 28], researchers were trained to elicit honest responses from participants. Response rates and accuracy may have benefited from not asking for written consent^[29].

3. Findings

3.1. Demographics

Table 4: Age, occupational status and gender of the participants⁺

	Time of survey						Significant difference between surveys
	Pre-intervention		Post-intervention		Total		
Post code (first part)	n	%	n	%	n	%	
L20	303	59.4	373	74.1	676	66.7	**
L21	207	40.6	123	24.4	330	32.5	***
Missing	0	0.0	8	1.5	8	0.8	**
Significant difference by postcode	***		***		***		
Gender							
Male	249	48.8	222	44.0	471	46.4	NS
Female	261	51.2	282	56.0	543	53.6	NS
Significant difference by gender	NS		**		*		
Age							
30-39	174	34.1	232	46.0	406	40.0	**
40-49	150	29.4	148	29.4	298	29.4	NS
50-60	186	36.5	124	24.6	310	30.6	***
Significant difference by age	NS		***		***		
Occupational status							
Employed full-time	170	33.3	192	38.1	362	35.7	NS
Employed part-time	131	25.7	135	26.8	266	26.2	NS
Unemployed	182	35.7	142	28.2	324	32.0	*
Other ⁺⁺	27	5.3	35	6.9	62	6.1	NS
Sig. difference by occupation	***		***		***		
TOTALS	510	100.0	504	100.0	1,014	100.0	

⁺Percentages may not sum to 100 due to rounding. ⁺⁺Includes student, housewife, retiree, undisclosed. NS not statistically significant; * statistically significant ($p < 0.05$); ** highly statistically significant ($p < 0.01$); *** very highly statistically significant ($p < 0.001$).

3.2. Alcohol consumption

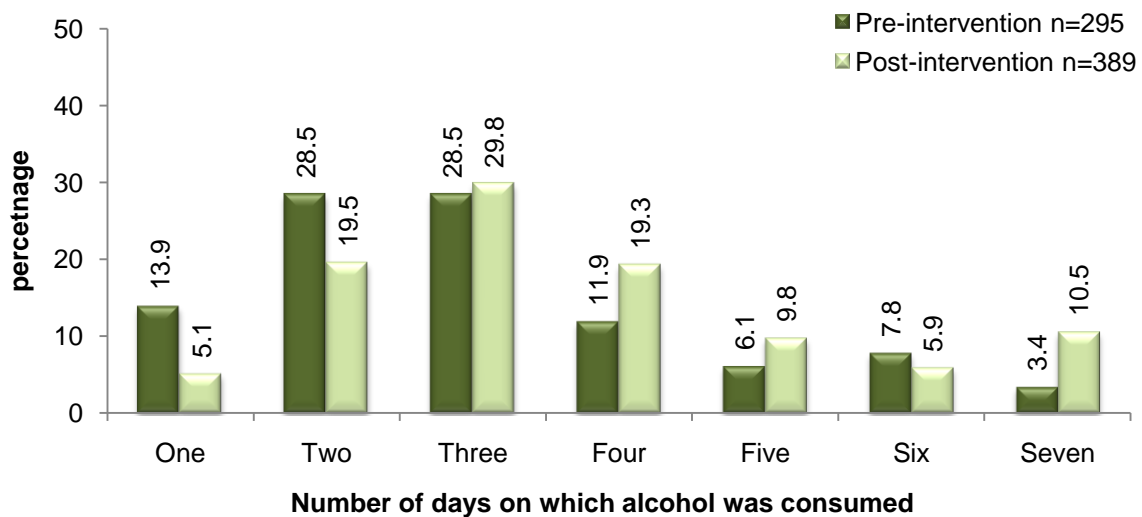
Demographic details of the participants varied between the two surveys. Whilst gender was almost equally split in the pre-intervention survey (females 51.2%), females (56.0%) significantly outnumbered males post-intervention (Table 4). This led to a significantly greater proportion of females overall (53.6%*). Although age in the pre-intervention survey was relatively evenly distributed, a significant proportion (46.0%***) of the post-intervention sample were aged 30-39. As a result, the total sample contained significantly more 30-39 year olds than other age groups (40.0%***). The most common post-intervention

occupational status was full-time employment (38.27%), whilst pre-intervention survey it was unemployment (35.7%). Unemployment reduced significantly in the second survey to 28.2%*. In line with pre-intervention, males in the post-intervention survey were significantly more likely than females to be employed full-time (46.8% versus 31.7%***). The significant majority of participants in both surveys were from L20. Because participant demographics changed so significantly between surveys, logistic regression has been used throughout the findings to identify whether potential changes were associated with the time of survey even when accounting for the differing demographic characteristics.

3.2.1. Patterns of alcohol consumption amongst those who drank in the week prior to survey

The proportion of those who drank at least occasionally rose significantly from 83.3% (n=425) to 88.3%* (n=445). However, when logistic regression was used to account for demographic changes in the population, time of survey did not predict likelihood of occasional drinking (Appendix 5, Table 22). The proportion of occasional drinkers who had drunk in the week prior to survey (referred to as last week drinkers throughout this report) rose significantly from 69.4% (n=295) to 87.4%*** (n=389). Logistic regression supported the significant nature of this increase over time, revealing that the post-intervention sample had over a three-fold*** higher odds of drinking in the last week compared with pre-intervention (Appendix 5, Table 22). Last week drinkers also had a twofold** higher odds of being male. The number of last week drinking sessions rose significantly from 900 pre-intervention to 1,335 post-intervention***. The mean number of days on which alcohol was consumed in the week prior to survey rose significantly from 3.0 to 3.7** with a rise in the proportions drinking on both four and seven days (Figure 1). Using logistic regression, those drinking four or more times per week (during last week) were over twice*** as likely to be: post-intervention participants (rather than pre-intervention); male (rather than female); and unemployed (rather than employed full time; Appendix 5, Table 22). Friday was the most common drinking day post-intervention (82.8%*** of drinkers), echoing the pre-intervention survey (79.9%***).

Figure 1: Frequency of drinking in the week prior to survey amongst last week drinkers by survey⁺



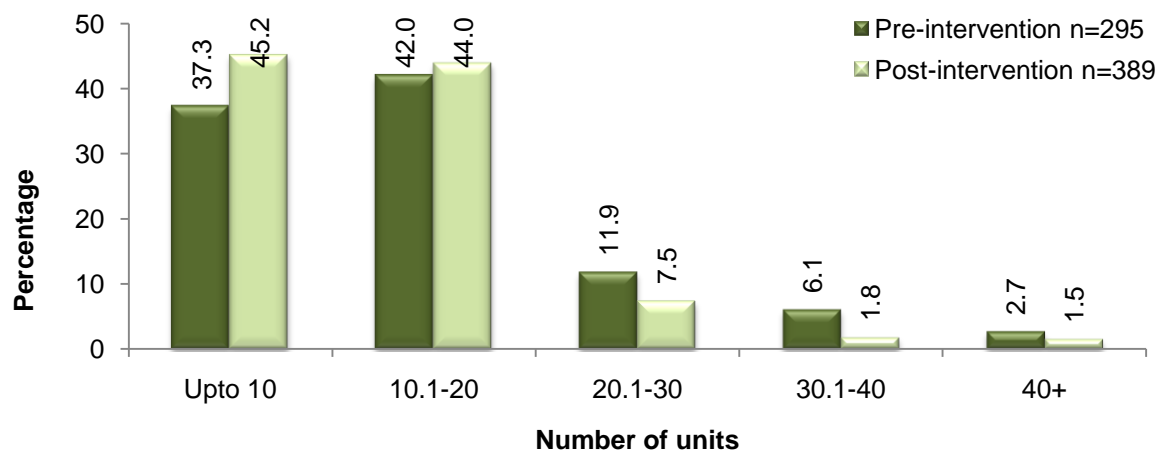
⁺Percentage may not add to 100 due to rounding.

Of those who drank in the week prior to survey, the proportion exceeding their recommended weekly limit⁶ increased from 70.5% pre-intervention to 77.9%* post-intervention. However, once demographic factors had been accounted for using logistic regression, there was no longer a significant difference between surveys; instead, those who

⁶ Recommended weekly limit is 21 units for men and 14 for women^[30]

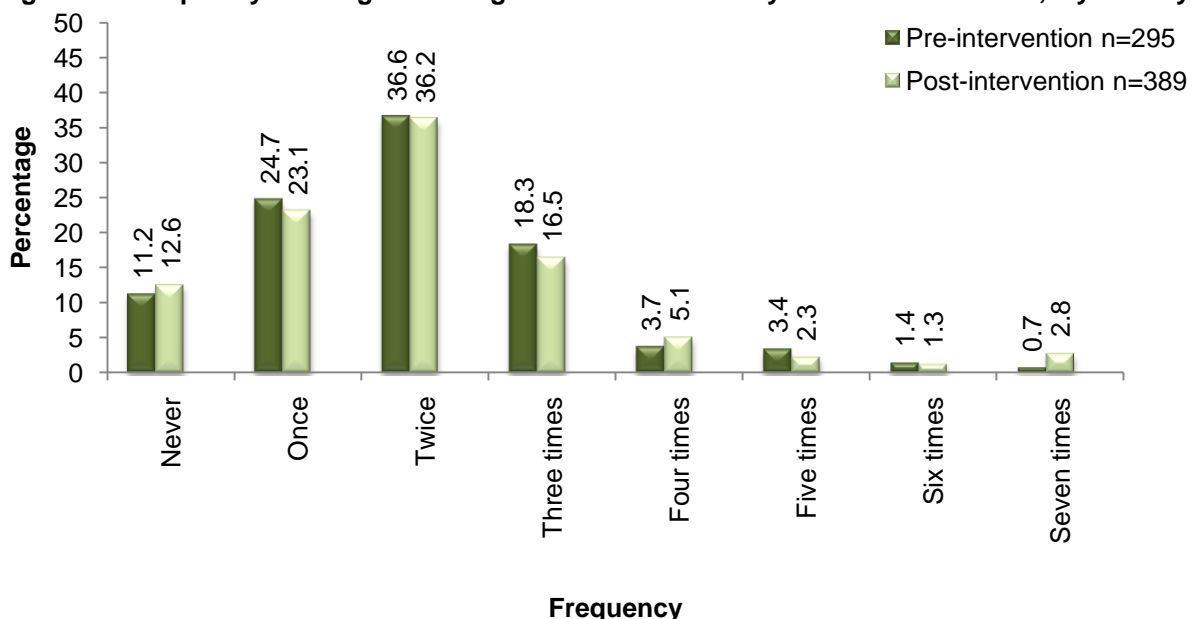
had exceeded their recommended weekly limit had a threefold*** higher odds of being male and twofold*** higher odds of being aged 30-39 years or 40-49 years (compared with 50-60 years; Appendix 5, Table 22). Twenty-two per cent of the 322 Friday drinkers and 34.2% of the 298 Saturday drinkers reported exceeding their recommended weekly limits on these nights. The median number of units consumed on the heaviest drinking day dropped significantly between surveys from 13.0 to 12.0* (Table 5), primarily through a significant reduction in the proportion drinking 20 units and over from 20.7% to 10.8%*** (Figure 2). Whereas pre-intervention, the greatest proportion of drinkers consumed between 10.1 and 20.0 units on their heaviest drinking day (42.0%), post-intervention the greatest proportion drank up to 10 units (45.2%). Whilst Saturday was the most commonly reported heaviest drinking day in both surveys, the proportion reporting this rose from 41.2% pre-intervention to 71.0%*** post-intervention. The proportion of last week drinking sessions in which participants binged fell significantly from 64.8% (n=583) to 59.6%** (n=796) whilst the proportion of those bingeing seven times rose from 0.7% to 2.8%*** (Figure 3). However, logistic regression showed no significant relationship between likelihood of binge drinking and time of survey (Appendix 5, Table 23).

Figure 2: Units consumed on heaviest drinking day in the last week by last week drinkers, by survey*



*Percentage may not add to 100 due to rounding.

Figure 3: Frequency of binge drinking in the last week by last week drinkers, by survey*



*Percentage may not add to 100 due to rounding.

A number of measures showed no significant change between the surveys:

- The proportion exceeding the recommended daily limits⁷ (but not bingeing) at least once during the previous week (pre-intervention: 97.3%; post-intervention: 94.9%), and of those, the proportion of those who had bingeed at least once (pre: 88.8%; post: 87.0%); The median units consumed in the week prior to survey (pre: 26.0; post: 28.0; Table 5); and
- The median units consumed on an average drinking day (pre: 3.7; post: 4.0; Table 5).

Table 5: Alcohol consumption in the last week amongst last week drinkers, by gender and survey[†]

Measure	Survey	Male	IQR [‡]	Female	IQR [‡]	Significance between genders	All	IQR [‡]
Median units consumed in the last week	Pre-intervention	38.0	24.0-51.8	16.8	10.1-26.0	***	26.0	16.0-44.0
	Post-intervention	34.5	26.0-49.4	20.0	12.2-29.8	***	28.0	16.8-40.0
	Significance between surveys	NS		NS			NS	
Median units consumed on the heaviest drinking day	Pre-intervention	16.0	11.2-24.0	8.4	6.0-14.0	***	13.0	8.1-20.0
	Post-intervention	14.0	10.0-20.0	8.2	6.0-12.0	***	12.0	8.0-16.0
	Significance between surveys	**		NS			*	
Median units consumed on the average drinking day	Pre-intervention	5.4	3.4-7.4	2.4	1.4-3.7	***	3.7	2.3-6.3
	Post-intervention	4.9	3.8-6.9	2.9	1.9-4.2	***	4.0	2.4-5.7
	Significance between surveys	NS		NS			NS	
Mean number of days on which alcohol was consumed	Pre-intervention	3.3	SD [§] : 1.5	2.7	SD [§] : 1.6	**	3.0	SD [§] : 1.6
	Post-intervention	4.0	SD [§] : 1.6	3.4	SD [§] : 1.6	***	3.7	SD [§] : 1.7
	Significance between surveys	***		**			***	

[†]NS not statistically significant; * statistically significant ($p < 0.05$); ** statistically highly significant ($p < 0.01$); *** statistically very highly significant ($p < 0.001$). [‡]Inter-quartile range (points between which middle 50% of sample values lie). [§]Adding/subtracting these values to/from the mean provides the points between which lies 68% of the sample.

3.2.2 Gender differences within and between surveys

In the pre-intervention survey, consumption differed significantly between genders across a number of measures. These differences were maintained post-intervention (Table 5):

- The median total weekly, heaviest day and average drinking day consumption were higher for males than females***;
- The mean number of days on which alcohol was consumed was higher for males than females***.

⁷ Daily recommended limit is 3-4 units for men and 2-3 units for women^[31].

As with pre-intervention, both genders greatly exceeded their recommended daily limits on their heaviest drinking day (males by four times and females by 2.8 times; Table 5). For both genders, median weekly consumption exceeded recommended weekly limits (this remained stable between surveys). Post-intervention males still exceeded their recommended daily limits on their average drinking day (4.9 units; pre-intervention: 5.4 units). For both surveys, females were within their recommended daily limits on their average drinking day, with no significant change between surveys (Table 5). Male average consumption on the heaviest drinking day reduced significantly post-intervention (whilst female average consumption remained stable). Further, the number of days on which alcohol was consumed increased significantly for both males^{***} and females^{**}. As there were no other gender differences between surveys, both surveys were combined in order to examine factors predictive of bingeing⁸. Those who had binged at least once in the week prior to survey had a fourfold higher odds of being male than female and of being pre-loaders^{***} (consuming alcohol before going out) than not. No other variables, including time of survey, were significant predictors of bingeing (Table 23, appendix 5).

3.2.3. Pre-loading

The likelihood of pre-loading did not differ significantly between surveys (pre-intervention survey: 27.0% of drinkers; post-intervention: 25.6%). Consequently, logistic regression was used to focus on the combined samples of both surveys (Table 23, appendix 5⁹). This revealed that pre-loaders had:

- 2.9^{***} higher odds of being female than male;
- 2.9^{***} higher odds of being 'unemployed/student/other' than 'full-time employment';
- 4.3^{***} higher odds of being aged 30-39 years (compared with those aged 50-60 years);
- 3.1^{**} higher odds of having binged at least once in the week prior to survey;
- 3.8^{***} higher odds of being higher risk drinkers and 2.1^{***} higher odds of being increasing risk drinkers compared with lower risk drinkers (see Box 1).

3.2.4 Comparing drinkers

Respondents were classified according to their levels of consumption¹⁰ (Box 1).

Non-drinkers

The proportion of participants classified as non-drinkers decreased significantly between surveys from 16.9% (pre-intervention) to 11.7%* (post). Whilst the proportion of those aged 50-60 years decreased significantly (from 58.8% to 30.5%*), there were no significant changes in occupational status or gender (Table 6). However, when logistic regression accounted for demographic variables, there was no significant difference in abstinence between the surveys. Instead, non-drinkers had: 2.1^{***} higher odds of being female; 1.7* higher odds of being aged 40-50

Box 1: Definitions of types of drinker:

- Non-drinker: Those who reported never drinking;
- Lower risk drinker: Males consuming 0-21 units or females consuming 0-14 units in week prior to survey;
- Increasing risk drinker: Males consuming 21-50 units or females consuming 14-35 units in week prior to survey;
- Higher risk drinker: Males consuming more than 50 units or females more than 35 in week prior to survey.

⁸ Controlling for demographics, time of survey, occupation, pre-loading/not and drinker classification (see 3.2.4 and Box 1).

⁹ Sample size = 1,012 as two respondents reported not going out to drink.

¹⁰ Due to re-analysis of the pre-intervention data some of the percentages among that sample differ slightly from those presented in the interim report.

years and 3.0^{***} higher odds of being 50-60 years, compared with those aged 30-40 years (Appendix 5, Table 24).

Lower risk drinkers

The proportion of lower risk drinkers reduced significantly from 42.5% (pre-intervention) to 28.2%^{***} (post). Whilst the proportion of females in this group increased significantly between surveys, from 61.8% to 73.2%*, age and occupational status remained relatively stable (Table 6). Using logistic regression to account for demographic factors, these relationships remained significant: lower risk drinkers had a 2.4^{***} higher odds of being female and a twofold^{***} higher odds of being from the pre-intervention sample (Appendix 5, Table 24). Median consumption on the heaviest day reduced from 8 units (pre-intervention) to 6^{**} (post), whilst the mean number of days on which alcohol was consumed increased from 1.9 to 2.7^{***}. Median unit consumption both on an average drinking day and for the week in total remained stable (Table 6).

Increasing risk drinkers

The proportion of increasing risk drinkers increased significantly from 29.2% (pre-intervention) to 45.4%^{***} (post). This relationship remained significant when using logistic regression to account for demographic characteristics, with increasing risk drinkers having a twofold^{***} higher odds of being from the post-intervention sample (Appendix 5, Table 24). Chi-square analysis showed that whilst age and occupational status of these drinkers did not change between surveys, the proportion of females increased from 36.9% to 47.2%* (Table 6). However, despite this change, across the two surveys, increasing drinkers had twofold^{***} higher odds of being male. Whilst median units consumed on the heaviest drinking day reduced significantly between surveys from 14 units to 12^{***}, the mean number of days on which alcohol was consumed increased from 3.3 to 3.7* days.

Higher risk drinkers

The proportion of higher risk drinkers remained relatively stable (pre: 11.4% and post: 14.7%), as supposed by the logistic regression, which revealed no significant difference between the surveys (Appendix 5, Table 24). There were also no significant demographic changes between surveys (Table 6), although logistic regression revealed that higher risk drinkers had at least twofold* higher odds of being male and of being aged 49 or under compared with 50-60 years. There was a reduction in median units for: weekly consumption (from 65-56 units^{***}); heaviest drinking day (from 26 to 20 units^{***}); and average drinking day (from 9.3 to 8.0 units^{***}). Frequency of consumption increased from 3.9 to 4.9^{**} days (Table 6).

3.2.5. Self-reported changes in usual consumption levels

The week prior to survey

Amongst those who drank in the week prior to survey, the greatest proportion across both surveys reported their consumption to be at its usual levels (pre-intervention: 70.4%^{***}; post: 64.8%^{***}). There was a significant increase in the proportion stating that their consumption during this time had been more than usual (pre-intervention: 16.8%; post-intervention: 24.4%*). Logistic regression revealed that time of survey predicted a self-reported increase in consumption, with those in the post-intervention survey 1.6 times* more likely to do so (compared with pre-intervention; Appendix 5, Table 25). Post-intervention, Christmas was the most commonly cited reason for both consumption increases (41.3% of 63 responses) and decreases (41.0% of 39 responses). Other reasons for changes in consumption remained similar across the surveys: increases were generally linked to family and sporting events; decreases to illness, less money and extra work. The one exception was the role of bad weather in reducing drinking post-intervention (Appendix 5, Tables 26a and 26b).

Table 6: Type of drinker occupational status and consumption for both surveys[†]

		Non-drinker (%)		Lower risk (%)		Increasing risk (%)		Higher risk (%)	
		Pre-intervention	Post-intervention	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention
Gender	Male	29 (34.1)	17 (28.8)	83 (38.2)	38 (26.8)	94 (63.1)	121 (52.8)	43 (72.9)	46 (62.2)
	Female	56 (65.9)	42 (71.2)	134 (61.8)	104 (73.2)	55 (36.9)	108 (47.2)	16 (27.1)	28 (37.8)
Age	30-39	16 (18.8)	20 (33.9)	80 (36.9)	67 (47.2)	58 (38.9)	104 (45.4)	20 (33.9)	41 (55.4)
	40-49	19 (22.4)	21 (35.6)	55 (25.3)	34 (23.9)	51 (34.2)	71 (31.0)	25 (42.4)	22 (29.7)
	50-59	50 (58.8)	18 (30.5)	82 (37.8)	41 (28.9)	40 (26.8)	54 (23.6)	14 (23.7)	11 (14.9)
Occupational status	Employed full-time	16 (18.8)	15 (25.4)	70 (32.3)	47 (33.1)	61 (40.9)	97 (42.4)	23 (39.0)	33 (44.6)
	Employed part-time	29 (34.1)	20 (33.9)	61 (28.1)	39 (27.5)	30 (20.1)	58 (25.3)	11 (18.6)	18 (24.3)
	Unemployed student/other	40 (47.1)	24 (40.7)	86 (39.6)	56 (39.4)	58 (38.9)	74 (32.3)	25 (42.4)	23 (31.1)
Consumption in the last week	Median units [IQR [^]] consumed in total	-	-	11[8.4-14.0]	12.0 [7.0-14.0]	29.4 [22.4-40.0]	28.0 [22.0-33.8]	65 [54.0-78.0]	56.0 [48.6-64.0]
	Median units [IQR [^]] consumed on the heaviest drinking day	-	-	8 [5.6-10.0]	6.0 [4.0-8.0]	14 [10.4-17.0]	12.0 [8.0-16.0]	26 [20.0-36.0]	20.0 [12.0-27.0]
	Median units [IQR [^]] consumed on the average drinking day	-	-	1.6 [1.2-2.0]	1.7 [1.0-2.0]	4.2 [3.2-5.7]	4.0 [3.2-4.2]	9.3 [7.7-11.2]	8.0 [6.8-9.1]
	Mean number of days [SD [§]] when alcohol was consumed	-	-	1.9 [2.7]	2.7 [1.4]	3.3 [1.5]	3.7 [1.5]	3.9 [1.5]	4.9 [1.6]
	Total within category (% pre-/post-survey sample)	85 (16.9)	59 (11.7)	217(42.5)	142 (28.2)	149 (29.2)	229 (45.4)	59 (11.4)	74 (14.7)

[†]Percentages may not add to 100 due to rounding. [§] SD = Standard deviation. Adding/subtracting this value to the mean gives the values between which lies 68% of the sample. [^] IQR = Inter-quartile range, the values between which lies the middle 50% of the sample.

The month prior to survey

Amongst those who drank at least occasionally, the majority of respondents to both surveys felt there had been no change in the last month (79.5%*** of combined surveys). The proportion reporting increased consumption rose significantly from 5.2% pre-intervention to 11.5%** post-intervention. The type of person reporting this did not differ significantly between surveys. Combining pre- and post survey samples, an increase was predominantly reported by: those who binged at least once in the last week (87.7%***) compared with non-bingers; those aged 30-39 years (43.8%***) compared with other age groups; and increasing risk drinkers (65.7%***) compared with other drinkers. A decrease was reported by 12.1% (both surveys combined). Gender, pre-loading and occupational status showed no association with this measure. Logistic regression revealed that only drinker classification predicted the likelihood of reporting an increase, with increasing and higher risk drinkers having at least a fourfold** higher odds of doing so than lower risk drinkers. There was no association with time of survey (Table 25, appendix 5).

The six months following the survey

When asked if and how consumption might change over the next six months, 77.1% of respondents from both surveys felt there would be no change and 6.8% believed they would reduce their consumption. The proportion who believed it would rise significantly increased between surveys from 6.9% to 24.9%***. The types of respondent reporting this in each survey were broadly similar.

Combining both samples revealed that an expected increase in consumption was predominantly reported by^{xi}:

- Those that had binged at least once in the week prior to survey (91.0%***) compared with non bingers;
- Those aged 30-39 years (54.6%***) compared with other age groups;
- Increasing risk drinkers (46.8%***);
- Those that did not pre-load (65.0%***) compared with pre-loaders; and
- Those in full-time employment (43.3%***) compared with other occupational groups.

However, when logistic regression was applied, only time of survey predicted reporting an expected increase in consumption, with those in the post-intervention survey having over fourfold*** higher odds of doing so compared to the pre-intervention sample (Appendix 5, Table 25).

3.2.6. Purchasing and drinking locations

Participants were asked to identify where they primarily bought and drank alcohol (see Boxes 2-3). For purchasing alcohol, there was no significant difference between surveys. Key findings amongst post-intervention drinkers included:

- Pubs/clubs were the main source of alcohol (53.7%), with a further 33.9% preferring supermarkets/corner shops. The remaining 12.4% obtained their alcohol from other sources such as specialist alcohol shops;
- Males were significantly more likely to mainly obtain alcohol from pubs/clubs than other sources (75.6%***), whilst females were most likely to mainly source from supermarkets (62.9%***).
- Pre-loaders were more likely to source their alcohol mainly from supermarkets/corner shops compared with non-pre-loaders (52.2% and 41.9%** respectively).

^{xi} Percentages are based on responses, not respondents

Logistic regression showed that those sourcing primarily from pubs had nearly six-fold higher odds of being male^{***}, more than threefold^{***} higher odds of binge drinking (than not) at least once in the last week and more than twofold^{***} higher odds of being employed full-time (compared with those classified as unemployed/student/other; Appendix 5, Table 27). Those sourcing primarily from supermarkets/corner shops had over a fourfold^{***} higher odds of being female and 2.6^{***} higher odds of binge drinking than not in the week prior to survey (Table 27, Appendix 5). No other factors predicted the likelihood of sourcing primarily from these locations (including time of survey). For main consumption locations, there was no significant difference between surveys. Key points among post-intervention drinkers included:

- Pubs/clubs were the primary drinking location for 55.1% of respondents, with 33.6% mainly drinking at home and 11.6% at the homes of friends and relatives;
- Males were significantly more likely to report drinking mainly in pubs (76.2%^{***}) whilst females primarily drank at home (48.3%^{***});
- Of pre-loaders, a significantly greater proportion (49.1%^{***}) reported pubs/clubs as their main drinking location compared with any other location.

Box 2: Response categories for primary sources of alcohol following collapse of original seven categories:

- Pub or club;
- Supermarket/corner shop;
- Specialist alcohol shop/abroad/by telephone/other source*.

*Other includes 'from a man with a van', black market, restaurants and from friends.

Box 3: Response categories for primary drinking locations following collapse of original four categories:

- Pub or club;
- Home;
- Friends' and family members' homes/other (undisclosed).

Logistic regression revealed that those primarily drinking in pubs had at least twofold^{***} higher odds of being male, having binged (than not) in the last week and employed full-time (compared with unemployed/student/other: Appendix 5, Table 28). Those primarily drinking at home had at least a twofold^{***} higher odds of being female, unemployed (compared with employed full-time), not to have binged in the week prior to survey.

3.2.7. Going out to drink

Of those who drink alcohol at least occasionally (n=445 post-intervention), 67.6% reported drinking in pubs or clubs, 50.0% in friends'/family members' houses and 6.4% at other (unspecified) locations at least weekly. This did not differ from pre-intervention. Combining the samples from both surveys revealed that those going to pubs/clubs at least weekly were significantly more likely to be^{xii}:

- Male (65%^{***}) compared with females;
- Increasing risk drinkers (53.6%^{***});
- Non-pre-loaders (75.8%^{***}) compared with pre-loaders;
- Those that had binged at least once in the week prior to survey (93.1%^{***}) compared with non-bingers; and
- Those in full-time employment (43.0%^{***}) compared with other occupational groups.

Logistic regression revealed that those attending pubs at least weekly had a 5.4^{***} higher odds of being male and 3.7^{***} higher odds of being non-bingers. No other factors proved significant predictors (including time of survey: Table 28, appendix 5).

^{xii} Percentages are based upon responses not respondents.

3.3. Alcohol-related harms

Participants reported the number of occasions in the month prior to survey (referred to as the last month) that they had experienced an alcohol-related negative consequence (Box 4). The proportion of drinkers who had experienced at least one such consequence increased between surveys from 23.5% to 31.0%*. However, this relationship did not remain significant under logistic regression. Instead, this analysis revealed that those reporting any harm were significantly more likely to be: aged 30-39 years*** (compared with 50-60yr olds); higher risk drinkers*** (compared with the lower risk drinkers); pre-loaders** (compared with non pre-loaders: Appendix 5, Table 29). Thus, for example, lower risk drinkers were significantly less likely to report any harm (18.3%***) compared with other drinkers (Figure 4). The proportion of females reporting any harm increased significantly between surveys from 34.9% to 65.1%* (using chi square analysis).

Box 4: Response categories for investigation of alcohol-related negative consequences experienced in the last month:

- Accidents;
- Fights;
- Vomiting/being sick;
- Regretted actions;
- Inability to carry out expected activities;
- Loss of memory;
- Being in trouble with the police;
- Being advised by friends/family/health professional to reduce alcohol consumption.

Of post-intervention drinkers who reported at least one consequence (n=138):

- 53.6% had experienced *only one* alcohol-related consequence in the last month. The highest number of incidents experienced by any one person in the follow-up survey was six, compared with 10 pre-intervention; 54.3% experienced only one *type* of consequence, with three being the maximum number of types of harm experienced;
- 58.7%** were increasing risk drinkers and 57.2%*** were aged 30-39 years.
-

3.3.1. Types of harms experienced

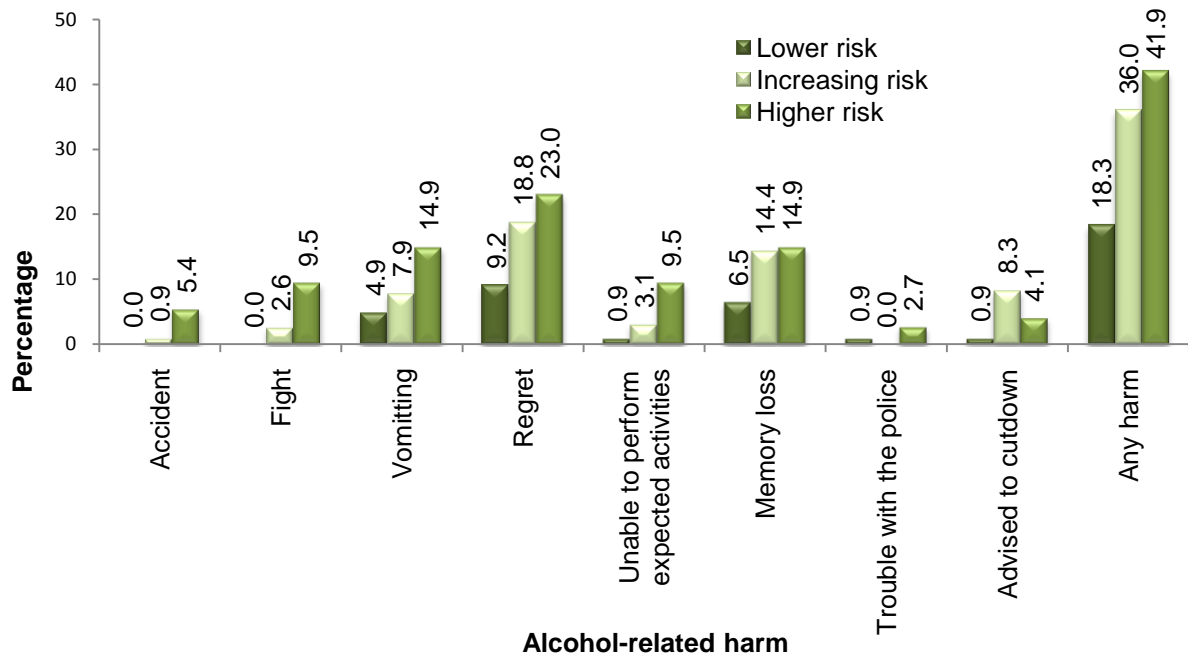
Regret was the most commonly reported negative experience (73 instances), but there were also: 57 instances of loss of memory; 36 of vomiting; 17 of being unable to perform expected duties; and 13 fights^{xiii}. There were significant increases in the proportions of drinkers who experienced vomiting**, regret***, and being advised to cut down** whilst the other five consequences examined showed no significant change (Figure 5). Certain groups were more at risk from individual harms than others:

- Consumption category: Higher risk drinkers were significantly more likely than other types of drinker to report experiencing: vomiting (14.9%*); regret (23.0%*); and being unable to perform expected duties (9.5%*). Furthermore this group reported the majority of accidents, fights and being in trouble with the police. Between surveys there were increases in the proportions of: lower risk drinkers reporting regret (pre: 3.7% to post: 9.2%*); increasing risk drinkers reporting being advised to cut down (0.7% to 8.3%**); and higher risk drinkers reporting vomiting (1.7% to 14.9%**).
- Gender: Pre-intervention, vomiting was most likely to be reported by females* and being unable to perform expected duties by males*; however, post-intervention, only fighting revealed a gender difference** (males: 5.4%; females: 0.8%).
- Occupational group: Whilst there were associations between occupational status and types of consequence pre-intervention, no relationships existed post-intervention.

^{xiii} Participants could report more than one harm. These numbers represent the total number of incidences reported.

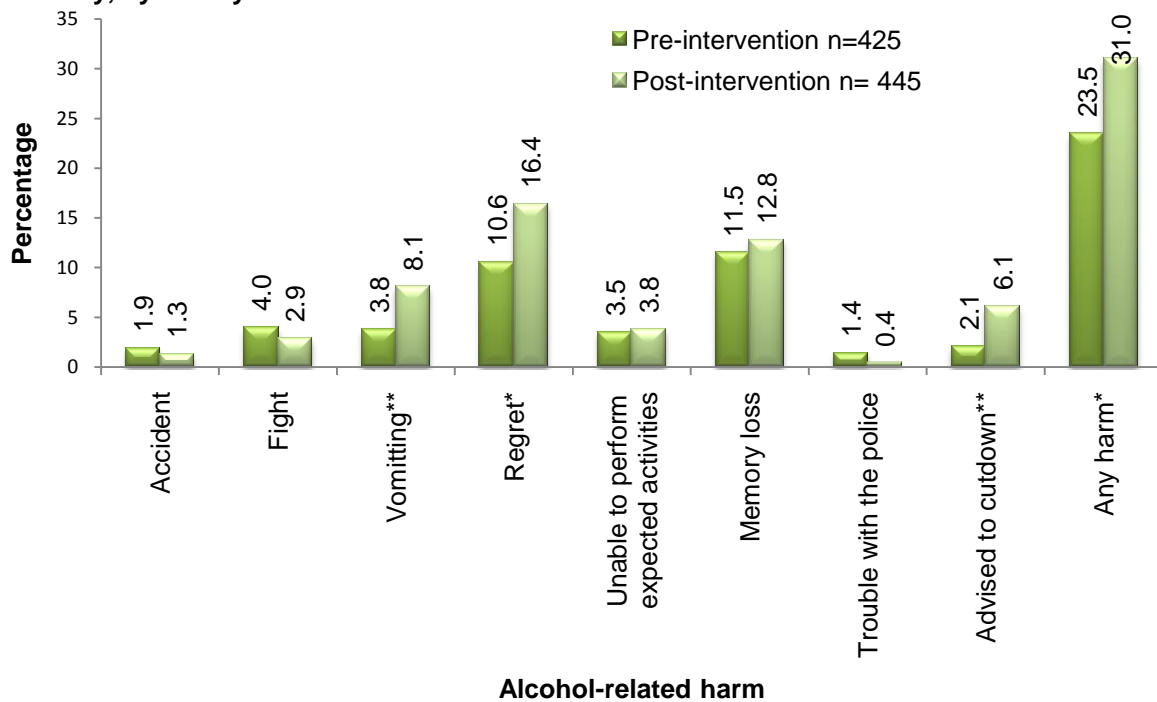
- Age: As with the pre-intervention survey, those aged 30-39 years in the post-intervention survey were significantly* more likely (10.8%) than other age groups to report vomiting. Contrary to pre-intervention, this group was also significantly more likely to report regret (20.3%**) and memory loss (17.0%**).

Figure 4: Negative alcohol-related consequences experienced in the last month prior to the post-intervention survey among those who drink at least occasionally (n=445), by drinker classification⁺



⁺Percentages do not sum to 100 as a participant could report more than one harm.

Figure 5: Experience of alcohol-related consequences reported by all drinkers in month prior to survey, by survey⁺



⁺Percentages do not sum to 100 as a participant could report more than one harm. ** Difference significant at $p < 0.01$; * Difference significant at $p < 0.05$

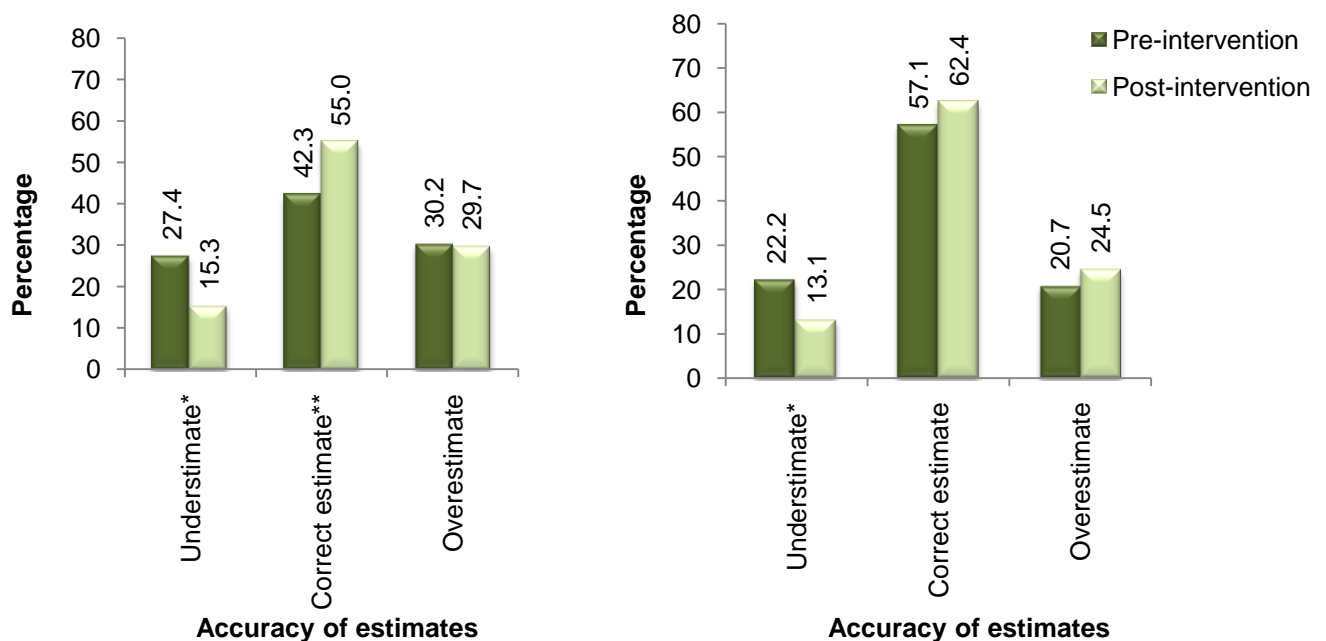
3.4. Alcohol knowledge

3.4.1. Recommended daily consumption limits

When post-intervention participants were asked about their knowledge of recommended daily consumption limits, the following emerged:

- 49.6%* knew the daily limits for both genders, a significant rise from 35.9%*** pre-intervention. Logistic regression confirmed that this rise remained significant even when accounting for demographic characteristics, showing that the post-intervention sample had a 1.6** higher odds of correctly reporting the limits for both genders (compared with pre-intervention participants; Appendix 5, Table 30). The significant majority of participants correctly reported the recommended daily limits solely for males (58.1%***) and/or for females (65.0%***). Neither differed significantly from pre-intervention;
- The proportion correctly reporting that the recommended daily limit was greater for males than females increased significantly between surveys from 72.9% to 84.0%***;
- Compared with other drinkers, significantly greater proportions of higher risk drinkers underestimated the recommended daily limits for females (23.3%***) and for males (28.8%*) and a greater proportion of lower risk drinkers (28.2%***) overestimated the recommended daily limits for females;
- The proportion of males knowing the daily recommended limits for their own gender rose significantly between surveys (from 42.3% to 55.0% change in the likelihood of females knowing their own recommended daily limit (62.4%), but they remained more likely to do so than males. Logistic regression revealed knowledge of own gender limits did not show a significant association with time of survey, but instead that females had almost a twofold higher odds of doing so than males (Appendix 5, Table 30);

Figure 6: Knowledge of own gender’s recommended daily alcohol limits, by survey
(a) Males **(b) Females**



** Difference between surveys significant at $p < .0.01$; * Difference between surveys significant at $p < .0.05$.
 + Percentages may not sum to 100 due to rounding.

3.4.2. Unit content of common drinks

The significant majority of post-intervention participants overestimated the unit content of wine (58.8%^{***}) and spirits (79.8%^{***}) but underestimated that of stronger/premium (50.6%^{***}) and standard lager/beer (23.0%^{***}; Box 5). Males were more likely than females to correctly estimate the unit content of standard beer/lager (50.5% and 37.6%* respectively). Whilst, in general, these findings echoed those pre-intervention, there were some differences:

Box 5: Calculating the unit contents of four typical drinks

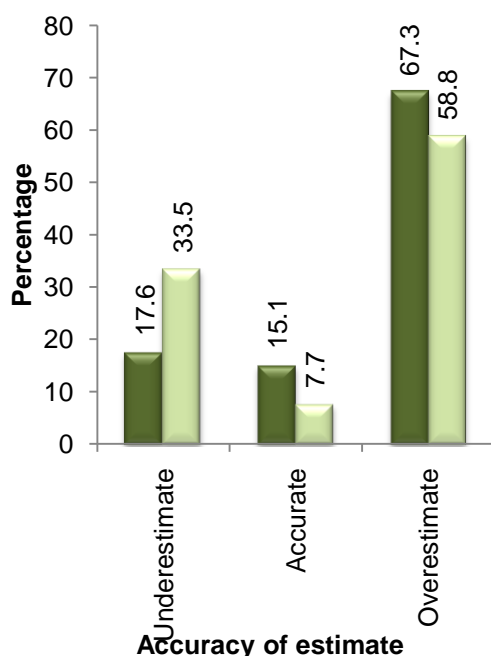
Based upon the unit calculations in Appendix 4, the following average unit contents (rounded up to nearest whole unit) were considered the correct answers (Appendix 1);

- A standard bottle of wine (ABV 13%, 75cl) = 9 units
- A 4-pack of Stella-Artois/premium lager = 12 units
- One pub measure of spirits (e.g. vodka/gin) = 1 unit
- Four pints of standard lager/beer = 8 units

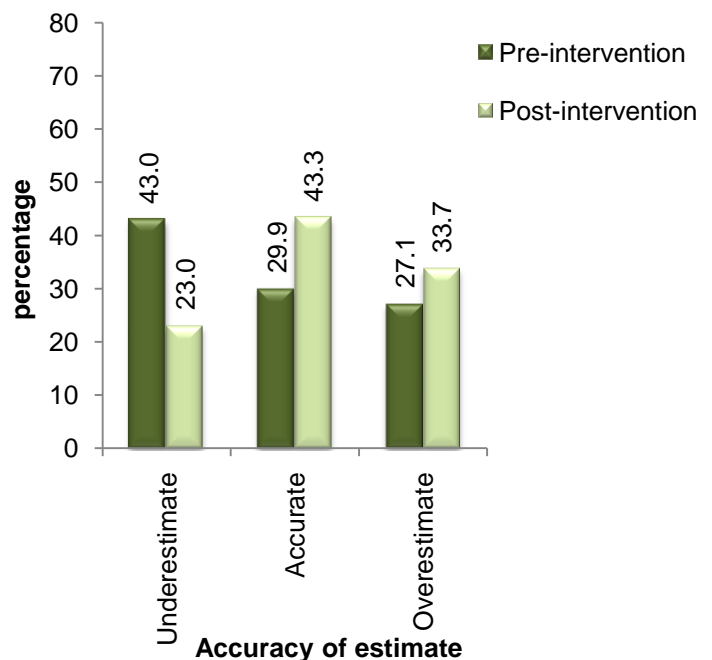
- A decrease in accurate estimates of unit content of wine (pre: 15.1%; post: 7.7%^{***}) and an increase^{***} in underestimates (pre: 17.3%; post: 33.5%; Figure 7a);
- An increase in accurate estimates of the unit content of standard strength beer/lager (pre-intervention: 29.9%; post-intervention: 43.3%^{***}) and a decrease in underestimates pre: 43.0%; post: 23.0%^{***}; Figure 7b).
- Using the total sample, increasing risk drinkers were responsible for a significantly greater proportion of underestimates for wine (46.3%^{**}), whilst lower risk drinkers were responsible for the greatest proportion of underestimates for strong/premium lager (43.3%^{*}). There were no other associations between estimate accuracy and drinker classification.

Figure 7: Accuracy of estimates for a selection of common drinks by survey⁺

**(a) A standard bottle of wine
lager**



**(b) Four pints of standard strength beer or
lager**



^{**} Difference between surveys significant at $p < 0.01$; ^{*} Difference between surveys significant at $p < 0.05$.

⁺ Percentages may not sum to 100 due to rounding.

3.5. Alcohol and driving

Participants were given a number of typical alcoholic drinks and asked which they could consume in an hour and still legally drive (Box 6). A significant majority of post-intervention participants (72.0%^{***}) believed a pint of standard strength lager would not put them over the legal limit for driving. This did not differ significantly from the pre-intervention survey. However, the proportion believing that the stipulated quantity of wine would not place them over the legal limit (a significant post-intervention majority of 59.9%^{**}) had increased significantly from pre-intervention, whilst the proportion believing this of three bottles of alcopops had significantly decreased (Figure 8).

Box 6: Alcohol and driving

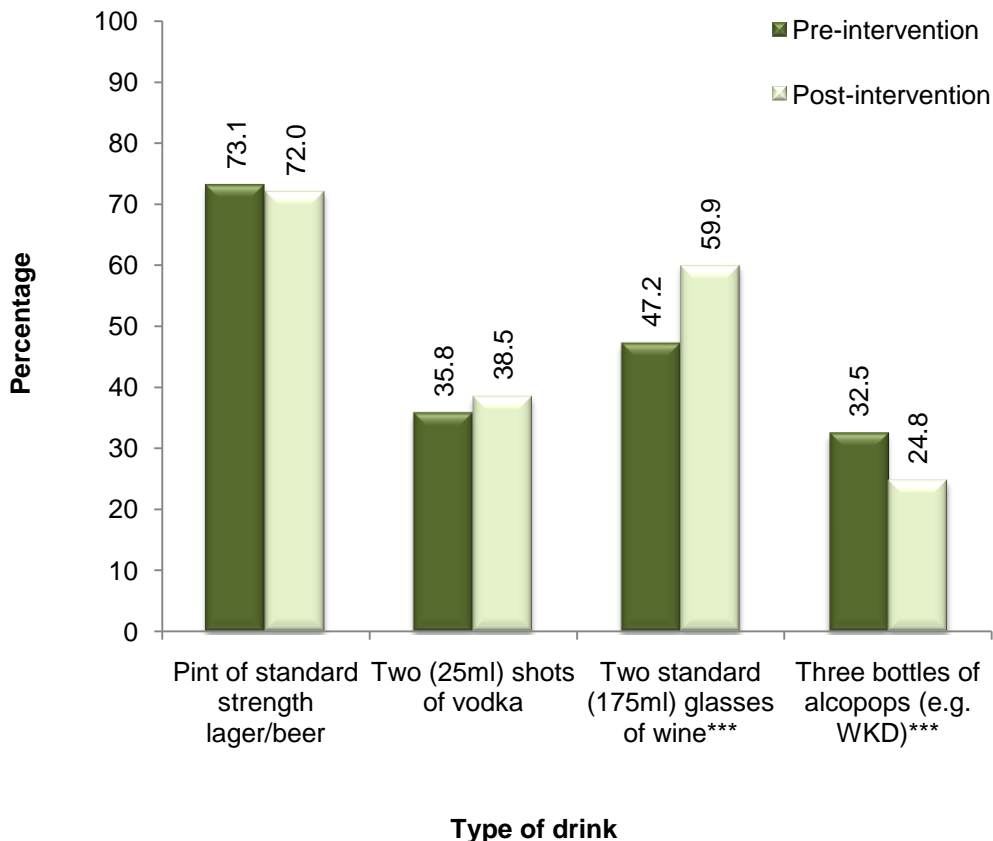
The UK drink driving limit is currently 80mg/100ml blood. Because of individual variations in metabolic rate alcohol can be absorbed at various rates. Consequently there is different advice about drink driving; e.g., www.80mg.org.uk suggest not exceeding your daily limit whilst Government advice is to not drink when driving (see www.thinkroadsafety.gov.uk). Based on the average unit content described in Appendix 4, unit values were assumed for the following drinks:*

- One pint of medium strength beer/lager = 2 units;
- Two standard (175ml) glasses of wine = 4 units;
- Two (25ml) shots of vodka = 2 units; and
- Three bottles of alcopops = 4.5 units.

Using these values, drinking the stated amount of standard beer/lager or vodka would be less likely to result in exceeding the drink driving limit.

**Units were not displayed on the questionnaire.*

Figure 8: Percentage of respondents agreeing that the stipulated drinks will not put them over the legal drink-drive limit, by time of survey⁺



⁺Percentages may not sum to 100 as participants responded to more than one drink. ^{***} Difference between surveys significant at $p < 0.001$.

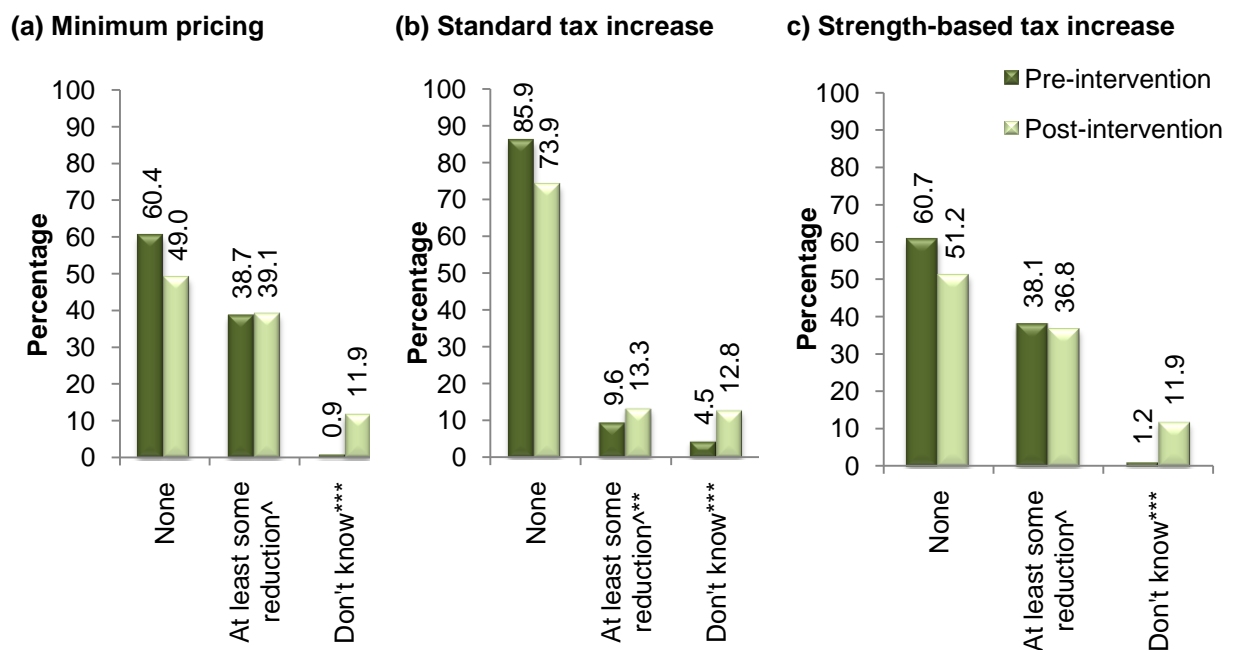
3.6. Alcohol and pricing

Participants were asked about perceived effects of pricing strategies upon their own consumption and that of the general public,

3.6.1. Personal consumption

Here, in general, post-intervention responses replicated pre-intervention data. For each strategy, the greatest proportion of post-intervention respondents claimed their personal consumption would not be affected by minimum pricing (49.0%***); a strength-based tax increase (51.2%***); or a standard tax increase across all alcoholic drinks (73.9%***; Figures 9a to 9c). Significant increases between surveys were observed in the proportions selecting 'don't know' for each of the strategies. Although a standard tax increase was still perceived as by far the least likely to affect change, this strategy saw the only significant increase between surveys in the proportion believing this would affect personal consumption (pre: 9.6%; post: 13.3%**).

Figure 9: Anticipated effects of pricing strategies upon personal alcohol consumption of those who drink at least occasionally, by survey[†]



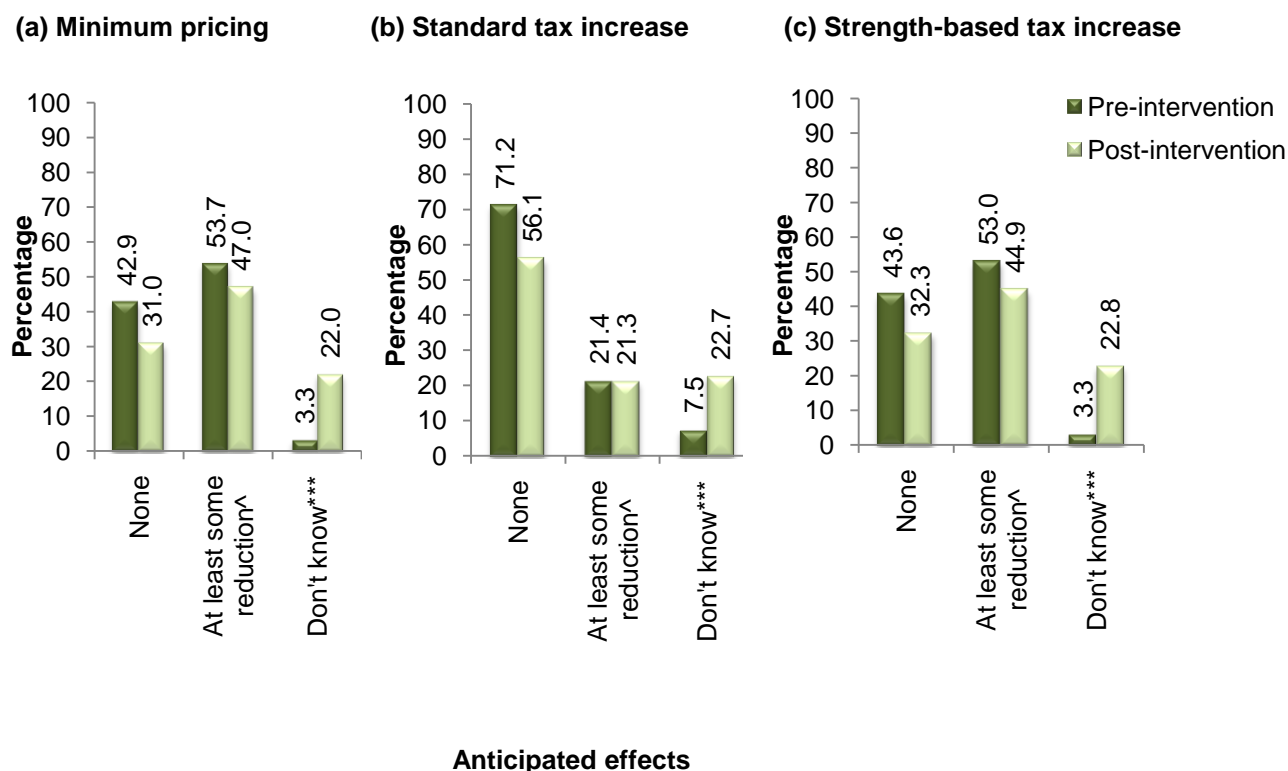
Anticipated effects

[†]Percentages may not sum to 100 due to rounding. [^] Original response options of 'Drink a little less' and 'Drink a lot less' have been combined to aid clarity of the charts. ^{***} Difference between surveys significant at $p < 0.001$.

3.6.2. Consumption by the general public

When asked about the perceived effects of the pricing strategies on consumption by the general public, post-intervention findings generally echoed those pre-intervention with the greatest proportion of respondents believing at least some reduction would occur via a minimum pricing strategy (47.6%***) or a strength-based tax increase (44.9%***) and no effect from a standard tax increase across all alcohol drinks (56.1%***). There was a significant increase in the proportions selecting 'don't know' for each of the stipulated strategies (Figures 10a to 10c). There was no significant change in the percentage of participants believing that minimum pricing and standard tax increases would reduce consumption by the general public (compared with pre-intervention).

Figure 10: Anticipated effects of pricing strategies upon consumption by the general public, by survey[†]



[†]Percentages may not sum to 100 due to rounding. [^] Original response options of 'Drink a little less' and 'Drink a lot less' have been combined to aid clarity of the charts. ^{***} Difference between surveys significant at $p < 0.001$.

3.6.3. Support for taxation/pricing strategies

When asked which (if any) of the taxation strategies they would support, 74.3% of the post-intervention sample would not support any strategy (similar to pre-intervention, 72.1%; Table 7). Males were significantly more likely to think this than females (82.3% and 72.3% respectively*). Between surveys, support fell significantly for minimum pricing (pre: 22.5%; post: 6.2%^{***}) and strength-based tax increases (pre: 16.1%; post: 9.1%^{**}). Whereas pre-intervention, the most supported strategy had been minimum pricing (22.6%), post-intervention respondents mostly supported a standard tax increase on all alcoholic drinks (13.9%).

The type of drinker most likely to not support any of the strategies differed significantly^{***} between surveys. Pre-intervention the greatest proportion of such responses (42.2%) came from lower risk drinkers, whilst post-intervention they came from increasing risk drinkers (51.8%). However, where support was offered, the proportions accorded to the various drinker classifications did not vary significantly between surveys. Consequently, both datasets were combined for further analysis. For each strategy, non-drinkers were significantly more likely than any type of drinker to offer support (all strategies^{***}). After excluding non-drinkers, support for each strategy varied significantly by remaining drinker classifications. Lower risk drinkers were most likely to support each of the strategies (Table 8). The least support for a standard tax increase came from higher risk drinkers (5.3%), whilst for a strength-based tax increase, increasing risk drinkers offered the least support (5.8%).

Table 7: Support for taxation/pricing strategies, by time of survey⁺

Strategy	Pre-intervention n=509 [^] (%)	Post-intervention n=504 (%)	Surveys combined n=1013 (%)
***Minimum price per unit	115 (22.6)	31 (6.2)	146 (14.4)
**Strength-based tax increase	82 (16.1)	46 (9.1)	128 (12.6)
Standard tax increase	78 (15.3)	70 (13.9)	148 (14.6)
Support none of the above	367 (72.1)	386 (76.6)	753 (74.3)

⁺Percentages do not sum to 100 as participants could support more than one strategy. *** Difference between surveys significant at $p < 0.001$; ** at $p < 0.05$. Percentages do not sum to 100 as participants could support more than one strategy. [^]One participant failed to answer this question in the initial survey.

Table 8: Support for pricing strategies, by type of drinker, surveys combined⁺

Strategy	Non-drinkers n=144 (%)	Lower risk n=359 (%)	Increasing risk n=378 (%)	Higher risk n= 133 (%)
***Minimum price per unit	44 (30.6)	67 (18.7)	26 (6.9)	9 (6.8)
**Strength-based tax increase	47 (32.6)	49 (13.6)	22 (5.8)	10 (7.5)
***Standard tax increase	52 (36.9)	63 (17.5)	26 (6.3)	7 (5.3)
Support none of the above	63 (44.1)	255 (71.2)	326 (86.2)	109 (82.0)

⁺Percentages do not sum to 100 as participants could support more than one strategy. ** Difference between drinker classifications (excluding non-drinkers) significant at $p < 0.01$; *** significant at < 0.001 .

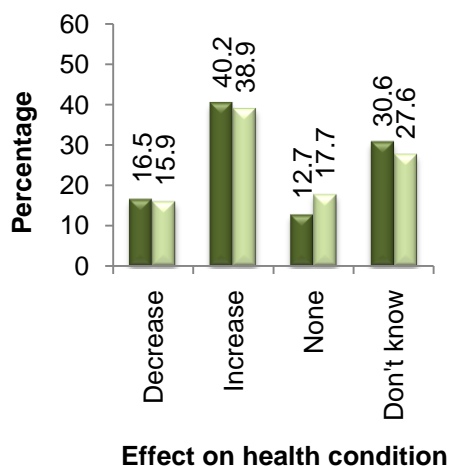
3.7. Alcohol and health

3.7.1. Effects on personal health

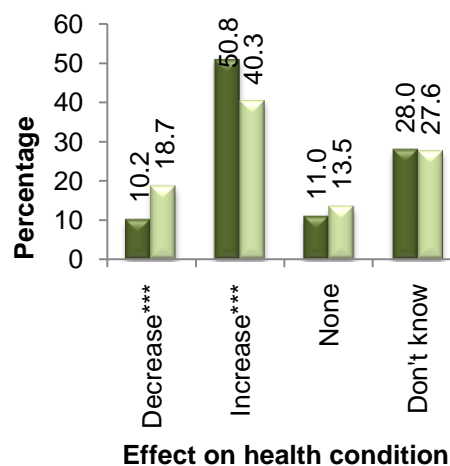
Significant proportions of post-intervention participants felt small amounts of alcohol on a regular basis would: increase the risk of heart disease (38.9%***), raise blood pressure (40.3%***), or increase the risk of catching a cold (32.7%**). They were unsure of the effects of such drinking on the risk of cancer (38.3%). Overall beliefs about specific health effects of alcohol varied little between surveys (Figure 11). However, there were increases in the proportion of participants believing the suggested amounts of alcohol would: decrease the risk of catching a cold (from 3.3% to 8.3%**); decrease blood pressure (from 10.2% to 18.7%***); decrease the risk of cancer (from 2.2% to 7.7%***); and have no effect on cancer (from 18.8% to 28.4%***). In contrast, there were decreases in the proportions believing that the same amount of alcohol would: increase blood pressure (from 50.8 to 40.3%***); and increase the risk of cancer (from 33.7% to 25.6%***). The proportions decreased for those reporting they were unsure of the effects on the risk of cancer (from 45.3% to 38.3%***) and the risk of catching a cold (from 41.4% to 17.0%**).

Figure 11: Anticipated effects on health of drinking a glass of red wine three times per week, by survey.

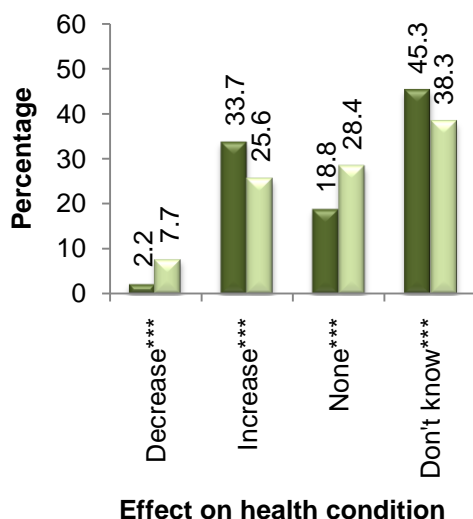
(a) Heart disease



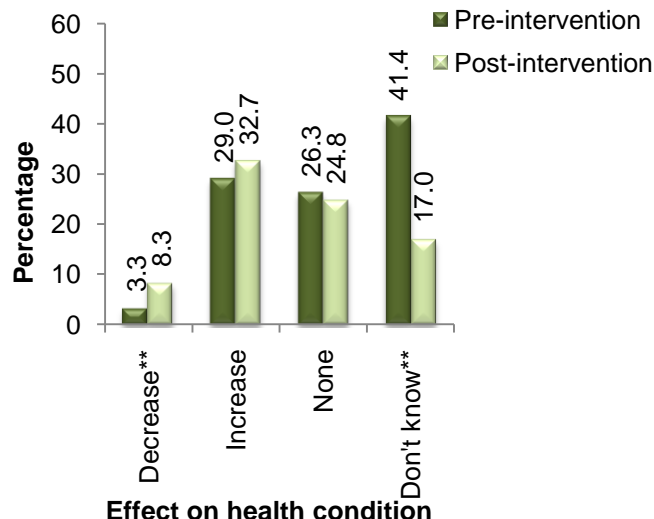
(b) Blood pressure



(c) Risk of cancer



(d) Risk of catching a cold



*** Difference between surveys significant at $p < 0.001$; ** at $p < 0.01$. * Percentages may not sum to 100 due to rounding.

3.7.2. Awareness of alcohol-related health information/campaigns

Over three-fifths of the post-intervention sample (61.9%^{***}) reported not seeing any health information in the three months prior to survey, a significant decrease from pre-intervention (73.7%^{***}). Not recalling seeing any such information was more likely to be reported by: males than females (67.4% and 57.4%^{*}, respectively); employed rather than unemployed (67.3% and 55.6%^{**}, respectively); those that do not pre-load (68.0%^{*}) compared with pre-loaders; and increasing risk drinkers (69.4%^{*}) compared with non, lower and higher risk drinkers (44.1%, 55.6%, and 64.9% respectively). As with the pre-intervention survey, health information was seen in a variety of places (Appendix 5, Table 31). The primary locations reported by those who recalled seeing such information (both surveys combined $n=326$) were on TV ($n=115$; 35.3% of respondents) and in GP surgeries/hospitals ($n=78$; 23.9%). Post-intervention participants recalled a wider range of campaigns/topics than pre-intervention. They most commonly recalled *Drinkaware* as a topic ($n=13$; 3.9% of all those who could recall seeing any health information/campaign (Appendix 5, Table 32).

Post-intervention, six people (1.2%) recalled *It's Your Choice* unprompted and 96 (19.1%) recalled it when prompted with campaign materials (Appendix 5, Table 32). This was a significant increase from pre-intervention (3.1%***). Of those reporting seeing *It's Your Choice* unprompted and post-intervention, the most frequent reported location was the Strand (n=27; 28.1%; Appendix 5, Table 33). Twenty-six (27.1%) of those who had seen the campaign had seen it around Bootle in general. A further 27 participants (28.1%) were unable to recall where they had seen it. Four participants claimed to have seen it on TV although the campaign was not delivered this way.

4. Discussion

4.1. Consumption and alcohol-related harm

In general, by comparing findings between the two cross-sectional surveys (before and after the intervention), the analysis has revealed mixed results. In total, 83% of the pre-intervention sample and 88% in the post intervention sample reported consuming alcohol at least occasionally (with no significant change between surveys according to the logistic regression analysis). Of these drinkers, there was no change between surveys in the proportion exceeding their recommended weekly limits in the last week, the proportion binge drinking, the proportion pre-loading and the proportion experiencing at least one alcohol-related negative consequence (using logistic regression to account for demographic characteristics). However, changes were seen between surveys in: the likelihood of consuming alcohol in the last week; the proportion of increasing risk drinkers; and drinking frequency in the last week. For the former, the post-intervention sample had over a three-fold higher odds of drinking in the last week compared with pre-intervention (so that the percentage of drinkers who were last week drinkers increased significantly from 69% to 87%). Drinking on four or more occasions in the last week was over twice as likely among post-intervention (compared to pre-intervention) participants. Such drinkers were also over twice as likely to be male and unemployed (compared to full-time employed). For increasing risk consumption, the post-intervention sample had twofold higher odds of including increasing risk drinkers (the percentage of the total sample who were increasing risk drinkers increased significantly from 29% to 45%). In fact, participants in the post-intervention survey were significantly more likely to report that their consumption in the last week had been higher than normal. In comparison, the original evaluation reported significant reductions in occasional drinkers and of these there were reductions in the proportions of last week drinkers, drinkers exceeding their recommended daily limits and binge drinkers^[12].

Experiences varied by gender. Post-intervention males continued to consume more alcohol than females, a common finding in much of the literature^[12, 22, 32], yet their heaviest day consumption significantly reduced. For females, however, heaviest day and median weekly consumption remained relatively stable. There were a number of other gender differences evident. Pre-loaders were 2.8 times more likely to be women, women were more likely to drink at home (48.3%) and primarily purchased their alcohol from supermarkets (62.9%). Such behaviour may put them at increased risk of harm because pre-loading is associated with higher levels of alcohol-related harm^[12, 28] and home-drinking involves self-measured drinks (often associated with considerable underestimates in own consumption levels)^[33, 34]. Furthermore, supermarkets often sell alcohol at lower prices than on-licensed retailers and this, along with a general ease of access, has been repeatedly linked with increased harm^[35-37]. When these findings are considered alongside evidence that women are physiologically more susceptible to the harmful effects of alcohol^[38] and that alcohol-related liver disease may start at drinking levels below recommended limits^[17], these data on female consumption may be cause for concern: the proportion of females reporting any instance of alcohol-related harm almost doubled between surveys (from 34.9% to 65.1%) and the proportion of females in the post-intervention sample increased significantly across all drinker groups.

Although not explicitly addressed by the campaign, pre-loading is an important element of alcohol misuse and subsequent harm in Sefton^[12, 28] which, by its very nature, is difficult to assess and address since it takes place at home and in private. However, the lower price of alcohol in off-licensed (compared with on-licensed) premises has been identified as a deciding factor amongst those who pre-load^[39] and this may offer a means of addressing pre-loading. For example, interested parties could explore ways in which this pricing difference might be reduced through local agreements on discounts/promotions and restrictions on growth of outlets^[40]. Qualitative follow-up research could be carried out with pre-loaders in order to further explore their motivations in order to gain insight into likely methods of reducing this behaviour.

Seasonality may have contributed to changes in consumption (the post-intervention survey took place between late November and late December, thus falling into the Christmas period whilst the pre-intervention survey took place in August). In fact, Christmas office parties and seasonal drinking accounted for 41.3% of the 114 reasons given for a self-perceived increase in consumption (compared with normal) in the week prior to the post-intervention survey. European research had demonstrated seasonal variations in consumption^[41] and cultural traditions and holidays such as Christmas and New Year tend to have the strongest effects^[42]. For example, in the Netherlands, consumption in the last two weeks of the year increased by 70% compared with a normal week^[43]. Whilst the pre-Christmas build up can be the ideal time to mount a campaign such as this^[41], seasonal factors may prevent an evident decrease in consumption being identified.

4.2. Alcohol knowledge

Aspects of participants' knowledge improved between surveys but this was not consistent. Whilst logistic regression showed that individuals recruited in the post-intervention were more likely to know the daily limits for alcohol consumption for both genders, there was no significant difference in reporting of daily limits for own gender. In general, females were significantly better informed of recommended limits for their own gender than males, but the proportion of males correctly identifying the recommended daily limits for their own gender increased significantly between surveys. In comparison, the original evaluation^[12] found no increase between surveys in the proportions who could correctly identify recommended weekly consumption limits.

Whilst it is important for individuals to develop an accurate knowledge of limits in order to monitor own consumption, they also need to be able to apply the concept of units to their drinks. Here, again these data presented a mixed picture. Evidence suggests that only 20% of people may be able to apply the concept of units to their drink^[44], whilst only a quarter of these use them in conjunction with the recommended limits to monitor consumption^[45]. Between surveys the accuracy of unit estimates significantly increased for standard strength beer/lager but significantly decreased for wine. The majority of participants continued to underestimate the strength of premium strength lager/beer and overestimate that of spirits. Inaccurate monitoring of consumption can lead to serious consequences (for example, drink-driving). When asked which of a series of typical drinks would not put a driver over the legal blood-alcohol limit, almost three fifths of the post-intervention sample felt they could drink two standard glasses of wine and still legally drive (a significant increase from the first). This element of the questionnaire served as a control question and, since the campaign did not directly address the topic of drink-driving, a change would not be expected. Thus, the change in perception is of particular concern given that the amount of wine suggested was more likely to lead to drink-driving than two single measures of vodka (for which only two fifths of participants thought would place them over the limit).

4.3. Alcohol pricing and taxation

Internationally, evidence suggests that alcohol consumption can be manipulated by pricing strategies and thus potentially save lives and public money^[46-49]. It has been suggested that 49,000 lives could be saved over ten years in England by introducing a minimum price of 50p per unit^[50]. However, public opinion can differ. A survey in the North West of England (The Big Drink Debate or BDD) explored perceptions of the relationship between price and consumption and found that whilst 80.3% of their sample believed low prices increased consumption, only 22.1% believed higher prices reduced it^[51]. To further our understanding of beliefs about pricing, participants were asked to consider the effects of a range of pricing strategies on their own alcohol consumption levels and that of the general public. Our data revealed that, for each of the suggested strategies^{xiv}, there was a significant rise in the proportions who did not know if their own consumption would be affected between surveys. However, across both surveys, participants most commonly thought drinking would be

^{xiv} Either a minimum price per unit, strength-based tax or standard tax increase.

unaffected by any of the strategies. Interestingly, whilst a standard tax increase across all alcoholic drinks was the strategy thought least likely to reduce alcohol consumption, it was also the only strategy to see a significant increase between surveys in those who felt it would reduce consumption (from 9.6% to 13.3%). Asking participants to consider the effects of pricing strategies on consumption by the general public provided a useful insight into their perceptions of the effects of pricing as evidence suggests that people see the behaviour of others as being more stable across situations but consider themselves to be less predictable^[52] and people may also project their beliefs and expected behaviours on to the general public^[53, 54]. The data here revealed a strong shift between surveys towards uncertainty when considering the potential effects of the pricing strategies on consumption by the general public; the proportions answering 'don't know' for each of the three strategies increased significantly. Again, a standard tax increase was deemed the least likely to reduce consumption. For minimum pricing and strength-based tax increases, the most common belief was that consumption would be reduced if such a strategy were to be enforced. The proportions believing minimum pricing and strength-based tax increases would reduce consumption were over twice that of the *Big Drink Debate* sample (where 22.1% felt that increased prices led to lower consumption)^[51]. The same survey also found that income and current consumption levels can strongly interact to determine expected effects of price increases on future consumption: those whose consumption was high but income moderate felt consumption was more susceptible to price changes than those with high consumption and high income. The wards targeted in this study (Derby and Linacre) experience high levels of deprivation^[5]. Consequently, it is possible that the high proportions of our sample who believed consumption by the general public would reduce as a result of price increases actually reflects the lower income levels of the area.

Although there is evidence for the role of pricing in reducing consumption, there is little consensus on how best to use this. Some researchers advocate a minimum pricing option^[55]. Others suggest this would lead drinkers to shift their purchases to alternative drinks, and thus argue for a standard tax increase^[49]. Yet other evidence suggests that however effective such strategies may be for the majority of drinkers, those whose consumption levels are in the top five percent would continue to drink at the same levels^[56]. Our data revealed very little public support for the suggested strategies: 74.3% of the total sample stated that they would not support any strategy and there were significant reductions in the levels of support for minimum pricing per unit of alcohol and strength-based tax increases between surveys. It also suggests that if manipulation of price was used to reduce consumption, one strategy may not appeal to everyone: whilst lower risk drinkers marginally preferred a minimum price per unit (18.7%), higher risk drinkers expressed a slight preference for a strength-based tax increase (17.5%). Overall, it seems that the greatest level of support for any of the strategies was found among those likely to be least affected: lower risk and non-drinkers offered the most support for every strategy and higher risk drinkers the lowest. This perhaps underscores the role of price as a major determinant of alcohol consumption amongst those drinking at potentially harmful levels^[50].

4.4. Alcohol knowledge regarding health

Although some research has shown potential benefits from limited alcohol consumption for certain conditions and in certain populations^[16, 57], many more have clearly indicated its harmful effects^[58-60]. These complications in the evidence make it difficult to convey simple messages to the general population, and evidence suggests that people are confused by messages about sensible drinking, alcohol and health^[45]. To further understand these beliefs in Derby and Linacre, participants were asked about the potential effects of a small regular amount of alcohol on four common health conditions. Post-intervention, significant proportions of participants believed a glass of red wine three times a week would increase blood pressure (40.3%), the risk of heart disease (38.9%) and the risk of catching a cold (32.7%). Participants were less certain about the links between alcohol and cancer. Only the perceptions around catching a cold changed between surveys, with pre-intervention participants being more likely to be uncertain about the relationship with alcohol post-

intervention. However, the proportions believing alcohol would decrease the risks for catching a cold and blood pressure increased. For cancer, the proportion believing the suggested amounts of alcohol would increase the risk reduced from 33.7% to 25.6%. Whilst an earlier evaluation of this campaign^[12] also explored beliefs about the relationship between the drinking pattern and health conditions featured in this study (with the exception of cancer), it found opinions more mixed about effects of alcohol on colds, heart disease and blood pressure, and no significant changes between surveys. Mixed opinions are perhaps to be expected when the media often presents mixed messages about the effects of alcohol on health^[61].

4.5. Awareness of health information/campaigns

Between pre- and post-intervention surveys, there was a significant decrease in the proportion not having seen health information about alcohol in the three months prior to survey (from 73.7% to 61.9%). This is considerably higher than found in the earlier evaluation^[12]. Those least likely to report having seen such information were increasing risk drinkers (69.4%), males (67.4%), the employed (67.3%), and non pre-loaders (68.0%). This differs markedly from the earlier evaluation, where no such association was found^[12]. The most common location for seeing such campaigns was TV (35.2%), higher than that of the original evaluation^[12]. Health settings were the next most common in our data (23.9%, again greater than in the original evaluation). As with the original evaluation^[12], our study found that very few sightings of alcohol-related health information occurred in pubs. Given the high proportion of our drinkers for whom the pub was the main source (53.7%), and location for drinking of alcohol (55.1%), greater emphasis could be placed on pubs as a campaign delivery site. Whilst some activities were successfully conducted in pubs (e.g. the *See a Better You* health checks), the earlier evaluation of *It's Your Choice* met with some resistance when trying to conduct the survey in such places^[12]. It may therefore, be a challenge to encourage landlords to embrace any future run of the campaign.

When asked to recall the campaign seen, the most commonly recalled was *Drinkaware*, followed by drink-driving (the most commonly recalled in the earlier evaluation^[12]). Very few reported seeing *It's Your Choice* unprompted. (Although it is not known to what extent participants who did not recall the specific content are referring to *It's Your Choice*). When post-intervention participants were prompted, 19.0% (n=96) of the recalled *It's Your Choice*, considerably lower than in the earlier evaluation (40%)^[12]. The proportion of respondents in this study who claim to have seen the campaign are lower than those considered necessary for prompting behaviour change^[62]. However, given the level of deprivation in the areas investigated, such low levels of awareness may not be surprising as it is known to be difficult to raise health awareness in areas with lower levels of education^[63]. It should be noted that a small number of participants (n<5) reported seeing the campaign on TV although it never used this medium.

The campaign adopted a number of aspects of 'best practice' in delivering health-based campaigns (for example, using multiple channels and using short intense runs to a specific targeted population^[14, 64]). However, there are a number of considerations that could be incorporated in future campaigns. Research has shown that recall of specific health campaign messages of health campaigns can be improved through use of more graphic and/or shocking imagery^[65, 66]. However, such tactics are not always successful^[67, 68] and need to be balanced with appropriate desirable behavioural alternatives^[69]. Evidence also suggests that information provision on its own rarely brings about behaviour change particularly in the long term^[70]. Consequently, any future runs of the campaign should consider providing suggestions and opportunities for healthier activities in addition to information about units and harms.

4.6. Limitations and future improvements

There were a number of limitations to the evaluation. Firstly, large proportions of those approached refused to participate in the study, creating bias in the sample. However, this is common for street-based surveys^[12, 24] and the final sample was large and incorporated a

wide range of population groups. Secondly, it is not possible to establish a causal link between the campaign and any changes in consumption and related harm because the pre- and post-intervention survey samples involved different people. This increased the potential effect of individual differences on the data. Thirdly, the absence of a control group limited the ability to infer the true extent of the effect of the campaign. Thus, external influences may have played a role in changes observed. For example, although research suggests that just before Christmas is a good time of year to mount a campaign such as *It's Your Choice*^[41], the associated traditional increase in consumption^[42] may have masked any potential effect of the campaign on consumption and related harms.

Whilst it is not possible to establish a firm causal link between exposure to the campaign and changes in alcohol consumption and/or related harms without a randomised control study, firmer conclusions could be drawn if future research incorporated the following:

- Conduct the same survey at the same time in the areas of Sefton exposed to the campaign and a similar area *not* exposed to the campaign. Data from both locations could be used to illustrate the difference between any changes in consumption. These differences could then illustrate the effects of the campaign; and/or
- Conduct the same survey in the target area during the summer and winter of next year (2012). Differences between the changes observed in consumption in the subsequent two surveys could illustrate the effects of the campaign versus those of seasonal variation.

Other environmental factors, such as economic downturns, can also affect drinking behaviour such as increasing light drinking and reducing heavy drinking^[71]. Factors such as these may explain why these data showed an increase in lower and increasing risk drinkers, whilst the proportion of higher risk drinkers remained relatively stable. Fourthly, the accuracy of self-report data on alcohol use can be affected by many factors, including; social desirability^[25], interviewer characteristics^[26], and selective recall^[27]. However, as in other studies^[12, 28], this project involved researchers who were trained to elicit honest responses from participants. Response rates and accuracy may have benefited from not asking for written consent^[29]. Finally, the short-term nature of the evaluation also made it difficult to fully establish the effects of the campaign. Any effects may not be immediately visible^[72], although the effects of information-based campaigns such as this one are often short-term^[70]. Consequently it may be difficult to ascertain true effects without longer-term campaigns and evaluations. This could be addressed by following-up the participants in the pre-intervention survey post-intervention. A longitudinal^{xv} analysis in the post-intervention sample could be conducted on changes in consumption and/or related harms. Participants could be split into two groups: those who do and those who do not report seeing the campaign. Comparing changes in these two groups could illustrate the effects of the campaign. However, it may be necessary to increase the sample size in such a longitudinal design to allow for loss of participants between surveys and to ensure that the numbers finally reporting having seen the campaign are large enough for meaningful statistical analysis (ideally, a minimum of 100 drinkers would be needed).

4.7. Summary

In summary, there was mixed evidence as to whether consumption and/or knowledge had changed between the surveys. However, considering the time of year that the post-intervention survey was conducted (at Christmas, when consumption and related harms are known to increase), it could be difficult to show an overall decrease in effects. Further research would be required as to whether the campaign itself was the cause of any changes seen. Whilst consumption in general was perceived as being resistant to manipulation through pricing strategies, personal consumption was particularly so. The proportion of

^{xv} Data is collected from the same sample at two or more different time points, rather than two or more samples at one time. This reveals any differences *across time* rather than *between groups*.

participants believing personal consumption could be reduced through the manipulation of pricing was lower for all strategies than when considering public consumption. This resistance was also evident when participants were asked to consider supporting the suggested strategies. There was an increase in the proportion having seen some kind of health information in the six months prior to survey, although relatively few could recall the message and few recalled the target campaign without prompting.

4.8. Recommendations

- Further work should be conducted with Derby and Linacre residents to target alcohol misuse, reduce consumption and identify methods of reducing such behaviours. To maximise the benefits of this work, any such campaigns should offer alternatives to drinking, go beyond provision of information and continue to involve local retailers (such as pubs and supermarkets). Long-term evaluations should be conducted to understand the potential effect of such a campaign.
- Campaigns should continue to aim to reduce consumption, as evidence shows that risk develops well below the recommended daily limits for consumption.
- Consideration should be given to linking future evaluation data to other data, such as local alcohol-related emergency department presentations and crime data to see if the campaign has the potential for impacting on these areas.
- Qualitative research should be conducted to understand the motivations for alcohol use within the target population and to understand the types of alternatives that can be offered to this population instead of alcohol consumption (for example, discounts/vouchers for gym memberships/outdoor/family pursuits etc). Research could also be conducted on identifying how best to utilise social marketing techniques in order to target future interventions towards specific in Sefton who are most at risk (for example, younger females, pre-loaders, higher risk drinkers).

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Appendix 1: 'See A Better You' – Pub Health Check Additional Data Tables

Table 9: Frequency of gender and age for health check recipients

Age	Male		Female		Total	
	Number	%	Number	%	Number	%
30-39	14	25	<5	6	16	17
40-49	20	35	12	33	32	34
50-60	18	32	17	47	35	38
61+	5	9	5	14	10	11
Total	57		36		93	

Source: Canning (2011)

Table 10: Frequency of postcode for health check recipients

Postcode	Number	%
L20	41	44
L21	28	30
In Sefton but outside L20 and L21	14	15
Non-Sefton	6	6
Not given	<5	4
Total	93	

Source: Canning (2011)

Table 11 Frequency of drinking category for health check recipients

Drinker category	Number
Lower risk drinker	41
Increasing risk drinker	27
Higher risk drinker	25

Source: Canning (2011)

Table 12: Number of cigarettes smoked per day for health check recipients

Number of cigarettes per day	Current smokers	% of those who provided quantities of cigarettes consumed
less than 10	<5	8
10 to 19	22	43
20 to 29	17	33
30+	6	12
Total	51	
Average	18	

Source: Canning (2011)

Table 13: Frequency of activity⁺ per week for health check recipients

Frequency	Number	%
None	23	25
Less than 1 hour	12	13
1 to 3 hours	28	30
More than 3 hours	23	25

Source: Canning (2011).

⁺Activity was defined as any activity that makes you breathe more heavily than normal.

Table 14: Frequency of Body Mass Index (BMI) classifications for health check recipients

BMI	Number	%
underweight (>18.5)	3	3
normal range (18.5 -24.9)	27	29
overweight (25.0 -29.9)	36	39
obese (>29.9)	27	29

Source: Canning (2011)

Table 15: Frequency of risk for hypertension due to systolic and diastolic blood pressure levels for health check recipients

Level of risk of hypertension	Due to systolic[^]		Due to diastolic⁺	
	Number	%	Number	%
Low risk	47	51	36	39
Medium risk	12	13	26	28
High risk	34	37	31	33
Average blood pressure (mmHg)	93	138	93	85

Source: Canning (2011).

[^] >139 = High Risk; >129, <140 = Medium Risk; <130 Low risk.

⁺ >89 = High Risk; >85; <90 = Medium Risk; <86 = Low Risk.

Table 16: Frequency of risk of cholesterol-related heart disease as indicated through total/ HDL cholesterol ratio for health check recipients

TC/HDL ratio[^]	Number	%
≤4.5	57	61
>4.5	35	38
Not recorded	1	1
Total	93	

Source: Canning (2011).

[^] ≤4.5 = Low Risk; >4.5 = High Risk.

Table 17: Diabetes risk associated with non-fasting glucose levels

Risk level	Glucose (non-fasting)⁺	
	Number	%
Low risk	56	60
Medium risk	25	27
High risk	12	13

Source: Canning (2011).

⁺ >=7.5 = High Risk; >=6.01, <7.5 = Medium Risk; <6.01 = Low Risk.

Table 18: Risk for developing Cardiovascular disease and Coronary Heart disease over next 10 years

Risk level	Cardiovascular disease (CVD) [^]		Coronary heart disease (CHD) ⁺	
	Number	%	Number	%
Low risk	47	51	25	27
Medium risk	30	32	52	56
High risk	16	17	16	17

Source: Canning (2011).

Risk scores calculated using the Joint British Societies (JBS2) risk assessment too:

[^] >=20 = High Risk; >=10, <20 = Medium Risk; <10 = Low Risk.

⁺ <=11 = High Risk; <=37 = Medium Risk; >37 = Low Risk.

Table 19 Frequency of lifestyle advice provided as part of health check

Topic	Number of recipients*	% of all health check recipients receiving advice
Smoking	24	26
Weight	26	28
Alcohol	29	31
Exercise	35	38
Diet	35	38
Lifestyle [^]	39	42

Source: Canning (2011).

[^] Individuals could receive more than one area of lifestyle advice.

Table 20: Referrals for further support[^]


Referral to	Number of referrals offered	% of referral offers that were accepted	% of all health check recipients referred for further support
GP	17	100	18
Alcohol service	7	71	5
Support	6	67	4
Weight management	<5	100	3
Total	33		31

Source: Canning (2011).

[^] A total of 22 people were offered referrals.

Appendix 2: Questionnaire

Full postcode:
Sex: Male Female
Age: 30-39 40-49 61+ 50-60
Occupation: Employed—full-time part-time
 Unemployed Student Other



1. Do you drink alcohol? Yes *If yes, please go to Q4* No
2. When did you stop drinking?
3. Do you intend to maintain this? Yes No *For less than 6 months* *Now please go to question Q14*

4. Have you drunk alcohol in the past 7 days? Yes No *(If no please go to Q8)*

5. In the past 7 days, on which days did you drink alcohol and how many drinks (e.g., pints/cans/glasses) did you consume?

Alcohol	Mon	Tue	Wed	Thurs	Fri	Sat	Sun
Lager/beer/bitter/cider etc. What is your usual brand?							
Glass of spirit e.g. vodka. Circle your usual measure (single, double, don't know).							
A glass of wine. Circle your usual measure (small - 125ml; Standard - 175ml; Large - 250ml; don't know).							
A glass of fortified wine e.g. sherry, port, martini etc.							

6. Is this more or less than you would usually drink in a week?

More If more or less, is there a reason?
 Less
 About the same

7. How many units of alcohol do you think you drank on your most recent drinking day?

8. Where do you most often drink your alcohol?

Pub/club Home Friends' or family's home
 Other

9. During the last month, how many times have you had the following happen to you due to drinking?

Been involved an accident
 Been involved in a fight
 Been sick (i.e. threw up/vomitted)
 Regretted something you have said or done
 Been unable to do something that was expected of you
 Been unable to remember the night before
 Been in trouble with the police
 Been advised by a friend/family member/health professional to reduce your drinking?

10. Where do you most often buy your alcohol?

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

11. How often do you go out to the following?

Never *(if never then please go to Q15)*
 Less than once a month
 1-3 days a month
 Once a week
 2-4 days a week
 5 or more days a week

Pubs/clubs
 Friend's/family's houses
 other

12. Do you normally drink alcohol before going out?

Yes No

13. Do you normally continue drinking when you get back home after a night out?

Yes No

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

A standard bottle of wine
 A 4 pack of Stella Artois or such lager/beer
 A pub measure of spirit (e.g., whisky, gin etc)
 4 pints of lager/beer (e.g., Carlsberg)

15. Which of these examples do you think an average person could drink in an hour before being over the legal drink driving limit? (please tick all that apply)

- One pint of medium strength (e.g. Fosters) lager
- Two standard (175ml) glasses of wine
- Two (25ml) shots of vodka
- Three alcopops (e.g. WKD)

16. What do you think are the recommended daily alcohol limits for males and females?

	1 unit or less	2-3 units	3-4 units	4-5 units
Males	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Females	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

To reduce alcohol consumption, the government could either increase tax on alcoholic drinks or set a minimum price per unit of alcohol in a drink. If they chose to set a minimum price of 50p per unit of alcohol, a bottle of wine would then cost at least £4.70 and a 4-pack of standard beer at least £3.60. With this in mind....

17. What effect do you think the following would have on alcohol consumption by the general public?

	None	Drink a bit less	Drink a lot less	Don't know
A minimum price per unit of alcohol in a drink	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A tax increase based upon drink strength	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A standard tax increase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. What effect do you think the following would have on your personal alcohol consumption?

	None	Drink a bit less	Drink a lot less	Don't know
A minimum price per unit of alcohol in a drink	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A tax increase based upon drink strength	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A standard tax increase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. Which of the following would you support?

- Increase the tax on all alcoholic drinks by the same amount
- Increase the tax on stronger drinks more than on weaker ones
- Set a minimum price per unit of alcohol for all alcoholic drinks
- None of these
- Other

20. How do you think drinking small amounts of alcohol regularly (e.g. one glass of red wine three times a week) affects the following?

	Increases	Decreases	Has no effect	Don't know
Risk of catching colds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Risk of heart disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Blood pressure levels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Risk of cancer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. Have you seen any health information on alcohol in the last 3 months? Yes No

If yes, please give details (e.g., where, what, when?):

22. Have you seen/heard of the *It's Your Choice Campaign*? Yes No

If yes, please give details (e.g., where, what when?):

For drinkers only

23: In the last month has the amount you drink: Yes No

- Increased
- Decreased
- Stayed the same

24: Do you think in the next 6 months the amount you drink will: Yes No

- Increase
- Decrease
- Stay the same

For interviewer use

Date and time: _____ Interviewer: _____ location: _____

Thank you

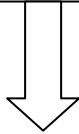
Appendix 3: Verbal Briefing Note



(To be read by researcher to participant prior to giving out information sheet)

- Hi, I'm from John Moores University and I was wondering if you had a few minutes to run through a very quick alcohol survey?

If YES/NOT SURE/DON'T KNOW



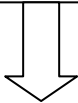
If NO



OK, thanks for stopping anyway.

- It's to help your local NHS understand how people use alcohol and what they think about it.
- It takes about 10 minutes to do.
- It's completely anonymous and confidential and your answers can help Sefton NHS plan services better.
- You can ask questions, change your mind or even withdraw at any point if you want to.
- Might you be interested in taking part?

If YES



If NO



OK, thanks for stopping anyway.

- That's great. Can I just give you this information sheet (*give a participant information sheet to the person*) to look at to help you make sure you're ok with doing it? It just tells you more about the project and how you are under no obligation, won't be identified etc.
- It also has my contact details on it, and contact details of some alcohol advice services if you feel you need any more info about drinking etc.

Appendix 4: Information sheet



Title of Project:

Investigating drinking behaviours and alcohol knowledge amongst people resident in Linacre and Derby: An updated evaluation of *It's Your Choice*.

Name and contact details of researcher:

Kevin Sanderson-Shortt
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Centre for Public Health, Research Directorate
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Tel: 0151 231 4421

You are being invited to take part in a research study. Before you decide it is important that you understand why the research is being done and what it involves. Please take time to read the following information. Ask us if there is anything that is not clear or if you would like more information. Take time to decide if you want to take part or not.

What is the purpose of the study?

Alcohol use can cause problems for some people (e.g., health problems, social problems, trouble with authorities etc). To help us understand how people use alcohol and what they know about it, this study aims to investigate the drinking behaviours and alcohol knowledge of people from the Linacre and Derby wards of Sefton.

Do I have to take part?

It is up to you to decide whether or not to take part. Refusing to take part will not affect your rights/any future treatment/services you receive.

What will happen to me if I take part?

If you take part you will be given this information sheet. We won't ask you to sign a consent form because answering the questions will be considered as consent. You will be asked to take 5-10 minutes to complete an anonymous and confidential questionnaire. In addition to questions about alcohol knowledge and use, you will be asked for your postcode, age and gender. None of this will be used to trace you or contact you. You will be able to withdraw from the survey at any time and/or ask the researcher any questions whilst you are doing the survey or after.

Are there any risks / benefits involved?

There are no risks but your answers will help shape future services for those who use alcohol and may have problems with it.

Will my taking part in the study be kept confidential?

Everything you tell us will be kept completely confidential and anonymous. Because we haven't asked for your name or date of birth there will be no way to identify your answers in the data we collect. Paper questionnaires will be kept in a locked filing cabinet and all the electronic data will be kept on a computer with a password that only the researcher will know.

If you have any further questions please contact the researcher as detailed above.

Thank you.

Appendix 5: Further tables from the findings

Table 21: Average alcohol unit content of various types of drinks

Type of drink	Average alcohol units contained*
Bottle of small alcopops (275ml)	1.5
Bottle or can of standard lager/bitter/cider (assuming average quantity = 385ml bottle/can multiplied by units in a standard strength pint).	1.4
Pint of standard strength beer/lager/cider	2.0
Bottle or can of strong lager/bitter/cider (assuming average quantity = 385ml bottle/can multiplied by units in a pint of typical strong cider).	2.7
Pint of strong bitter/lager/cider	4.0
Glass of wine - 125mls (small)	1.4
-175mls (medium)	2.0
-250mls (large)	2.8
Fortified wine etc.,	1.0
Shot (spirit)	1.0

*The units of alcohol per drink type (e.g., per bottle of alcopops, pint of standard lager) were derived from the General Lifestyle Survey^[73] and Big Drink Debate^[12]. Unit contents were multiplied by the number of bottles/cans/shots or glasses consumed by an individual to estimate numbers of units consumed.

Table 22: Odds of occasional drinking, drinking in the last week, exceeding recommended weekly limits and/or drinking on four or more occasions in the last week[§]

<i>Drinking behaviour</i>	<i>Factors predicting drinking behaviour</i>		<i>Significance</i>	<i>Odds ratio</i>	<i>95% confidence interval [^]</i>
	<i>Category</i>	<i>Sub-category</i>			
<i>Occasional drinker</i>	<i>Time of survey</i>	<i>Pre-intervention</i> <i>Post-intervention</i>	NS	NS	NS
	<i>Age</i>	50-60 years 40-49 years 30-39 years	***	(Ref) 1.8 3.0	1.2-2.8 1.9-4.7
	<i>Gender</i>	<i>Female</i> <i>Male</i>	***	(Ref) 2.1	1.5-3.1
	<i>Occupational status</i>	<i>Full-time</i> <i>Part-time</i> <i>Unemployed/student/other</i>	NS	NS	NS
<i>Drank in the last week</i>	<i>Time of survey</i>	<i>Pre-intervention</i> <i>Post-intervention</i>	***	(Ref) 3.3	2.3-4.8
	<i>Age</i>	50-60 years 40-49 years 30-39 years	NS	NS	NS
	<i>Gender</i>	<i>Female</i> <i>Male</i>	***	(Ref) 2.5	1.8-3.6
	<i>Occupational status</i>	<i>Full-time</i> <i>Part-time</i> <i>Unemployed/student/other</i>	NS	NS	NS
<i>Exceeded recommended weekly limits</i>	<i>Time of survey</i>	<i>Pre-intervention</i> <i>Post-intervention</i>	NS	NS	NS
	<i>Age</i>	50-60 years 40-49 years 30-39 years	***	(Ref) 2.2 2.3	1.4-3.4 1.5-3.5
	<i>Gender</i>	<i>Female</i> <i>Male</i>	***	(Ref) 3.0	2.1-4.4
	<i>Occupational status</i>	<i>Full-time</i> <i>Part-time</i> <i>Unemployed/student/other</i>	NS	NS	NS
<i>Drank on at least 4 days in the last week</i>	<i>Time of survey</i>	<i>Pre-intervention</i> <i>Post-intervention</i>	***	(Ref) 2.3	1.7-3.2
	<i>Age</i>	50-60 years 40-49 years 30-39 years	NS	NS	NS
	<i>Gender</i>	<i>Female</i> <i>Male</i>	***	(Ref) 2.2	1.5-3.0
	<i>Occupational status</i>	<i>Full-time</i> <i>Part-time</i> <i>Unemployed/student/other</i>	***	(Ref) 1.8 2.5	1.2-2.8 1.7-3.6

[§]Using backwards stepwise logistic regression. *Among the whole sample; **Among those who drink occasionally; ***Among those who drank in the pre-survey week. All factors controlled for in each analysis are shown in the table, whether significant or not. NS = not statistically significant; *** statistically very highly significant (p<0.001).
[^]The values between which the odds ratio would lie in 95/100 repeated tests.

Table 23: Odds of usually pre-loading and/or having binged in the week prior to survey[§]

Drinking behaviour	Factors predicting drinking behaviour		Significance	Odds Ratio	95% Confidence Interval [^]
	Category	Sub-category			
Pre-loads ⁺	Time of survey	Pre-intervention Post-intervention	NS	NS	NS
	Age	50-60 years	***	(Ref)	0.9-3.0 2.5-7.2
		40-49 years		1.7	
		30-39 years		4.3	
	Gender	Male	***	(Ref)	1.9-4.2
		Female		2.9	
Occupational status	Full-time	***	(Ref)	1.3-3.4 1.9-4.6	
	Part-time		2.1		
	Unemployed/student/other		2.9		
Binged in last week	No	**	(Ref)	1.4-6.9	
	Yes		3.1		
Drinker classification	Lower risk	***	(Ref)	1.2-3.6 2.0-7.2	
	Increasing risk		2.1		
	Higher risk		3.8		
Binged in pre-survey week ⁺⁺	Time of survey	Pre-intervention Post-intervention	NS	NS	NS
	Age	50-60 years	NS	NS	NS
		40-49 years		NS	
		30-39 years		NS	
	Gender	Female	***	(Ref)	2.3-6.7
		Male		3.9	
Occupational status	Full-time	NS	NS	NS	
	Part-time		NS		
	Unemployed/student/other		NS		
Pre-loads	No	**	(Ref)	2.0-8.8	
	Yes		4.2		
Drinker classification	Lower risk	NS	NS	NS	
	Increasing risk		NS		
	Higher risk		NS		

[§]Using backwards stepwise logistic regression. ⁺Among those who drink occasionally; ⁺⁺Among those who drank in the pre-survey week. All factors controlled for in each analysis are shown in the table, whether significant or not. NS = not statistically significant; ** statistically highly significant (p<0.01); *** statistically very highly significant (p<0.001). [^]The values between which the odds ratio would lie in 95/100 repeated tests.

Table 24: Likelihood of membership in a given drinker classification^{§*}

Drinking classification	Factors predicting drinking behaviour		Significance	Odds ratio	95% confidence interval [^]
	Category	Sub-category			
Non-drinkers	Time of survey	Post-intervention Pre-intervention	NS	NS	NS
	Gender	Female Male	***	(Ref) 2.1	1.4-3.1
	Age	30-39 years 40-49 years 50-60 years	***	(Ref) 1.7 3.0	1.0-2.7 1.9-4.7
	Occupational status	Full-time Part-time Unemployed/student/other	NS	NS	NS
Lower risk drinker	Time of survey	Post-intervention Pre-intervention	***	(Ref) 2.0	1.5-2.6
	Gender	Male Female	***	(Ref) 2.4	1.8-3.1
	Age	30-39 years 40-49 years 50-60 years	NS	NS	NS
	Occupational status	Full-time Part-time Unemployed/student/other	NS	NS	NS
Increasing risk drinker	Time of survey	Pre-intervention Post-intervention	***	(Ref) 2.1	1.6-2.8
	Gender	Female Male	***	(Ref) 2.1	1.6-2.7
	Age	30-39 years 40-49 years 50-60 years	NS	NS	NS
	Occupational status	Full-time Part-time Unemployed/student/other	NS	NS	NS
Higher risk drinker	Time of survey	Post-intervention Pre-intervention	NS	NS	NS
	Gender	Female Male	***	(Ref) 2.7	1.8-3.9
	Age	50-60 years 40-49 years 30-39 years	**	(Ref) 2.1 2.1	2.1-3.6 1.3-3.5
	Occupational status	Full-time Part-time Unemployed/student/other	NS	NS	NS

[§]Using backwards stepwise logistic regression. ^{*} Among the whole sample. Pre-loading and bingeing at least once in the pre-survey week were also examined but were not significant predictors of drinker classification. NS = not statistically significant; ** statistically highly significant (p<0.01); *** statistically very highly significant (p<0.001). [^]The values between which the odds ratio would lie in 95/100 repeated tests.

Table 25: Odds of an increase in consumption during: pre-survey week; pre-survey month; and/or post-survey six months[§]

Period of increase	Factors predicting drinking behaviour		Significance	Odds Ratio	95% Confidence Interval [^]
	Category	Sub-category			
Pre-survey week ⁺	Time of survey	Pre-intervention	*	(Ref)	
		Post-intervention		1.6	1.1-2.3
Pre-survey month ⁺⁺	Drinker classification	Lower risk	NS	NS	NS
		Increasing risk			
		Higher risk			
Pre-survey six months ⁺⁺	Time of survey	Pre-intervention	NS	NS	NS
		Post-intervention			
Post-survey six months ⁺⁺	Drinker classification	Lower risk	**	(Ref)	1.7-9.7
		Increasing risk			
		Higher risk			
Post-survey six months ⁺⁺	Time of survey	Pre-intervention	***	(Ref)	2.5-6.9
		Post-intervention			
Post-survey six months ⁺⁺	Drinker classification	Lower risk	NS	NS	NS
		Increasing risk			
		Higher risk			

[§]Using backwards stepwise logistic regression. ⁺Of those who drank in the pre-survey week; ⁺⁺Of those who drink occasionally. Gender, age, occupational status, binged/not in pre-survey week and pre-loading/not were also controlled for but proved non-significant. NS = not statistically significant; * statistically significant ($p < 0.05$); ** statistically highly significant ($p < 0.01$); *** statistically very highly significant ($p < 0.001$). [^]The values between which the odds ratio would lie in 95/100 repeated tests.

Table 26: Reasons for changes in consumption
(a) Increase

<i>Increased consumption</i>			
<i>Reason</i>	<i>Pre-intervention</i>	<i>Post-intervention</i>	<i>Total</i>
<i>No particular reason given</i>	16	5	21
<i>Sport</i>	11	9	20
<i>Extra socialising (e.g. attending weddings/parties /family events/X-factor party)</i>	15	15	30
<i>Stress/boredom/increased availability/attractive offers/</i>	4	5	9
<i>Lack of family/work commitments/rewarded self/on holiday</i>	5	3	8
<i>Xmas</i>	0	26	26
<i>Total</i>	51	63	114

(b) Decrease

<i>Decreased consumption</i>			
<i>Reason</i>	<i>Pre-intervention</i>	<i>Post-intervention</i>	<i>Total</i>
<i>No particular reason given</i>	19	0	19
<i>Socialised less/working overtime</i>	7	9	16
<i>Weather/illness stopped participant getting out</i>	3	7	10
<i>Decided to cut down/dieting</i>	3	1	4
<i>Increased family/other commitments</i>	3	4	7
<i>Had less money to spend on alcohol/in general</i>	3	2	5
<i>Saving for Xmas</i>	0	16	16
<i>Total</i>	38	39	77

Table 27: Odds of primarily sourcing alcohol from pubs/supermarkets^{§+}

Primary source	Factors predicting drinking behaviour		Significance	Odds Ratio	95% Confidence Interval [^]
	Category	Sub-category			
Pubs	Gender	Female	***	(Ref)	4.0-8.3
		Male		5.7	
	Occupation	Student/unemployed/other Employed F/T Employed P/T		***	(Ref)
2.4					
1.9					
Binged in pre-survey week		No	***	(Ref)	1.9-6.2
		Yes		3.5	
Supermarkets	Gender	Male	***	(Ref)	3.0-6.4
		Female		4.4	
	Occupation	Student/unemployed/other Employed F/T Employed P/T		NS	NS
NS					
NS					
Binged in pre-survey week		No	***	(ref)	1.6-4.2
		Yes		2.6	

[§] Using backwards stepwise logistic regression. ⁺ Of those who drink occasionally. Time of survey, pre-loading/not, age and drinker classification were also controlled for but proved non-significant. NS = not statistically significant; *** statistically very highly significant (p<0.001). [^] The values between which the odds ratio would lie in 95/100 repeated tests.

Table 29: Likelihood of reporting any harm^{§+}

Category	Sub-category	Significance	Odds Ratio	95% Confidence Interval [^]
Age	50-60	***	(ref)	2.5-6.9 1.8-5.3
	40-49		3.1	
	30-39		4.1	
Pre-loading	No	***	(ref)	1.2-2.6
	Yes		1.8	
Drinker classification	Lower risk	***	(ref)	1.7-4.5 2.0-6.3
	Increasing risk		2.8	
	Higher risk		3.6	

[§] Using backwards stepwise logistic regression. ⁺ Among those who drink occasionally. *** statistically very highly significant (p<0.001). [^] The values between which the odds ratio would lie in 95/100 repeated tests. Age, drinking classification, pre-loading, and time of survey were also examined but were not significant predictors of bingeing.

Table 28: Odds of primarily drinking in pubs/at home and/or attending pubs at least once per week^{§+}

Drinking location	Factors predicting drinking behaviour		Significance	Odds Ratio	95% Confidence Interval [^]
	Category	Sub-category			
Primarily drinking in pubs	Gender	Female	***	(Ref)	3.7-7.7
		Male		5.3	
	Occupation	Student/unemployed/other Employed F/T Employed P/T	***	(Ref)	1.7-4.0
2.7				1.2-3.1	
2.0					
Binged in pre-survey week	No Yes	***	(Ref)	2.0-6.1	
			3.5		
Primarily drinking at home	Gender	Male	***	(Ref)	2.5-5.3
		Female		3.7	
	Occupation	Employed F/T Employed P/T Student/unemployed/other	***	(Ref)	0.7-1.9
1.2				1.5-3.4	
2.2					
Binged in pre-survey week	Yes No	***	(Ref)	1.6-4.4	
			2.7		
Attends pubs at least once per week	Gender	Female	***	(Ref)	3.8-7.8
		Male		5.4	
	Occupation	Student/unemployed/other Employed F/T Employed P/T	NS	NS	NS
NS					
NS					
Binged in pre-survey week	Yes No	***	(Ref)	2.0-6.4	
			3.7		

[§] Using backwards stepwise logistic regression. ⁺Of those who drink occasionally. Time of survey, pre-loading/not, age and drinker classification were also controlled for but proved non-significant. NS = not statistically significant; *** statistically very highly significant ($p < 0.001$). [^]The values between which the odds ratio would lie in 95/100 repeated tests.

Table 30: Odds of correctly identifying recommended daily limits for both genders and/or knowing said limits for own gender^{§*}

Knowledge of recommended limits	Factors predicting drinking behaviour		Significance	Odds Ratio	95% Confidence Interval [^]
	Category	Sub-category			
Correctly identifying recommended daily limits for both genders	Time of survey	Pre-intervention	**	(Ref)	1.2-2.2
		Post-intervention		1.6	
	Gender	Female	NS	NS	NS
		Male			
Correctly identifying recommended daily limits for own gender	Time of survey	Pre-intervention	NS	NS	NS
		Post-intervention			
	Gender	Female	***	(Ref)	1.3-2.4
		Male		1.8	

[§] Using backwards stepwise logistic regression. ^{*} Among those who drink occasionally. Pre-loading/not, having binged in the pre-survey week, age and drinker classification were also controlled for but proved non-significant. NS = not statistically significant; *** statistically very highly significant ($p < 0.001$). [^] The values between which the odds ratio would lie in 95/100 repeated tests.

Table 31: Location of health information seen by participants in the three months prior to survey (frequency)

Time of sighting	TV	GP surgery/hospital	Around ⁺ Bootle	Media [§]	Unspecified location
Pre-intervention survey [^]	67	29	50	9	20
Post-intervention survey ⁺	48	49	34	28	21

[^] n=134 respondents; ⁺ n=192 respondents. ⁺ Includes shops, pubs, work, bus stops. [§] Includes printed, broadcast and non-specified. Participants may have not provided any details of said information, or reported on more than one location.

Table 32: Content of health information seen by participants in the three months prior to survey (frequency)

Time of sighting	Underage purchasing/drink driving	Relationship between alcohol and football	Calorie/unit content of alcohol	Hidden damage caused by alcohol	Drinkaware	It's Your Choice (unprompted)	It's Your Choice (prompted)
Pre-intervention [^]	2	1	0	0	0	0	16
Post-intervention ⁺	5	0	6	2	13	6	96

[^] n=134 respondents; ⁺ n=192 respondents. Participants may have not provided any details of said information, or reported on more than one location

Table 33: Reported location of the *It's Your Choice* campaign amongst participants in the second survey who reported seeing the campaign[^]

<i>Location</i>	<i>Around Bootle[§]</i>	<i>Bus stops/Train station</i>	<i>The Strand Shopping Centre</i>	<i>Hospital/ GP surgery/ Pharmacy</i>	<i>Unsure/other[§]</i>
	26	11	27	5	27

[^]n=96. [§]Includes pubs, pharmacy, TV (although because of its very limited geographical range the campaign did not actually include TV coverage). Participants may have not provided any details of said information, or reported on more than one location.



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