

THE *SHOULD YOU SUPPLY* COMMUNITY ALCOHOL INTERVENTION

An evaluation for the
Alcohol Advisory Council of New Zealand

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Executive summary

Should You Supply was a community based campaign designed to reduce levels of problematic drinking among under-18s by discouraging inappropriate supply of alcohol by adults, including parents. The campaign was implemented in September and October 2001 in the South Island districts of Ashburton and Waitaki. The message “Think before you buy under-18s drink” and a range of related images were used in intensive advertising in local news media and where alcohol is sold.

This report describes the evaluation of *Should You Supply*. The main indicators of the campaign’s effectiveness were (i) changes in the levels at which parents supplied their teenagers (13-17 years old) with alcohol for unsupervised drinking and (ii) levels of binge drinking among teenagers. These indicators were measured in Ashburton and Waitaki districts as well as Clutha, a demographically similar district where the campaign was not implemented.

A survey was conducted of 872 students in the three districts’ secondary schools, a month before the campaign commenced (a baseline survey). Students aged 15-17 years were asked about their recent drinking experience and where they had obtained alcohol in the past month.

A baseline survey of parents in the three districts was also conducted, with a sample of 748 parents of secondary school students. Parents gave information concerning their attitudes to teenage drinking and whether they had recently supplied their teen with alcohol and under what conditions. They were also asked to comment on a range of issues concerning the supply of alcohol to teenagers. Follow-up surveys were conducted after the campaign. At follow-up parents were asked to indicate what aspects of the campaign they saw or heard and how relevant and appealing the material was for them. Teens again provided information concerning their levels of drinking and sources of alcohol.

In the baseline survey half (49.4%) of teenagers reported a recent episode of binge drinking (i.e. 5 or more standard drinks on a single occasion in the preceding two weeks). Supply of alcohol by their parent(s) for unsupervised drinking was reported by 37.5% of teens. Recent purchases of alcohol by under-18s were fairly common (e.g. bottle shops: 16.1%; pubs/bars: 11.0%).

In contrast to teens, only 1.9% of parents said they had provided their teenager with alcohol for unsupervised drinking in the past month. Most parents expressed disapproval of teenage binge drinking and many supported tighter regulation of the availability of alcohol to teenagers, opposing the recent reduction in the age at which alcohol can be purchased.

Unfortunately, the low level at which parents reported supplying alcohol for unsupervised drinking meant that it would be impossible to detect a statistically significant decrease in the level of this behaviour. We instead relied on teen reports at baseline and follow-up to assess change. Analysis of data from 474 teenagers who completed questionnaires at baseline and follow-up, indicated that parent supply of alcohol for unsupervised drinking decreased in Ashburton and Waitaki (from 36.2% at baseline to 29.8% at follow-up). An increase was observed for the same period in

Clutha but this difference was not statistically significant. Levels of binge drinking appeared to decrease in all three districts but these differences were not statistically significant.

The campaign materials were seen by a greater proportion of respondents in Waitaki than in Ashburton. The most remarked upon campaign components were newspaper advertisements depicting teenagers in a drunken and compromised state. Responses to the campaign were generally positive.

On balance, *Should You Supply* appears to have been at least modestly successful in achieving short term reductions in levels of SUD. However, apparent reductions in binge drinking are probably not attributable to the campaign. Discrepancies between teenage and parent reports of SUD may be due to the latter providing a socially desirable survey response and to differences in the interpretation of what constitutes adult supervision. The lack of an apparent association between changes in SUD and teenage binge drinking may be a consequence of teenagers obtaining relatively small amounts of alcohol from their parents and larger quantities from other sources, e.g., from peers (many of whom can legally purchase alcohol) and from licensed establishments. Further research is required to determine whether this is the case.

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1. Introduction and objectives

1.1 Introduction

Hazardous consumption of alcohol by teenagers is considered a problem in many developed countries,^{1,3} including New Zealand.^{4,5} Recent epidemiological research suggests that although per-capita consumption of alcohol has declined in the last two decades in New Zealand, levels of drinking to intoxication among young people have increased.^{6,7}

Of ongoing concern is the supply of alcohol to people under the legal purchasing age. Monitoring by the Alcohol Advisory Council (ALAC) suggests that a substantial proportion of under-18s* obtain alcohol from their parents† and other adults for unsupervised drinking.⁸ In light of these concerns, ALAC initiated a campaign to address the inappropriate supply of alcohol to teens. Partnerships were established with public health workers in two South Island districts: Ashburton and Waitaki.

1.2 The campaign

The *Should You Supply* campaign was a community based intervention, inspired by the pioneering work of Holder and colleagues.⁹ Its objectives and format were developed by the communities in consultation with local public health experts and the Alcohol Advisory Council. The campaign involved local newspaper and radio advertisements concerning the dangers of supplying alcohol to teenagers, local radio and print media interviews with community workers, media events, billboard advertisements, the distribution of printed material, and the presentation of campaign information at point of sale. *Should You Supply* ran from mid September to the end of October 2001. Examples of campaign materials are presented in Appendix 1.

The aims of the campaign were:

- (i) To increase the knowledge of adults in the Ashburton and Waitaki districts of the risks of supplying alcohol to teens.
- (ii) To encourage a change of attitude such that a teenager's parent is considered the only appropriate supplier of alcohol, and that teenage drinking should occur only under adult supervision.
- (iii) To effect a reduction in the percentage of adults who supply alcohol to teens for unsupervised consumption.

The term *supply for unsupervised drinking (SUD)* will be used in this report to refer to the supply of alcohol by a parent or legal guardian for consumption by their teenager in a setting where there is no adult supervision.

* Hereafter, the term *teenager* or *teen* will be used to refer to a person aged 13-17 years.

† For convenience, the term *parent* will be used in place of "parent or guardian" in this report.

1.3 Primary outcome measures

Primary outcome measures were:

- (i) Change in the level of parent SUD
- (ii) Change in the level of teenage binge drinking

2. Methods

2.1 Evaluation design

The preliminary work and that described in this report can be placed in the context of a recognised model of program development and evaluation.¹⁰ This model identifies four stages in the evaluation process:

- (1) *Needs assessment and development of the intervention.* This included identifying the extent of problematic teenage drinking, identifying sources of inappropriate supply of alcohol to teens, and canvassing community views on the proposed intervention. This work, commissioned by ALAC, was completed prior to the evaluation described in this report.¹¹
- (2) *Process evaluation,* including: (a) appraisal of program delivery, (b) assessment of the quality of methods used (c) determination of whether the intervention reached the intended audience and was acceptable to this group. Parts (a) and (b) were being conducted by ALAC in partnership with the communities involved in the project. Part (c) was addressed in the evaluation reported here.
- (3) *Impact evaluation* included an assessment of the effects of the evaluation on the target group, e.g. changes in parents' knowledge, attitudes, intentions, and self-reported behaviour. Findings of the impact evaluation are presented in this report.
- (4) *Outcome evaluation* included an assessment of any change in (i) the level of SUD measured by teen reports, and (ii) levels of teenage binge drinking. Findings of the outcome evaluation are presented in this report.

The design of the impact and outcome evaluation adopted here originated with Jennifer Harris and Tai Kake of ALAC, and was modified by *Kypri & Dean* after extensive consultation.

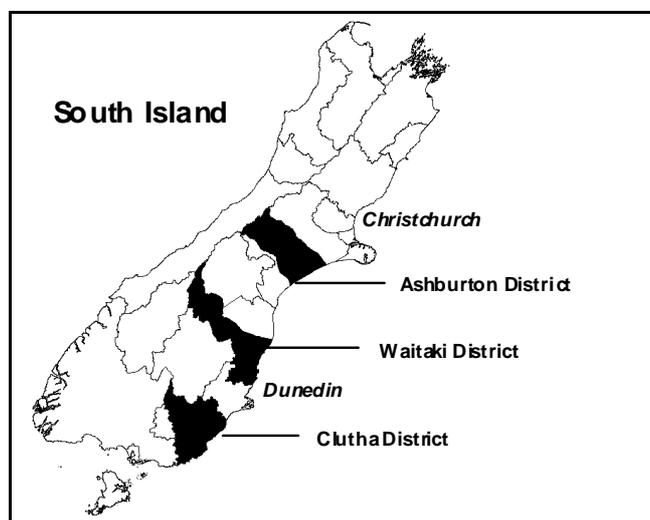
A number of issues were considered in the selection of an impact and outcome evaluation design that would permit the strongest causal inference as to the effect of the campaign, given time, budgetary, and other constraints. Issues considered included:

- Whether a randomised controlled trial was practicable
- The attainment of samples that were representative of the target communities and sufficiently large to produce precise estimates of SUD and binge drinking levels
- Potential sources of bias
- The acceptability of the evaluation methods to the communities

The result was a quasi experiment with multiple comparison groups and a mixed design.¹² In this design, treatment group formation is governed by matters of convenience rather than a result of randomisation. Given the high levels of support in the Ashburton and Waitaki communities for some action to be initiated on SUD, these districts were selected for the campaign intervention. On the basis of its demographic

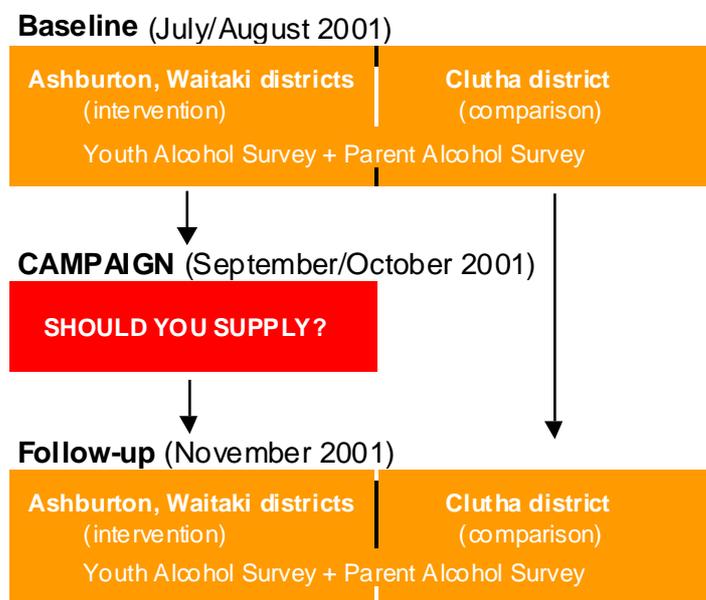
similarity to the intervention sites, and its geographic proximity,¹³ Clutha district was selected as a comparison site. The locations of these districts are shown in Figure 1.

Figure 1. Location of districts involved in the *Should You Supply* evaluation



The evaluation design is represented in Figure 2, below.

Figure 2. Overview of evaluation design



2.2 Questionnaire development and composition

Youth surveys

There were two youth alcohol surveys. The YAS I form was used at baseline and the YAS II form was used at follow-up (see Appendices 2 & 3). Their development is described below.

The YAS I was developed from a telephone questionnaire provided by ALAC, and was pre-tested with 10 high school students in the Dunedin area. Students were asked to complete the form anonymously and to separately comment on the comprehensibility and acceptability of the questions. Respondents were also invited to say how the form might be improved. The form was revised accordingly.

The YAS I included items requesting the following:

- Demographic data: gender, age group, and ethnicity (using the Census 2001 question).
- Levels of drinking
- Information concerning where and from whom they obtained alcohol

The YAS II included items from the YAS I plus questions concerning the following domains:

- Alcohol-related problems (adapted from the Customary Drinking and Drug Use Record¹⁴)
- Whether the frequency with which teens discussed aspects of SUD with their parents changed over the course of the campaign

Parent surveys

There were two parent surveys. The PAS I form was used at baseline and the PAS II form was used at follow-up (see Appendices 4 & 5). Their development is described below.

The PAS I was developed from a telephone questionnaire provided by ALAC, and was pre-tested with 13 parents in the Dunedin and Balclutha areas. Parents were asked to complete the form anonymously and to separately comment on the comprehensibility and acceptability of the questions. Respondents were also invited to say how the form might be improved. The form was revised accordingly.

The PAS I included items requesting the following:

- Respondent's demographic data: gender, age group, and ethnicity (using the Census 2001 question)
- Their teen's age and gender
- Information concerning their supply of alcohol to their teenager and other teenagers
- Attitudes toward teenage drinking and the supply of alcohol to teenagers
- Comments

In the PAS II respondents were asked to indicate whether they had seen (or heard) each of a range of campaign components (e.g. newspaper advertisements).

Respondents were then asked to rate the campaign on the following dimensions: relevance to them, relevance to others, appeal, and likely effectiveness. Finally, the PAS II asked parents to indicate whether the frequency with which they discussed supply of alcohol to teens changed in the preceding months. Comments were invited in a number of places on the form. An abbreviated form of the PAS II which did not ask for ratings of the campaign materials was developed for use in the comparison district.

2.3 Ethical and legal considerations

Asking teenagers about drinking

We were concerned that asking 13 and 14 year-olds about drinking alcohol might create, in them, a perception that they ought to have started drinking, or ought to be drinking more. This potential risk is easily averted where a more personalised method of data collection is used (e.g. a face-to-face interview). With the brief self-completed format utilised here, it was considered preferable to make the lower age limit for the teen sample 15 years, by which time the majority of New Zealanders have started to drink alcohol.⁴ Accordingly, the YASI and II were administered to students in years 11-13 (year 11 students are, on average, 15 years of age).

Dealing with parents' concerns

Parents were provided with the researchers' contact details and were encouraged to ask any questions relating to the evaluation (refer to cover letter to PAS I in Appendix 9). It was foreseen that completion of the surveys might raise concerns in some parents about their teen's drinking and well-being. The only parent who approached the researchers with such concerns was provided with the contact details of the Alcohol Helpline and of the local Community Alcohol and Drug Service. School guidance counsellors were also suggested as an alternative source of advice.

The Privacy Act (1993)

Principle 11, section (ii) of the Privacy Act (1993), makes provision for organisations to release contact details for the purpose of research which does not identify individuals. In the present circumstance, schools supplied parent names, addresses and phone numbers on the condition that respondents would not be personally identified in any report. Identifying information was used only for the purpose of posting survey forms, conducting telephone reminders and interviews, and notifying the winners of prize draws.

2.4 Sampling

Secondary school enrolment lists from the three districts served as the sampling frame for youth and parent surveys at baseline and follow-up. All secondary schools in the three districts participated. The computation of sample size estimates is described in Appendix 6.

In Clutha, responses were sought from all year 11, 12, and 13 students and from all households in the district with a teenager in years 9-13 at either of Clutha District's secondary schools. In Ashburton and Waitaki districts year 11-13 classes available at the time of our visits were selected to complete the YASI. These classes were revisited at follow-up. For the parent survey, equal sized random samples were selected

from the enrolment lists of the Ashburton and Waitaki schools. Only parents who resided in the district were eligible for selection. Each household received only one parent survey irrespective of the number of teenagers residing there.

For the PAS II, a 30% random sample (N=226) was selected from respondents to the PAS I. The sampling procedure is further described in Appendix 7.

2.5 Survey administration

YAS I & II

The seven schools involved in the evaluation were each visited in the last week of July 2001 by a researcher, who administered survey forms to students in years 11, 12 and 13 from the selected classes. In cases where data collection occurred in more than one classroom simultaneously, teachers introduced the YAS I according to a script (Appendix 8). Students were asked to seat themselves with sufficient privacy to complete the questionnaire, and to remain silent while doing so.

In the first week of November 2001 a researcher returned to each school and attempted to visit the same classes visited in July. The YAS II was administered using the same procedure used in July. On both occasions respondents received a pen bearing the ALAC web-site address as a token of thanks for their participation. No student refused to complete the surveys. Each survey took under 10 minutes to complete.

PAS I & II

For the PAS I we utilised the Tailored Design Method,¹⁵ in which a number of personalised contacts are made with sampled households for the purpose of maximising response rates.

All sampled households received a letter in late July 2001 (Appendix 9), along with a survey form. Included in the mail out was a stamped return envelope. The letter informed potential participants that their responses would be confidential, that only statistical summary data would be reported, and that contact details would be stored separately from completed questionnaires. Entry in a prize draw was offered as an incentive to complete the survey. It was explained that the letter would be followed-up with a phone call in two weeks if the form was not returned in that time, but that any expression of unwillingness to participate would be respected without question. Based on our pre-testing data it is likely that parents completed the written survey in 3-15 minutes.

Trained interviewers (all with postgraduate qualifications in psychology), telephoned non-respondents, to request return of the survey forms and to offer the option of a telephone interview. Telephone interviews were conducted if requested. The PAS I telephone questionnaire included identical questions to the postal form.

The PAS II questionnaire was posted in the last week of October 2001, with a cover letter and return envelope. In the cover letter was a request that the person who completed the PAS I complete the PAS II. Entry in a prize draw was offered as an incentive to return the form by 30 November. Reminder telephone calls were made in mid-November.

2.6 Baseline measurements (i.e. before the campaign)

Drinking experience

Drinking experience was measured by percentages of the teenage sample that reported any lifetime use of alcohol (YASI, Questions 1 and 2), and recent binge drinking (YASI, Question 3), defined as consumption of five or more drinks in an episode in the two weeks preceding the survey.

Sources of supply

Indicators of sources of alcohol came from three questionnaire items: (i) youth reports of where they obtained alcohol in the month preceding the survey (YASI, Question 4), (ii) the circumstances in which teens reported being provided with alcohol by parents in the month preceding the survey (YASI, Question 7), and (iii) parent reports of the circumstances in which they supplied alcohol to their teenager (PASI, Question 4).

Indicators of parent attitudes to supply were derived from their responses to items (a) to (j) in the PASI, and from comments they made in response to PASI, Questions 4, 7, and at the end of the form.

2.7 Follow-up measurements (i.e. after the campaign)

Drinking experience

Drinking experience was indicated by percentages of teenagers that reported any lifetime use of alcohol (YAS II, Question 4), and recent binge drinking (Question 5).

Sources of supply

Indicators of sources of alcohol came from (i) teen reports of where they obtained alcohol in the month preceding the survey (YAS II, Question 8), and (ii) the circumstances in which teens reported being provided with alcohol by parents in the month preceding the survey (YAS II, Question 9).

We had intended to assess changes in the level of SUD from parent self-report but SUD was reported by so few parents at baseline (PAS I), that follow-up would have been pointless, i.e. it would have been impossible to detect any reduction in SUD. Teens' reports of SUD were far more common. We therefore relied on their reports of SUD at follow-up (YAS II) to examine change in the level of SUD. (The discrepancy between teen and parent reports of SUD is discussed in Section 7.3).

Raising of awareness concerning SUD

Measures of the level at which teenage drinking and inappropriate supply was discussed in community households were derived from PAS II Questions 6 and 7.

2.8 Data linkage

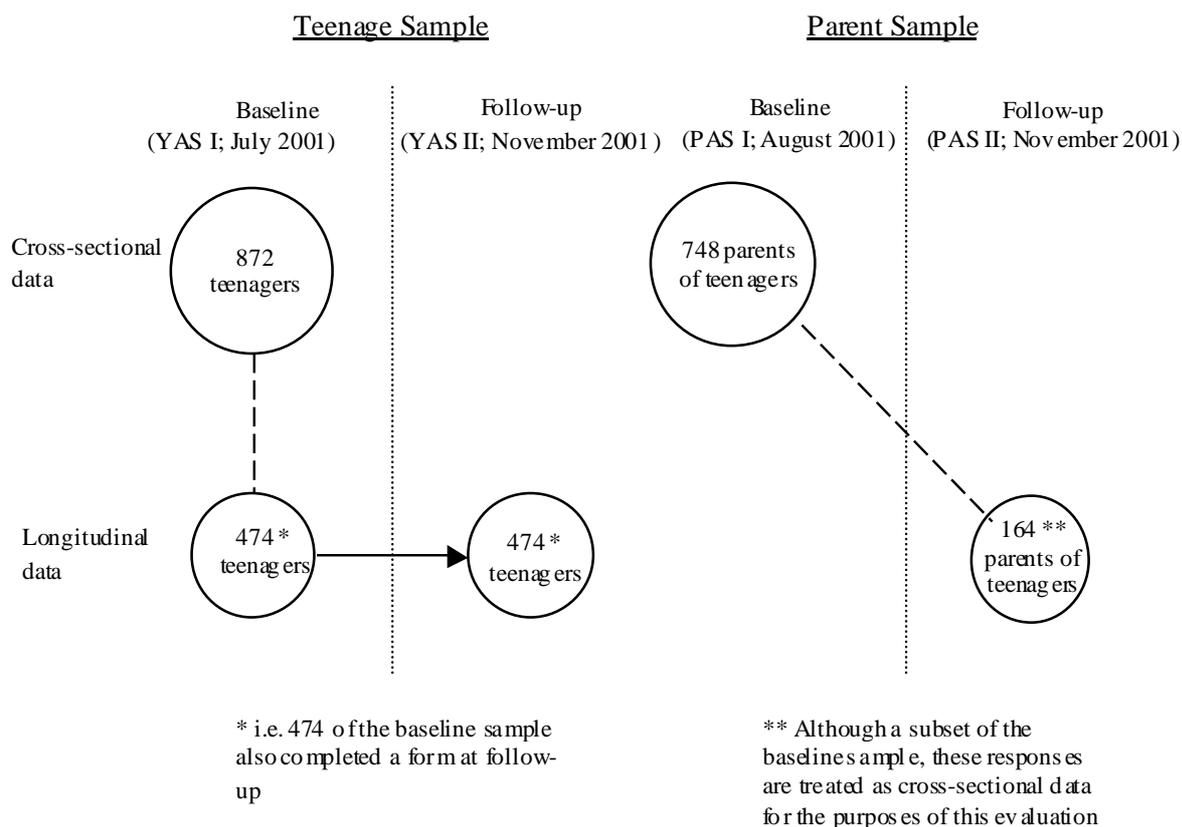
For the purpose of encouraging honest reporting, the YAS I and II were administered anonymously. In order to examine changes in individuals' drinking behaviour and reports of SUD, we adopted a data matching procedure in which a respondent's date of birth, gender, ethnicity, and school class, at each data collection occasion, were used to link survey forms completed by individuals while maintaining their

anonymity. The probability of a true mismatch given an apparent match is calculated to be 1 in 3,600.

2.9 Cross-sectional versus longitudinal data

A data collection schema is presented in Figure 3.

Figure 3. Data collection schema

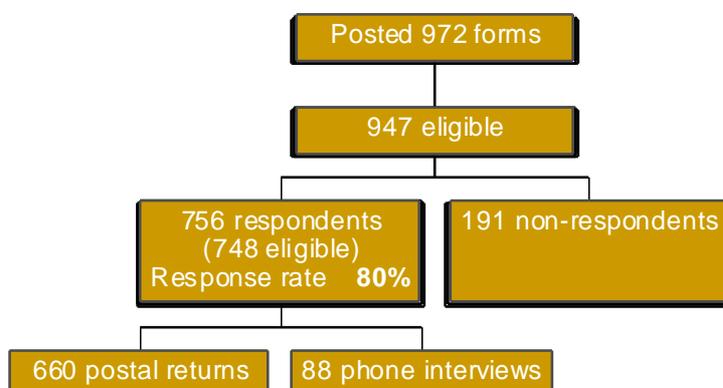


Cross-sectional data – i.e. Baseline only

YAS I forms were received from 982 teens, of whom 872 were under 18 years of age and submitted a valid questionnaire. These 872 cases constitute the cross-sectional sample used to describe levels of binge drinking and SUD at baseline (reported in Section 3).

A response schema for the parent baseline survey (PAS I) is shown in Figure 4.

Figure 4. Response schema for the parent baseline survey



PASI forms were sent to 972 households. In 25 cases, the selected parent was subsequently deemed ineligible to participate because the family had moved house or there was no longer anyone under 18 years of age in the household. Completed forms were received from 756 parents, of whom 88 provided data based on an 18 year-old. The remaining 748 cases represent 80% of the forms sent to eligible households. These are used to describe circumstances of parent supply of alcohol to teenagers (reported in Section 4).

Table 1 shows the number of respondents and the response rate for each district for the parent follow-up survey.

Table 1. Response rates for the parent follow-up survey (PAS II)

	<i>Ashburton</i>	<i>Waitaki</i>	<i>Clutha</i>	<i>All</i>
Completed forms	73	72	19	164
Eligible cases*	97	97	27	221
Response rate	75.3	74.2	70.4	74.2

* Three forms were returned to sender, suggesting that the intended recipient had left the address. Two forms were returned uncompleted by respondents who explained that they had been out of the district during the time of the campaign. These five cases were not included in the calculation of response rates.

PAS II forms were received from 164 parents (74% of the eligible PAS II sub-sample). These cases are used to describe the impact of the campaign on parents (reported in Section 6). Note that only 27 forms were sent to the Clutha district as a baseline for comparison with the intervention districts. This is explained in Appendix 6.

Longitudinal data – Baseline and Follow-up

YAS II survey forms were received from 782 teens. Some of the respondents had also completed the YAS I, and some had not. For the purpose of examining the effects of the campaign we were interested only in those who had completed both forms. A number of teens (99 cases) who completed the YAS I turned 18 before the time of the follow-up survey and were therefore not eligible to complete the YAS II. Thus, of the 872 teens who completed the YAS I, 773 were eligible for follow-up. The data-

linkage procedure (see Section 2.8) indicated that 474 of these teens (62.1%) completed the YAS II. These 474 cases comprise the sub-sample of teens used to evaluate the primary outcomes of the campaign (reported in Section 5). With this approach, individual variation in the composition of the samples at baseline and follow-up can be ruled out as an explanation for any observed differences in levels of SUD or binge drinking.

2.10 Statistical analyses

Exact confidence intervals for estimates of the incidence of SUD and binge drinking and for differences from baseline to follow-up, were computed using a procedure described by Armitage and Berry.¹⁶

Independent samples T-tests were used to determine the statistical significance of differences in the mean number of campaign items sighted in the intervention districts (Section 6.2).

RESULTS

3. Teenage drinking and sources of alcohol before the campaign (baseline: cross-sectional data)

3.1 Description of sample

Of the 872 participants in the youth baseline survey, 54.1% were female. The mean age of participants was 16.6 years ($SD = 0.9$ years). Ethnicities represented were: New Zealand European (81.9%), Maori (7.9%), Samoan (0.5%), Chinese (1.2%), and *Other* (8.6%). Almost half (47.4%) of survey participants were in Year 11, with 30.0% in Year 12, and 22.6% in Year 13. There were 319 participants from schools in Ashburton District (36.6% of all respondents), 295 (33.8%) from Waitaki District, and 258 (29.6%) from Clutha District.

3.2 What percentage of teenagers reported drinking alcohol?

Nearly all respondents (94.4%) reported ever having consumed a full glass of alcohol. Half (49.4%) reported a recent binge episode (defined as five or more drinks on at least one occasion in the two weeks preceding the survey).

3.3 Where, or from whom, did teenagers obtain alcohol?

Teens were asked to indicate where, or from whom, they had obtained alcohol in the preceding four weeks. They were asked to endorse as many sources as applied. Table 2 shows the percentage of teens that indicated each source of supply.

Table 2. Sources of supply (n=872)

	<i>N</i>	%
Bought it at a bottle shop	140	16.1
Bought it at a pub/bar	96	11.0
Bought it at a supermarket	32	3.7
Bought it at a café or restaurant	16	1.8
From friends	494	56.7
From an older brother or sister	169	19.4
From parent/guardian	587	67.3
From a friend's parents or siblings	191	21.9
From another adult I know	171	19.6
From a stranger	33	3.8
Stole it/sneaked it	56	6.4
Other (please write where).....	40	4.6

In response to the question “Have your parents **ever** given alcohol to you to drink?”, 760 teens (87.8%) answered in the affirmative. Teens were then asked the following question:

“In the past month, on how many occasions did your parent or guardian give you alcohol in each of the following situations?” Table 3 presents the percentages of respondents who gave answers of *one or more* to each of the situations. It can be seen that 35.7% of teens reported recent SUD.

Table 3. Teen reports of recent supply of alcohol by parents (n=872)

	%
(a) To drink when they were present	68.2
(b) To drink under other adult supervision	49.5
(c) To drink when there was no adult supervision (SUD)	35.7

4. Parent supply behaviours and attitudes to supply issues before the campaign

4.1 Description of the sample

Completed forms were received from 748 parents of 13-17 year-olds. Two thirds (66.1%) of parent respondents were women. The mean age of respondents was 43.0 years. Parent ethnicities were: New Zealand European (87.8%), Maori (4.6%), Chinese (1.1%), Indian (0.3%), and Other (6.3%).

In completing the PAS I, parents were asked to base their report on the person in their household (aged 13-17 years) with the next birthday. Of this group of teenagers, 49.6% were female. Their median age was 15 years.

4.2 In what circumstances did parents supply teenagers with alcohol?

Table 4 relates to the question: "In the past month, on how many occasions did you provide your teenager with alcohol in the following situations?" The table shows the percentage of respondents who reported *one or more* occasion of supply, in each circumstance of interest.

Table 4. Parent reports of recent supply of alcohol to their teens (n=748)

	%
(a) To drink while you were present	36.2
(b) To drink when you weren't present but there was adult supervision	17.4
(c) To drink when there was no adult supervision (SUD)	1.9

The equivalent question was asked in relation to the supply of alcohol to other teenagers: "In the past month, on how many occasions did you provide a teenager from outside of your household with alcohol in the following situations?" Table 5 shows the percentage of respondents who reported *one or more* occasion of supply, in each circumstance of interest.

Table 5. Parent reports of recent supply of alcohol to other teens (n=748)

	%
(a) To drink while you were present	4.7
(b) To drink when you weren't present but there was adult supervision	1.1
(c) To drink when there was no adult supervision (SUD)	0.8

4.3 What did parents say about the supply of alcohol to teenagers?

Parents were presented with a list of statements relating to teenage drinking and asked to indicate their level of agreement or disagreement. Table 6 shows the distribution of responses to the various statements.

Table 6. Parent attitudes to teenage drinking and issues of supply (n=748)

		<i>Strongly agree</i> %	<i>Agree</i> %	<i>Neither</i> %	<i>Disagree</i> %	<i>Strongly disagree</i> %
a)	It's better for a parent/caregiver to give their teen alcohol than for the teen to obtain it illegally	32	45	12	6	5
b)	Teenagers quickly learn to make responsible decisions about drinking alcohol	1	15	15	49	22
c)	You just have to let your teenager learn for themselves about drinking	1	9	6	43	42
d)	It's okay for parents to give their teenager(s) one or two drinks to take to an unsupervised party	1	12	7	42	39
e)	There's no point in trying to stop your teen from getting drunk occasionally	0	7	5	43	46
f)	It's okay for teenagers to get drunk at the weekend	0	0	2	29	69
g)	It's too late to control my teenager's drinking	0	1	3	32	65
h)	The media exaggerates problems due to teenage drinking	2	12	12	47	28
i)	No one should supply alcohol to someone who is under age	37	22	15	23	4
j)	It's good that the government changed the law to allow 18 and 19 year-olds to purchase alcohol	2	19	11	28	39

Description of free text responses

To supplement responses to survey questions, respondents were invited to describe factors they considered important in deciding whether to provide their teenager or another teenager with alcohol. Respondents were also invited to make general comments.

Self-reported factors in decision-making

The majority of respondents recorded at least one factor that influenced their decision of whether to supply alcohol to a teenager in their household. No respondent listed all the factors given below.

It was apparent that many parents applied rules reflecting beliefs about the appropriate supply of alcohol to their teen (e.g., “Only if...”). Many of the rules, or *necessary conditions*, appeared to have resulted from careful consideration.

Supply to own teenager

The most commonly listed condition was that there be adequate adult supervision. Consistent with reports of their behaviour in the past month (Table 4), many parents said they would only supply alcohol for consumption in the home setting and/or with a meal, or for a special celebration. Another frequently listed condition was the belief that the teenager concerned was mature, trustworthy, or had a responsible attitude to drinking. Many parents reported restrictions on the quantity and strength of the alcohol they would provide to their teenager (e.g., “no spirits or mixed drinks”; “small quantity only”).

Other conditions described by respondents included knowing where the teenager was socialising that safe transport was arranged, having had direct contact with adult hosts, that other teens were taking alcohol to the function, believing that their teenager would not receive alcohol from any other source, and that the alcohol was not to be shared with other teens. General factors parents considered in deciding whether to provide alcohol on a particular occasion included: who the teenager would be with, and the expected level of pressure to consume alcohol from others at the function.

Supply to other teenagers

The condition most frequently listed by respondents was that they have consent from a teenager’s parent or guardian to provide the teen with alcohol. Parents indicated that those conditions described in the previous section also applied to the supply of alcohol to teenagers outside their household. Many respondents stated that there would be no circumstances in which they would provide alcohol to a teenager who was not their child.

General comments

Comments written (or spoken) by respondents covered a variety of issues and highlighted the complexity of parental behaviour and concerns about teenage drinking. In many cases emotions expressed in the comments were strong. The vast majority of comments could be classified under six general themes. Examples from each theme are given below. Each example reflects the comments of at least one other respondent, usually several.

(i) Explanations for supplying alcohol in unsupervised settings

“I think it is preferable to supply 3 or 4 bottles and state that is the limit rather than he drinks what others supply (although risk still remains).”

“Better to provide them with wine or beer when they go out otherwise they will sip spirits from a shared bottle.”

“I found if you did not give your teenager (aged sixth form onwards) a small amount of alcohol to take to a party, they would get someone else to buy it. And end up with twice as much as you would have bought and

they felt they had to drink it all, as they could not bring any home or they would be found out.”

(ii) Explanations for supplying alcohol to teenagers in a supervised setting

“Small amount of alcohol at home with parent supervision is fine, so that teenagers get used to responsible drinking rather than bingeing.”

“I gave my daughter one drink when I was having one – because I don’t wish alcohol to be a novelty and wish her to have a sensible attitude to alcohol and if you refuse to let them drink they will go overboard when exposed to alcohol.”

“We feel that a good responsible home life - somewhere that teenagers can have a drink if they wish – is the best place for them to learn responsibility. It is parents responsibility – not one that can be side stepped!”

(iii) Explanations for not supplying alcohol to teenagers in any situations

“I don’t encourage my daughter to drink. So I don’t supply her with alcohol. She does drink though and seems to have no trouble obtaining it.”

“By giving any drink is a mixed message and says it is o.k. One drink, kids read as one bottle, one crate, one keg. They hear what suits them. Parents have to be the role model. I have 7 children.”

“We don’t provide our children with cigarettes, heroin, ecstasy or any other drug, why would we want to supply them with alcohol?”

(iv) The role of adults in teenage drinking

“At the end of all the arguments the production and distribution and sale of alcohol is conducted by adults: who take advantage of teenage greed and foolishness. Raising the drinking age is about controlling adult behaviour.”

“As a parent I believe in including your teenagers around you, making them feel that they don’t have to hide anything from you but also while doing this to bring up the right and wrong ways to drink and what it can do to you if treated wrongly. It is a very time consuming job and a lot of parents don’t take the time that is needed to spend with their teenager.”

(v) Opinion regarding where underage teenagers obtain alcohol for unsupervised drinking

“I think the children can get alcohol too easily. IDs aren’t being checked, my 17 year old can buy it. They try and see how fast they can drink their

booze and chuck up. We some how have to teach them to drink in moderation – not bingeing”

“Having worked in an alcohol shop and seeing 18-year-olds buy it for 16-year-olds I feel the law should be reversed”

“I believe it was not the lowering of the drinking age that has caused problems. It has been letting alcohol be sold in supermarkets where it is a lot more readily available and able to be stolen by underage drinkers.”

(vi) Parents' views of changes to the law concerning the purchase of alcohol

Many comments elaborated on answers to item (j) within Table 5. Parents described the perceived consequences of recent changes to laws concerning the purchase of alcohol, or made pleas for a reverse of these laws.

“The drinking age should be put back to 20 and much stronger penalties put in place for those who supply alcohol to under-age drinkers. Underagers trying to buy alcohol should also be severely punished.”

5. The effect of the campaign on teenage drinking levels and sources of supply (baseline compared with follow-up data)

5.1 Description of the sub-sample used in longitudinal analyses

Of the 474 teens in the longitudinal sub-sample (i.e. who completed the survey at baseline and follow-up), 56.1% were female. The mean age at baseline was 16.3 years (SD = 0.7 years). Their ethnicities were: New Zealand European (85.2%), Maori (8.2%), and Other (6.4%).

5.2 Was there change in the incidence of supply for unsupervised drinking?

The levels of SUD reported by teenagers at baseline and follow-up are reported in Table 7. Also in Table 7 are the differences in SUD levels from baseline to follow-up, in percentage points, with 95% confidence intervals.

Table 7. Level of SUD by district, before and after the campaign

	<i>Baseline</i>	<i>Follow-up</i>	<i>Difference</i>	<i>(95% CI)</i>
	%	%	%	%
Ashburton	37.6	30.0	-7.6	(-14.2, 0.1)
Waitaki	34.6	29.6	-5.0	(-11.9, 2.8)
Ashburton + Waitaki	36.2	29.8	-6.4	(-11.2, -1.0)
Clutha	22.3	27.7	+5.4	(-4.0, 13.8)

The one-month period prevalence of SUD decreased by 7.6 percentage points in Ashburton and 5.0 percentage points in Waitaki. In Clutha, the comparison district, SUD increased by 5.4 percentage points. It should be noted that zero is included in the confidence intervals for the estimates relating to each district **alone**, but this may be due to insufficient sample sizes. When Ashburton and Waitaki districts are taken **together**, a decrease in SUD of 6.4 percentage points was observed. This decrease was statistically significant.

5.3 Was there change in the incidence of binge drinking?

The levels of binge drinking reported by teenagers at baseline and follow-up are reported in Table 8. Also in Table 8 are the differences in binge drinking levels from baseline to follow-up, in percentage points, with 95% confidence intervals.

Table 8. Level of binge drinking by district, before and after the campaign

	<i>Baseline</i>	<i>Follow-up</i>	<i>Difference</i>	<i>(95% CI)</i>
	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>
Ashburton	49.1	43.7	-5.4	(-13.1, 3.1)
Waitaki	51.3	48.1	-3.2	(-11.3, 5.4)
Ashburton & Waitaki	50.2	45.8	-4.3	(-10.0, 1.6)
Clutha	50.8	40.5	-10.3	(-19.5, 0.4)

The two-week period prevalence of binge drinking decreased by 5.4 percentage points in Ashburton and 3.2 percentage points in Waitaki. In Clutha, the comparison district, it decreased by 10.3 percentage points. It should be noted that zero is included in each of the confidence intervals, indicating that the estimates may not reflect true differences in the levels of binge drinking from baseline to follow-up.

6. The impact of the campaign on parents

6.1 Description of the sample

The age (mean = 43.7 years) and gender distributions (67.7 % females) of PAS II respondents were similar to those for the baseline survey, of which these respondents are a sub-sample.

6.2 Did the campaign reach parents?

Table 9 shows the percentage of PAS II respondents that reported seeing each campaign item. We asked a small number of parents in Clutha what campaign items they had seen for the purpose of establishing a baseline level of responding (i.e. the number of campaign components respondents would attribute to the *Should You Supply* campaign that were in fact part of other initiatives). Figures for Clutha are not included in Table 9 because there were too few respondents for item-by-item comparison with intervention districts. Only comparisons of the total number of campaign components seen were planned. The rationale for this approach is explained in Appendix 7.

Table 9. Campaign components seen in Ashburton and Waitaki districts

	<i>Percentage that reported seeing campaign component</i>	
	<i>Ashburton</i>	<i>Waitaki</i>
<i>Campaign components</i>		
Newspaper advertisements	43.8	73.6
Newspaper articles/photos	31.5	77.8
Newspaper pgl message/logo	6.8	45.8
Radio interviews	17.8	37.5
Radio ads	23.3	48.6
Security camera notices	20.5	40.3
Stickers in bottle stores	37.0	59.7
Badges worn by staff	5.5	45.8
Warning notices on checkout mats...	13.7	44.4
Bumper stickers	12.3	18.1
Billboards	20.5	47.2

The mean number of campaign components reported by Ashburton residents was 2.4 (95% CI: 1.9, 2.8). Waitaki residents reported seeing a mean of 5.4 items (95% CI: 4.8, 6.0), while those in Clutha, the comparison district, reported seeing 2.4 items (95% CI: 1.2, 3.5).

It should be noted that in Ashburton District, alcohol is not sold in supermarkets. This may explain the small percentage of Ashburton residents that reported seeing “Warning notices on checkout mats in bottle stores and supermarkets”.

T-tests showed that the difference in the number of campaign items reported by Waitaki and Clutha residents was statistically significant, $t(89) = 4.5$, $p < 0.01$, while

Ashburton residents did not differ from Clutha residents in the number of items they reported seeing.

6.3 What did parents in the intervention communities think of the campaign?

The distributions of responses, by district, to each of the four questions concerning parents' views of the campaign are presented in Tables 10 to 13. Respondents who reported seeing none of the campaign components (13 in Ashburton and 2 in Waitaki) are excluded from the percentages.

Table 10. How relevant was the campaign to you?

	<i>Ashburton</i>	<i>Waitaki</i>
	%	%
Not at all...	20.3	2.9
A little...	30.5	23.5
Quite...	37.3	35.3
Highly...	11.9	38.2

Table 11. How relevant was the campaign to other people in your community?

	<i>Ashburton</i>	<i>Waitaki</i>
	%	%
Not at all...	3.5	2.9
A little...	17.5	27.5
Quite...	56.1	42.0
Highly...	22.8	27.5

Table 12. How appealing was the campaign to you?

	<i>Ashburton</i>	<i>Waitaki</i>
	%	%
Not at all...	19.3	10.0
A little...	35.1	21.4
Quite...	40.4	48.6
Highly...	5.3	20.0

Table 13. How effective do you think the campaign is likely to be?

	<i>Ashburton</i>	<i>Waitaki</i>
	%	%
Not at all...	13.8	8.6
A little...	46.6	44.3
Quite...	34.5	38.6
Highly...	5.2	8.6

A list of parents' suggestions as to how the campaign might be improved is given in Appendix 10.

6.4 How was parent (self-reported) behaviour affected by the campaign?

Parents were asked to indicate whether they discussed the topic of supply of alcohol with their teenager, more often, about as often, or less often, in September and October (after the commencement of the campaign), than in July and August (before the campaign). Those who said "more often" were asked to indicate whether this was because of the campaign. These two questions were repeated with reference to discussions parents had with other adults. Response distributions, by district, are presented in Tables 14 and 15.

Table 14. Levels of parents' discussion of supply issues with their teenager(s)

	<i>Ashburton</i>	<i>Waitaki</i>
	%	%
More often...	21.4	34.3
About as often...	71.4	60.0
Less often...	7.1	5.7

Of the Ashburton parents who answered "more often", 62.5% attributed this to the campaign. The corresponding figure for Waitaki was 84.0%.

Table 15. Levels of parents' discussion of supply issues with other adults

	<i>Ashburton</i>	<i>Waitaki</i>
	%	%
More often...	19.1	20.6
About as often...	76.5	67.6
Less often...	4.4	11.8

Of the Ashburton parents who answered "more often", 64.3% attributed this to the campaign. The corresponding figure for Waitaki was 84.6%.

Parents in the Waitaki District reported specifically that it was photo advertisements in the Oamaru Mail (see Appendix 1) that led to increased levels of discussion about the supply of alcohol to under 18s both with their teenager and with other adults.

One respondent, a mother of four teenagers, commented:

"I thought the photos in newspapers were excellent and REAL enough to force a parent to consider this could well be my child. Those visuals actually brought you to visualise your own child in that situation. Not a nice thought."

Other campaign items reported to have been a catalyst for change (i.e. to have led to a greater amount of discussion in September and October than in July and August) are given in Appendix 11.

7. Discussion

7.1 Summary of findings

Baseline cross-sectional data indicated that half of the teenagers in years 11-13 (i.e. aged 15-17 years) had recently engaged in binge drinking. Substantial numbers of teenagers reported recent purchases of alcohol from licensed premises (e.g. bottle stores: 16%, and pubs: 11%). According to teen reports, over a third (35.7%) of parents had recently provided them with alcohol for unsupervised drinking. In marked contrast, very few parents reported supply of alcohol to their teenager (1.9%) or to another teenager (0.8%), and many parents made responsible comments concerning the supply of alcohol.

Longitudinal data suggest that there were reductions in the levels of SUD in the districts where the *Should You Supply* campaign occurred (-6.4%; 95% CI: -11.2, -1.0). In contrast, the level of SUD in Clutha, the comparison district, may have increased (+5.4%; 95% CI: -4.0, 13.8). The level of binge drinking was lower at follow-up in all three districts, but the differences were not statistically significant, although the difference in Clutha was very close to significance (-10.3%; 95% CI: -19.5, 0.4).

Components of *Should You Supply* were most frequently noticed by Waitaki respondents. Newspaper advertisements depicting youth drunkenness were the most widely seen campaign components. Levels of parental discussion about SUD and related issues increased moderately during the campaign relative to the pre-campaign period.

7.2 Strengths and limitations of the evaluation

Strengths

The study design made provision for large samples in both the youth and parent surveys, allowing for reasonable precision, given financial restraints, in the estimation of binge drinking and SUD levels. The collection of longitudinal data from teens allowed for the analysis of effects due to the campaign, with greater confidence than would have been the case with two cross-sectional data alone.

Response rates were exceptionally high (80% and 74%) in the two parent surveys, thereby reducing the potential that results were skewed by non-response error, i.e. people who responded to the survey being different from sampled people who did not respond, in the behaviours of interest. Such response rates probably resulted from the high level of community commitment to reducing youth alcohol related harm, and the use of a multi-mode and repeated contact follow-up procedure, in which sampled parents were respectfully given many opportunities to participate.¹⁵

An additional strength of the evaluation was the high coverage of the participating communities, the result of a sampling procedure which drew from enrolment lists from all secondary schools in the three districts. Together with high response rates, this high coverage increases the likelihood that the data reflect the views of teens and their parents in the participating communities.

The use of a non-intervention comparison site as a check on the likely course of SUD and binge drinking levels over the baseline to follow-up period strengthens the causal inference one can make about the effect of the campaign. To the degree that Clutha District is matched demographically to the districts in which the intervention occurred, and assuming there was no alcohol promoting effort unique to Clutha over the course of the evaluation, the observed pattern of results indicates that SUD might have increased in the intervention districts had it not been for the campaign. The decreases observed in Ashburton and Waitaki districts may therefore be underestimates of the true effect of the campaign.

The collection of written or spoken comments in the PAS I and II, provides information which complements the quantitative data. These comments give concrete examples of parent concerns and the challenges they face in protecting their children from alcohol-related harm. Eliciting written and spoken comment also served to develop rapport with respondents, who had greater confidence in the validity of the evaluation process than might have been the case if only quantitative information had been requested. Many parents said that they were glad to be asked for their opinions. This process of social exchange theoretically increases the validity of the data relied upon to quantify campaign effects.¹⁵

Limitations

The most serious limitation stems from the non-random assignment and small number of communities involved in the study. Single events, e.g. a school ball, can have wide-reaching consequences in a small community. We do not know of any particular events that may have influenced levels of SUD differentially in the three communities studied here.

Another limitation of the evaluation concerns the generalizability of findings to districts that have markedly different demographic structures to those studied here. The proportions of Maori and Pacific Islands people in Ashburton and Waitaki are low compared with other parts of New Zealand. Careful consideration would have to be given to culturally appropriate implementation of *Should You Supply* in other parts of the country.

Due to the anonymous collection of youth data it will not be practicable to conduct an evaluation of the long term outcome of the campaign by following up the individuals surveyed in 2001. This limitation was considered a necessary trade-off for better quality information on the short-term effects of the campaign. An additional challenge arises from the fact that many members of the cohort will have turned 18 before they can be followed up in any future evaluation. An alternative approach could be considered, e.g. another cross-sectional survey in schools.

7.3 Why were parent and teenage reports of supply discrepant?

The level of parent SUD reported by teens (35.7% in the past month) was considerably higher than the level of SUD reported by parents themselves (1.9% in the past month).

We cannot know with certainty whether teenage participants in the present evaluation gave accurate reports of SUD and binge drinking. Of some reassurance is the consistency in levels of SUD and binge drinking reported here with those found in previous New Zealand survey research using different methods (i.e. stratified probability sampling and a telephone survey).⁸

To what degree is alcohol use and related behaviour accurately measured by teen self-report? There is no direct evidence bearing on the validity of the self-report measures used in this evaluation. It would be perhaps impossible to obtain completely objective measures of teenage binge drinking and SUD (e.g. direct observation). There are, however, a number of studies that demonstrate high consistency in individual teenagers' reports of alcohol consumption and related behaviours over time and across different contexts.¹⁷⁻¹⁹ For example, individuals who under-estimate their level of alcohol consumption, tend to do so consistently. Given this result, changes in consumption may still be measured accurately.

We also used a data collection procedure for the youth surveys which maximises disclosure and minimises the motivation to exaggerate. Privacy was ensured via anonymous participation, to create an environment in which teens could report illegal activity (e.g. purchases of alcohol from licensed premises) or otherwise clandestine behaviour (e.g. binge drinking) without fear of reprisal. Anonymity also reduces in the respondent any anticipation of reinforcement for an exaggerated or fanciful response.

Given the high response rate to the baseline parent survey, we can be reasonably confident that non-response error did not contribute greatly to the discrepancy between teen and parent reports of SUD at baseline. There are other factors that may have contributed to the discrepancy. The first stems from the tendency of people to censor reports of their attitudes or behaviour to fit their audience, the so-called *social desirability effect*.¹⁹ With the high profile of teenage drinking in the news media, it is possible that parents under-reported SUD in order to provide a socially desirable response. In all contacts with parents, confidentiality was highlighted with the intention of minimising such an effect.

Differences in teens' and parents' knowledge or interpretation of settings in which drinking occurs may account for some of the discrepancy in reports of SUD. For example, a parent may be led to believe that their teen is under adult supervision when they go out with alcohol but the teen's experience or belief is that their drinking behaviour is not closely supervised by an adult.

7.4 Were the objectives of the campaign met?

The reductions in SUD across Ashburton and Waitaki are impressive given the brevity of *Should You Supply* – a six-week campaign – and in light of a possible increase in SUD over the same period in Clutha, where no campaign occurred.

Levels of binge drinking appeared to decline in both the intervention and comparison districts. While encouraging from a public health perspective, this result leaves open the possibility that factors other than the campaign accounted for apparent decreases in binge drinking.

The campaign was widely seen in Waitaki but less so in Ashburton. Further examination of the processes involved in disseminating the campaign materials in each district would need to be undertaken to determine why this was the case.

The results of the present evaluation give cause for cautious optimism that *Should You Supply* can be an effective component in a broad-based strategy designed to reduce youth alcohol-related harm. Results also highlight the possible role of illegal supply of alcohol (i.e. from licensed establishments and of-age peers) in unsupervised teenage drinking. Note that by the second half of the school year over half of students in Year 13 would be 18 or older.

7.5 Research needs

Inconsistencies in the changes in binge drinking and SUD levels across the study sites, namely the inverse relationship of binge drinking and SUD levels seen in Clutha, suggest that parent SUD and teenage binge drinking may not be causally linked in the way some have assumed them to be. Indeed, the majority of parents expressed responsible sentiment and pro-regulatory views concerning the supply of alcohol, and many teenagers reported purchasing alcohol themselves or obtaining it from friends. It may be that the large quantities of alcohol required for a binge episode are obtained from these latter sources, and that many of the instances of parent SUD involve small quantities. This needs further examination.

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Appendix 1 Examples of *Should You Supply* campaign materials



Sticker



Bottle store sign
(Actual Size 297 mm x 210 mm)



"We know he likes to drink, but he knows his limit"
(Featured in a local newspaper advertisement)



"She's a sensible girl!"

(Featured in a local newspaper advertisement)



Oamaru billboard

Appendix 2 YASI survey form

YOUTH ALCOHOL SURVEY

This is an **anonymous** survey about drinking. We do not request your name and will not connect your answers to you personally. Please be as honest as you can. When you have finished, please place the form in the box provided.

Gender (please circle): *Female* *Male* **Date of birth:**/...../19.....(day/month/year)

1. Have you ever tried **alcohol**, even a sip? This includes, beer, cider, wine, spirits, liqueurs and pre-mixed drinks such as alcoholic lemonade and RTD's. (circle your answer)

No* Yes

**If you have never tried alcohol please go to Question 8*

2. Have you ever had a **full** "glass" of alcohol, for example, a whole can or bottle of beer, a whole glass of wine, or a whole RTD? (circle your answer)

No* Yes

**If you have never had a full glass of alcohol please go to Question 8*

3. Have you had 5 or more drinks on one occasion in the **past 2 weeks**? By a drink we mean a whole can or bottle of beer or a whole glass of wine.

No Yes

4. In the **past month**, from whom, or where, did you get alcohol to drink? (**tick all that apply**)

Bought it at a bottle shop	From parent/guardian
Bought it at a pub/bar	From a friend's parents or siblings
Bought it at a supermarket	From another adult I know
Bought it at a café or restaurant	From a stranger
From friends	Stole it/sneaked it
From an older brother or sister	Other (please write where).....

Question 5 is different from question 4. Please read it carefully, and tick only one box

5. In the **past month**, from whom, or where, did you **mainly** get alcohol to drink? (please tick only **one box**)

Bought it at a bottle shop	From parent/guardian
Bought it at a pub/bar	From a friend's parents or siblings
Bought it at a supermarket	From another adult I know
Bought it at a café or restaurant	From a stranger
From friends	Stole it/sneaked it
From an older brother or sister	Other (please write where).....

6. Have your parents ever given you alcohol to drink? (circle your answer) No Yes

7. In the **past month**, on how many occasions did your parent or guardian give you alcohol in the following situations (please give your best estimate):

- *To drink while they were present..... On _____ occasions*
- *To drink when they weren't present but there was adult supervision... On _____ occasions*
- *To drink when there was no adult supervision..... On _____ occasions*

8. Which of the following ethnic groups do you fit into? Tick as many as apply:

New Zealand European	Tongan	
Maori	Niuean	Other (such as Dutch, Japanese, Tokelauan)
Samoan	Chinese	
Cook Island Maori	Indian	

Please state:.....

Thank you for participating in this survey. Please put your form in the box provided.

Appendix 3 YAS II survey form

YOUTH ALCOHOL SURVEY - II

This is an **anonymous** survey about drinking. This means we don't ask for anyone's name. Please be as honest as you can. When you have finished, put this form in the box provided.

PLEASE READ THE QUESTIONS CAREFULLY.

1. Gender (please tick a box): Female Male
2. Date of birth:/...../19.....(day/month/year)
3. Which of the following ethnic groups do you fit into? (tick as many as apply):

<input type="checkbox"/> New Zealand European	<input type="checkbox"/> Niuean
<input type="checkbox"/> Maori	<input type="checkbox"/> Chinese
<input type="checkbox"/> Samoan	<input type="checkbox"/> Indian
<input type="checkbox"/> Cook Island Maori	<input type="checkbox"/> Other (such as Dutch, Japanese, Tokelauan Please state:.....)
<input type="checkbox"/> Tongan	
4. Have you **ever** had a full "glass" of alcohol, for example, a whole can of beer, or a whole glass of wine?

No * Yes

* If "No", please **Æ Go to Question 10**
5. Have you had **5 or more** drinks on one occasion (e.g. in an evening):
(1 drink = a can of beer, a glass of wine, a single mixed drink, or equivalent)
(a) in **the 2 weeks**? No Yes
(b) in **the past month**? No Yes
6. In **the past month**, have you experienced any of the following **during or shortly after** a drinking session? (tick any that apply):

I haven't had a drink in the past month **Æ Go to Question 10**

 Felt drunk?
 Vomited or felt ill?
 Became upset or cried?
 Had a heated argument?
 Got into a fight (physical)?
 Got into a sexual situation you later regretted?
 Had unsafe sex?
 Drove a car or motorcycle?
 Were a passenger in a vehicle where the driver was probably over the limit?
 I have had a drink in the past month but have not experienced any of the above

MORE QUESTIONS OVER THE PAGE **Æ**

7. In **the past month**, have you experienced any of the following **the day after** a drinking session? (tick any that apply):

I haven't had a drink in the past month **Go to Question 10**

Realised there were periods of time you could not remember?

A hangover (e.g. a headache or nausea)?

Got into trouble with your parents?

I have had a drink in the past month but have not experienced any of the above

8. In **the past month**, from whom, or where, did you get alcohol to drink? (tick all that apply):

Bought it at a bottle shop

From parent/guardian

Bought it at a pub/bar

From a friend's parent/brother/sister

Bought it at a supermarket

From another adult I know

Bought it at a café or restaurant

From a stranger

From friends

Stole it/sneaked it

From an older brother or sister

Other (please write where).....

9. In **the past month**, did your parent or guardian give you alcohol in the following situations (please tick one box for each of a, b, and c):

(a) *To drink when they were present?*

No

Yes

(b) *To drink when they weren't present but there was adult supervision?*

No

Yes

(c) *To drink when there was no adult supervision?*

No

Yes

↓
How many times?

10. Please think about the discussions you've had with your parent(s) or guardian(s) in the **last 4 months**. Has the supply of alcohol to under-18s (you or other teenagers) been part of those discussions?

No

Yes

If "Yes", in **September and October** did your parents discuss the supply of alcohol to under-18s with you (tick only one box):

(a) **more often** than they did in July and August?

or

(b) **about as often** as they did in July and August?

or

(c) **less often** than they did in July and August?

Appendix 4 PASI survey form

PARENT ALCOHOL ATTITUDES SURVEY

Could the parent or guardian in your household with the next birthday please complete this form. We do not request your name on this form and will not connect your answers to you personally. Please be as honest as you can. Comments are welcome. When you have finished, please return the form as soon as possible in the envelope provided. *Thank you for your involvement.*

Your gender (please circle): *Female Male*

Your age (please tick the box that applies):

25-29	35-39	45-49	55-59
30-34	40-44	50-54	60 and over

Which of the following ethnic groups do you fit into? (Tick as many as apply):

New Zealand European	Niuean
Maori	Chinese
Samoan	Indian
Cook Island Maori	Other (such as Dutch, Japanese, Tokelauan)
Tongan	Please state:

Please answer the following questions in terms of the teenager in your household who is under 18 and whose birthday is next. Remember that the answers you give are confidential, so please be as honest as possible.

1. What is the age of that teenager? (circle) 13 14 15 16 17

2. Is your teenager male or female? (circle) *Male Female*

3. Have you ever provided your teenager with alcohol? (circle) *No Yes*

4. In the past month, on how many occasions did you provide your teenager with alcohol in the following situations (please give your best estimate):
 - *To drink while you were present..... On _____ occasions*
 - *To drink when you weren't present but there was adult supervision... On _____ occasions*
 - *To drink when there was no adult supervision..... On _____ occasions*

If there are important factors you would consider in deciding whether or not to provide your teenager with alcohol, please describe them here:

5. At what age do you think it is appropriate for a person to start drinking (i.e. more than a sip)?

_____ years

Please answer the next two questions thinking about teenagers other than those in your household, for example, your teenager's friends.

6. Have you ever provided anyone under 18 years of age from outside of your household with alcohol? (please circle)

No Yes

7. In the past month, on how many occasions did you provide a teenager from outside of your household with alcohol in the following situations (please give your best estimate):

- To drink while you were present..... On _____ occasions
- To drink when you weren't present but there was adult supervision... On _____ occasions
- To drink when there was no adult supervision..... On _____ occasions

If there are important factors you would consider in deciding whether or not to provide a teenager other than your own with alcohol, please describe them here:

Below are the views of some parents and guardians concerning their teenager(s) and alcohol. Please indicate your level of agreement with each statement by circling one number. **In these statements, the word teenager refers to people aged 13 to 17 years.**

	Strongly agree	Agree	Neither	Disagree	Strongly disagree
a) It's better for a parent/caregiver to give their teen alcohol than for the teen to obtain it illegally	1	2	3	4	5
b) Teenagers quickly learn to make responsible decisions about drinking alcohol	1	2	3	4	5
c) You just have to let your teenager learn for themselves about drinking	1	2	3	4	5
d) It's okay for parents to give their teenager(s) one or two drinks to take to an unsupervised party	1	2	3	4	5
e) There's no point in trying to stop your teen from getting drunk occasionally	1	2	3	4	5
f) It's okay for teenagers to get drunk at the weekend	1	2	3	4	5
g) It's too late to control my teenager's drinking	1	2	3	4	5
h) The media exaggerates problems due to teenage drinking	1	2	3	4	5
i) No one should supply alcohol to someone who is under age	1	2	3	4	5
j) It's good that the government changed the law to allow 18 and 19 year-olds to purchase alcohol	1	2	3	4	5

If you would like to make any comments about the survey, please write them below.

Appendix 5 PAS II survey form

PARENT ALCOHOL ATTITUDES SURVEY – II

Could the person in your household who completed the previous survey (a green form) please complete this form. Thank you for your involvement.

- 1) Recently a campaign was run encouraging people to think before they supply under-18s with alcohol. In **September and October** which of the following did you see or hear that you think may have been part of that campaign?

Please tick a box for each item

Press

- | | | | |
|---------------------------------|------------------------------|-----------------------------|---------------------------------|
| Newspaper advertisements | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unsure |
| Newspaper articles and photos | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unsure |
| Newspaper page-one message/logo | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unsure |

Television and radio

- | | | | |
|----------------------------------|------------------------------|-----------------------------|---------------------------------|
| National television news stories | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unsure |
| Local television advertisements | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unsure |
| Local television news stories | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unsure |
| Radio interviews/discussions | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unsure |
| Radio advertisements | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unsure |

Community

- | | | | |
|--|------------------------------|-----------------------------|---------------------------------|
| Security camera <i>warning notices</i> in bottle stores and supermarkets..... | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unsure |
| Stickers in bottle stores and supermarkets..... | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unsure |
| <i>Warning notices in supermarket bags</i> | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unsure |
| Badges worn by retail staff..... | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unsure |
| <i>Warning notices</i> on checkout mats in bottle stores and supermarkets..... | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unsure |
| Postcards..... | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unsure |
| Letterbox flyers..... | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unsure |
| Bumper stickers..... | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unsure |
| Billboards..... | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unsure |
| Shop window displays..... | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unsure |

Other – Please describe:.....

- 2) How **relevant** was the campaign to you?

Not at all relevant A little relevant Quite relevant Highly relevant

Please make any further comments here:

3) How **relevant** do you think the campaign was to **other people in your community**?

- Not at all relevant A little relevant Quite relevant Highly relevant

SEE OVER Æ

4) How **appealing** was the campaign to you?

- Not at all appealing A little appealing Quite appealing Highly appealing

5) How **effective** do you think the campaign is likely to be?

- Not at all effective A little effective Quite effective Highly effective

How might the campaign have been made more effective?

6) In **September and October** did you discuss the supply of alcohol to under-18s with **your teenager(s)**:

- (a) **more often** than in the preceding two months (July and August) ? *
- (b) **about as often** as in the preceding two months (July and August) ?
- (c) **less often** than in the preceding two months (July and August) ?

* If you answered (a), would you say that this was in any way because of the campaign?

- No Yes

If "Yes", please tell us which part(s) of the campaign:

7) In **September and October** did you discuss the supply of alcohol to under-18s, with **other adults**:

- (a) **more often** than in the preceding two months (July and August) ? *
- (b) **about as often** as in the preceding two months (July and August) ?
- (c) **less often** than in the preceding two months (July and August) ?

* If you answered (a), would you say that this was in any way because of the campaign?

- No Yes

If "Yes", please tell us which part(s) of the campaign:

Thank you for your time.

Appendix 6 Computation of sample size

Parameters used in sample size estimation were as follows:

Type I error: $P(1 - \alpha) = 0.05$ (i.e. the probability that an apparent effect is not a true effect).

Power: $(1 - \beta) = 0.80$ (i.e. the probability that if a true effect exists it will be revealed)

Effect size: 15%, comprised of a 10% reduction in the proportion of individuals in the community reporting SUD after the intervention, and 5% random error.

Analysis in EpiInfo Version 6, using an Unmatched Cohort and Cross-Sectional Studies design, suggested a minimum sample of 159 individuals who reported SUD across the two intervention sites, and 159 such individuals in the control site. Assuming the rate of SUD indicated by ALAC, of 0.33, samples of 482 were required ($159/0.33$), i.e. a total of 964 respondents, 482 across Ashburton and Waitaki districts, and 482 in Clutha district. We conservatively opted for an unmatched design in the computation of sample size requirements because of uncertainty about whether follow-up measures could be obtained for a sufficiently large cohort of teens.

School roles indicated there would not be a sufficient number of students in the senior years at South Otago High School to meet the sample size requirement for Clutha District. To increase the potential sample size, Tokomairiro High School, in Milton, which also draws teenagers from Clutha District, was added to the study. The resulting pool of potential participants in this district was approximately 390 households with students in years 9-13 and 280 students in years 11-13. Although smaller than the 482 stipulated by sample size estimates, these populations were considered adequate to proceed with the evaluation, given our intention to match baseline and follow-up responses via data linkage, which would increase statistical power.

Appendix 7 Sampling procedure for parent follow-up survey

The primary objective of the parent follow-up survey was to determine whether residents in Ashburton and Waitaki districts had noticed the campaign materials. Given the wide range of alcohol-related health promotion advertising in national media, e.g. anti-drink-driving television commercials, it was expected that some respondents would mistakenly attribute non-campaign material to the *Should You Supply* campaign, thus inflating estimates of its reach and impact. For the purpose of establishing a baseline level of responding (i.e. the number of campaign components respondents would attribute to the *Should You Supply* campaign that were in fact part of other initiatives) we sought to ask parents of Clutha, the comparison community, whether they had seen components related to *Should You Supply*. It was anticipated that a questionnaire concerning a non-existent advertising campaign would create some confusion among respondents in the comparison district, so we ensured that the minimum number of forms required to detect an overall difference in the campaign's reach and impact was sent out.

The minimum number of respondents required for the comparison site to reveal a 1-standard deviation difference in the mean number of campaign items seen, was used as the basis for the determination of sample size in the intervention sites, i.e. 17 responses were required from Clutha district. Assuming a minimum response rate of 65%, 27 households had to be sampled. This left 198 households, split evenly across the intervention districts, i.e. 99 in Ashburton and 99 in Waitaki. The PAS II was sent to each of the randomly selected households.

Appendix 8 Teacher script for youth survey administration

YOUTH ALCOHOL SURVEY

Dear Teacher,

This survey will be administered to over 800 students in seven schools. It is therefore important that we try to maintain a standard method of administration. Given the nature of the questions, it is also important that students can feel confident that their responses are confidential, i.e. not seen by teachers or other students.

Could you please administer the survey as follows:

Before handing out the survey, say:

- “This survey is similar to one students completed in July.
- The survey is anonymous, which means you don’t give your name and no one else is to see your responses.
- Read the questions carefully and make sure you answer each question that applies to you.
- Each student will receive a pen to keep as a token of our appreciation.”

Then hand out the form and a pen for each student under 18 years on the date of the survey.

Please also ensure that students are well-spaced and that there is a minimum of talking while they complete the form.

When students have finished they can place the form face down, unfolded in the box provided. Collection of the box will be arranged by the end of the period.

Thank you for your help.

Kyp Kypri
(03) 479 8048
kypri@ipru.otago.ac.nz

Appendix 9 Letter accompanying P A S I

Kypri & Dean
PO Box 6321
Dunedin

24 July 2001

Dear Parent(s)

We have been appointed by the Alcohol Advisory Council (ALAC) to study some aspects of teenage drinking. The purpose of the study is to obtain information about levels of drinking, the circumstances in which alcohol is provided to young people, and parents' attitudes toward teenage drinking.

Our findings will be sent to ALAC and customised reports will go to each school involved in the study. This research is part of ongoing work by schools, community organisations, and ALAC, to reduce youth alcohol-related harm.

Over the next few weeks, we will survey parents and high school students in South Island towns. In partnership with Ashburton College, we will be surveying teenagers and parents in Ashburton.

Students in some senior classes will be asked to complete a brief anonymous questionnaire within school time. We are seeking to obtain information from parents of high school students by mail or telephone survey, whichever is easiest for the parent. Your name is one of 224 randomly selected from the Ashburton College list.

The survey form is enclosed along with a stamped, addressed envelope. **We would be grateful if you would consider completing the form and returning it directly to us as soon as possible.** Telephone interviews using the same questions will begin on 1 August. If we have received the completed form you will not be telephoned.

Please note that any information you provide is **confidential** and will be stored securely and separately from your name or contact details. The number stamped on the enclosed questionnaire is used to help calculate a response rate and to ensure that we do not telephone people who have responded by mail.

As a token of our appreciation, all respondents will go into a draw for an Air New Zealand Mystery Break, valued at \$379.00. The draw will occur in October and the result will be published in your school newsletter.

If you have any questions please write to us or call on (03) 467 2690.

Thank you for your time.

Yours sincerely,

Johanna Dean MSc, Dip Clin Psy

Appendix 10 - Parents' suggestions as to how the campaign might be improved

Ashburton District

More stickers for bikes, skateboards, on "V" bottles and Coca Cola bottles to discourage drinking alcohol.

A little more coverage - perhaps a little bit of policing outside bottle stores.

If people were aware of it!

Making parents more accountable, for supplying alcohol to under-18s by showing what may happen - or does happen - accidents, fights etc.

More TV coverage.

It needs to be addressed every day.

More publicity about young teens drunk on the streets - harder crack down on parents not supervising.

More of it.

Local newspaper articles appeared to create quite a lot of discussion, letters and further newspaper articles, particularly involving local bars etc.

It looks as if a lot of campaigning was done in places where liquor bought, which is good, but I reckon teens also get from home, so more campaigning needed in supermarkets, through schools etc.

More graphic results. I like the TV drink/drive ads. They're shattering.

It couldn't - it's like anything: the ones that need to take note won't.

Slotted on TV around tea time and teenagers favourite programs

Unsure that it could be.

More radio coverage and coverage in Methven.

Making it more visible.

How about running it at schools e.g. as part of a "life skills" course that some schools have for Years 12 and 13.

Perhaps offer the alternatives to under 18 year olds not to drink alcohol at all.

A lot of people think there's no harm in giving under 18s alcohol and don't see the risk - this needs to be addressed.

Could have been more "in your face". More of a reality check.

Waitaki District

I feel it is now up to parents for further education.

All secondary school involvement; parent and under 18 questionnaire.

Just keep at it.

Seems to have covered all bases as it is.

Advertising of adults prosecuted for supplying alcohol.

Make the penalties for the supply or sale of alcohol to underagers hurt. They are no deterrent at present.

Everyone I met felt more pages like the Oamaru Mail were needed. Not only for parents but for teenagers.

Peer review - get teenagers going into schools and communities face to face talking with teenagers. Similar in regard to parental responsibility - parent to parent.

It unfortunately needs to be pushed every day.

Bigger and brighter - more advertising. Would like to see campaign continued into Christmas-New Year period.

Put pictures etc where under age kids are - at school, movies, McDonalds.

Stronger penalties for offending teens AND their "responsible" (?) parents.

Show consequences of underage drinking.

More graphic.

Aimed more at teenagers -the parents know it's illegal but do they choose not to give in to their teenagers – I don't think so!!

Trying to change teenagers attitudes rather than telling them what to do.

The checkout mats are extra effective - can't be missed, hopefully picked the conscience of guilty parties. Need constant visual reminders.

While the focus was on supply to under 18's feel it could have involved young people more.

Appendix 11- Campaign items reported by parents as a catalyst to their increased discussion about supply of alcohol to teenagers

<i>Discussion with teen</i>			<i>Discussion with other adults</i>		
<i>Ashburton</i>	Photo advertisements in newspaper	1	<i>Ashburton</i>	Items in newspaper (not specified)	1
	General awareness of campaign/all parts	1		Warning notices on mats (bottles stores)	1
	Not specified	8		Warning notices on security cameras (bottles stores)	1
				Not specified	6
<i>Waitaki</i>	Photo advertisements in newspaper	10	<i>Waitaki</i>	Photo advertisements in newspaper	7
	General awareness of campaign/all parts	1		Logos (location not specified)	1
	Billboards	2		Billboards	1
	Bumper stickers	1		Radio discussions	1
	Staff badges (supermarket)	1		Signs (supermarket)	1
	Not specified	6		Not specified	0