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**Birmingham Untreated  
Heavy Drinkers Project**

**Final Report  
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**The Birmingham Untreated Heavy Drinkers Project**  
**Final Report**

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## **EXECUTIVE SUMMARY**

The Birmingham Untreated Heavy Drinkers (BUHD) research project set out in 1997 to explore the natural history of untreated heavy drinking over a ten-year period. Heavy drinking is known to increase the risk of adverse consequences to health, work, family and social relationships, particularly if maintained over a long period (Royal College of Physicians, 2001). ‘Heavy’ drinking, in this report, refers to men drinking at least 50 units per week, and women drinking at least 35 units a week. This definition, used throughout this report, is based on levels considered potentially harmful by the Royal College of Psychiatrists (1979). In 1996, 6% of males and 2% of females were consuming alcohol above these weekly levels (ONS, 2001). Over the last decade, survey data suggest that these levels have risen to 8% of males and 5% of females (ONS, 2008). Most of these people will never come into contact with alcohol treatment services and previous research suggests that up to three quarters of those who recover from an alcohol use disorder<sup>1</sup> do so without treatment (Watson and Sher, 1998).

A limited number of longitudinal studies of untreated heavy drinkers has been conducted. Many follow-up studies of heavy drinkers compare clinical samples, looking at treatment outcomes (see Finney and Moos, 1991, 1992). Whilst these studies are clearly very useful in terms of clinical effectiveness, results from studies of treated populations cannot be generalized to untreated individuals who make up the majority of heavy drinkers (Vaillant and Milofsky, 1984; Fein and Landman, 2005). It is also unusual for longitudinal studies of alcohol consumption to examine stability and change in alcohol consumption over more than one or two years, and at more than two measurement points (Kerr et al., 2002; McAweeney et al., 2005). Much of the variation that may occur over time is thereby missed. The BUHD project provides a rare opportunity to follow the levels and patterns of drinking of heavy drinkers over time, and to chart the extent of both ‘natural recovery’ from heavy drinking and entry into treatment.

Five hundred participants, aged 25-54, three quarters men, one quarter women, were originally recruited to the BUHD study in 1997 from the West Midlands community. As many as possible of the sample was interviewed at two-yearly intervals for the following decade. At the final interview in 2007, 259 participants out of the original sample of 500 were re-interviewed, 229 of whom had been interviewed on all six occasions. Interviews used mixed quantitative and qualitative methods, in order to both examine levels and patterns of drinking, and also what participants said about their drinking and their lives.

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<sup>1</sup> The term ‘alcohol use disorders’ is a broad term used by Watson and Sher to refer to ‘a range of problematic drinking statuses that have been studied by researchers of natural recovery’.

The BUHD sample differs from the samples of many large studies in that the majority of participants in the present study are high volume drinkers, with a large number of days of heavy drinking, but with relatively low levels of alcohol dependence. As such, the participants in this study are not predominantly the group of heavily dependent drinkers who present to services. Instead, they are a heterogeneous and largely hidden group of heavy drinkers, drinking at a level that impacts upon their health, and using hospital services much more than the general population, but who are potentially amenable to treatment and change.

## **KEY MESSAGES**

1. **The BUHD study is based on a heterogeneous sample of heavy drinkers** - The study set out to recruit heavy drinkers from the community, and sampling aimed to include people from all walks of life. As a result, this is a very heterogeneous group, in terms of drinking, but also on a range of social indicators. The sample includes a sub-group of professional people who are mainly wine drinkers, a subgroup of socially excluded very heavy drinkers, and another subgroup of socially stable longstanding regular steady drinkers.
2. **The BUHD study is unusual in being based on a non-clinical sample of chronic heavy drinkers with relatively low levels of alcohol dependence** - This is a sample predominantly of chronic heavy drinkers, who drink heavily on a regular basis (rather than being more intermittent 'binge drinkers'). At the same time, however, sample members have, on average, low dependence scores. Most believe they are not particularly dependent, are in control of their drinking, and often that they are average drinkers for their group. On the whole, therefore, the sample consists of people who are rather different in their drinking compared to clinical groups.
3. **The course of heavy drinking is highly varied. Whilst the average level of consumption has declined, the sample includes those who made significant reductions, and a significant minority who continued to drink heavily throughout the ten year study** - Some are able to make reductions to light drinking or abstinence which is maintained over several years. Others fluctuate or make some reductions. However, 44% of the sample were still drinking at harmful levels at the ten year mark. Furthermore, over a quarter of the sample were drinking heavily at every interview. These chronic heavy drinkers had higher levels of alcohol dependence and were heavier smokers than other sample members. They were also much more likely to drink alone and at home.

4. **There is evidence of a consistent link between heavy drinking and poorer health** - The sample has been shown to have consistently poorer health, compared to the general population. They have also been shown to have consistently high levels of tobacco smoking and drug taking (although, like drinking, both have declined). There is also some evidence of relatively high rates of gambling, and of less healthy lifestyles than the general population.
5. **There is evidence of a range of harms to self and others relating to heavy drinking** - The BUHD study supports previous research evidence indicating some of the harms commonly associated with continued heavy drinking, including: fights and aggression, drinking and driving, and other risks to self and others.
6. **Heavy drinkers use hospital services at a consistently higher rate than the general population** - The sample has been consistently found to use hospital services (A&E, inpatients and outpatients) at a rate around twice that of the general population. A&E attendance was associated with heavier levels of alcohol consumption, and there is some evidence of a link between involvement in fights and arguments, and A&E attendance.
7. **Heavy drinkers infrequently discuss their drinking with their GP and other health professionals** - Sample members visited their GPs at a similar rate to the average for the population. Most contacts with health professionals appear not to have involved a discussion about drinking, and GPs were only likely to suggest referral to treatment services for the very heavy drinkers in the sample. Members of the sample are sometimes reluctant to talk about drinking, and are also often resist to health education messages about drinking.
8. **Few heavy drinkers receive professional help for their drinking** - Between 8–10% of the sample had sought help for their drinking at some point over the decade. Those who sought help tended to drink heavily more frequently than other sample members. Thirty-four members of the sample went on to receive treatment for alcohol-related problems over the ten-year period. The most common form of treatment was through a non-residential alcohol agency. Those who sought and received treatment tended to be amongst the younger sample members and to be amongst the heaviest drinkers. However, most of the reductions in drinking in the sample occurred without apparent professional assistance, and are mostly attributed to life events and circumstances, including adverse health events.
9. **Heavy drinking is socially embedded** - Although motives for drinking and perceived benefits of their drinking were varied, most considered their drinking to be well embedded

within family and social settings and other activities which are in general approving or accepting of relatively heavy drinking. The pub constituted for many participants a very significant setting in their lives, and provided, for many, a real feeling of community.

Those who reduced without professional help used a range of strategies, but many of these involved collaboration with friends and family.

10. **Most heavy drinkers recognise the desirability of reducing their drinking** - From the beginning, the majority of the BUHD sample were contemplating change in their drinking (based on the 'Readiness to Change' measure). This suggests that are aware of the desirability of modifying their drinking in some way. At the end of the study, more participants were taking action to change their drinking than at the start. This was particularly true of those participants who were in the 45-54 age group at the start of the study, who were in a relationship, and in professional occupations. Most say that they do make some efforts at harm minimisation, for example by reducing quantity of consumption, even though this might fall well short of a reduction to 'sensible' drinking. Knowledge of alcohol units appears to have improved over the ten years of the study.

Overall, the messages from the study are (i) the need for awareness raising and training amongst health professionals about the need to routinely discuss alcohol use and on the use of brief interventions, and (ii) the need to expand services and self-help programmes for people who are drinking at hazardous or harmful levels, but who do not consider themselves to be 'alcoholic' or in need of formal professional help. Such provision should consider cutting down on drinking not only an issue for the individual, but also for the social network in which the individual lives and drinks.

## **Note on terminology**

The following terms are used throughout the report:

1. 'Heavy drinkers' – In order to be included in the research study as a 'heavy drinker', participants had to be drinking at least 50 units per week (men) and at least 35 units per week (women), and to have done so for at least half the weeks in the previous year. This also equates to 'harmful drinking' (see point 4 below).
2. The term 'drinking within sensible limits' is used to refer to men drinking up to 21 units per week, and women drinking up to 14 units per week.
3. The term 'hazardous drinking' is used to refer to men drinking 21-49 units per week, and women drinking 14-34 units per week.
4. The term 'harmful drinking' is used to refer to men drinking 50-99 units per week, and women drinking 35-69 units per week.
5. The term 'very harmful drinking' is used to refer to men drinking at least 100 units per week, and women drinking at least 70 units per week.
6. 'Heavy drinking days' = men drinking at least 10 units in one day; women drinking at least 7 units in one day.
7. 'Very heavy drinking days' = men drinking at least 20 units in one day: women drinking at least 14 units in one day.

## **PART ONE - INTRODUCTION**

This final report from the BUHD project describes some of the main changes over time in participants' drinking. Accounting for change over time is a complex task, because there is considerable individual variation both in how people were drinking at the start of the study, and in how this has changed over this ten-year period. In order to try to cover diverse lives and drinking trajectories, this study has adopted a mixed methods approach, and this is reflected in this report, which draws both on statistical analysis, and on what participants say about their lives and their drinking (using qualitative analysis).

The report begins with a description of how the sample was recruited and retained over time. Part 2 covers some of the main trends and patterns in drinking, using quantitative data to describe change in drinking volume and frequency over time. This section of the report also describes a range of other drinking related measures, including dependence, readiness to change, drinking types, and participants' knowledge of recommended daily and weekly drinking limits. Parts 3 and 4 focus on health, risk, and harmful behaviours. Part 3 describes changes in health and use of health services over time, whilst Part 4 focuses on risky behaviours and potentially harmful behaviours (including smoking, drug use, aggressive behaviours, and contact with the criminal justice system). In Parts 5 to 8 a slightly different approach is adopted. Here, a mixture of quantitative and qualitative data is used to explore key reasons for heavy drinking (Part 5), pathways to reducing drinking (Part 6), the types of narratives told by participants of the last ten years (Part 7), and the views of relatives of heavy drinkers. Case studies are also interspersed through the report, in order to illustrate some of the key points. Where case studies are used, names and some details have been changed, in order to protect the anonymity of participants.

### **1.1. Recruiting the sample**

At the start of the study, the research team set out to recruit 500 people from the West Midlands region to the study. Recruitment took place throughout 1996 and 1997. In order to take part, participants had to be:

- Aged between 25 and 55
- Drinking at least 35 units per week if female and 50 units per week if male, for at least 27 weeks in the previous year
- Untreated for their drinking in the past ten years<sup>2</sup>.

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<sup>2</sup>Treatment was defined as an alcohol-specific or psychosocial intervention, carried out in the last ten years, which in the client's view was carried out by a qualified professional within a formal setting, or self help group, aimed specifically at reducing the client's alcohol consumption long-term. (Hartney *et al.*, 1997).

In addition, all participants either lived or worked in the West Midlands region of England (population 2,556,592<sup>3</sup>). The majority lived in the City of Birmingham, the second largest city in the UK, with a population of just under 1 million.

During the recruitment and initial interviewing phase, the composition of the growing sample was monitored and compared against pre-set targets, established in order to try to ensure the sample was representative of the West Midlands community, as far as possible. Participants were selected to ensure a range in terms of age, social class and ethnicity. In recognition of the greater number of heavy drinking males in the population, the original research proposal set a desired ratio of 3:1 males to females for the composition of the sample.

A range of recruitment strategies was employed in the piloting process, (see Orford *et al.*, 1998). These strategies were subsequently continued if successful, with the addition of other strategies, in order to reach a varied sample of untreated heavy drinkers. The most successful methods of recruitment were 'snowballing' (word of mouth) and bus advertisements, which were both effective in attracting otherwise under-represented groups: females; individuals from minority ethnic groups; and people from professional, managerial and technical socio-economic groups. The increasing 'snowball' effect was attributed to interviewed participants telling their friends and rising awareness of the study within communities. Bus advertisements reached large numbers from all parts of the community. Despite the substantial financial outlay, this was an extremely cost effective recruitment method. Newspaper advertisements were effective in recruiting participants in terms of time, but less cost effective than bus advertising. The most effective newspaper advertisements were colour, full back page advertisements, with 'Drink like a fish' graphics, used on television guides and supplements, (see Figure 1, and Orford *et al.*, 1998). Other methods such as mail shots, leaflets/postcards, posters and shop advertisements were more time intensive, but useful in attracting participants from different areas, ensuring a diverse geographical spread (see Figure A1, Appendix A).

Recruitment efforts employed over the final few months of the process were directed towards attracting volunteers from minority ethnic groups. Translation of recruitment material into Asian languages, targeting areas known to be more highly populated by Asian residents and the setting up of a recruitment stall at an Indian celebratory event did not prove to be fruitful and direct networking with Asian community groups was found to be more effective. Despite efforts to recruit a representative number of Asian participants, the pre-set target was not achieved. However, a

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<sup>3</sup> Office for Population Censuses and Surveys 2001 Census figures

variety of minority ethnic groups were represented in the study and the overall proportion of non-white participants was 9%, slightly lower than the pre-set target of 11%.

Over 1000 people volunteered to take part in the study and were screened to ensure they fulfilled the three inclusion criteria. 800 individuals were deemed suitable and were booked to attend an interview. After excluding those that failed to attend interviews or failed to meet the criteria for inclusion at the time of the first interview, a sample of 500 remained and successfully completed the first interview.

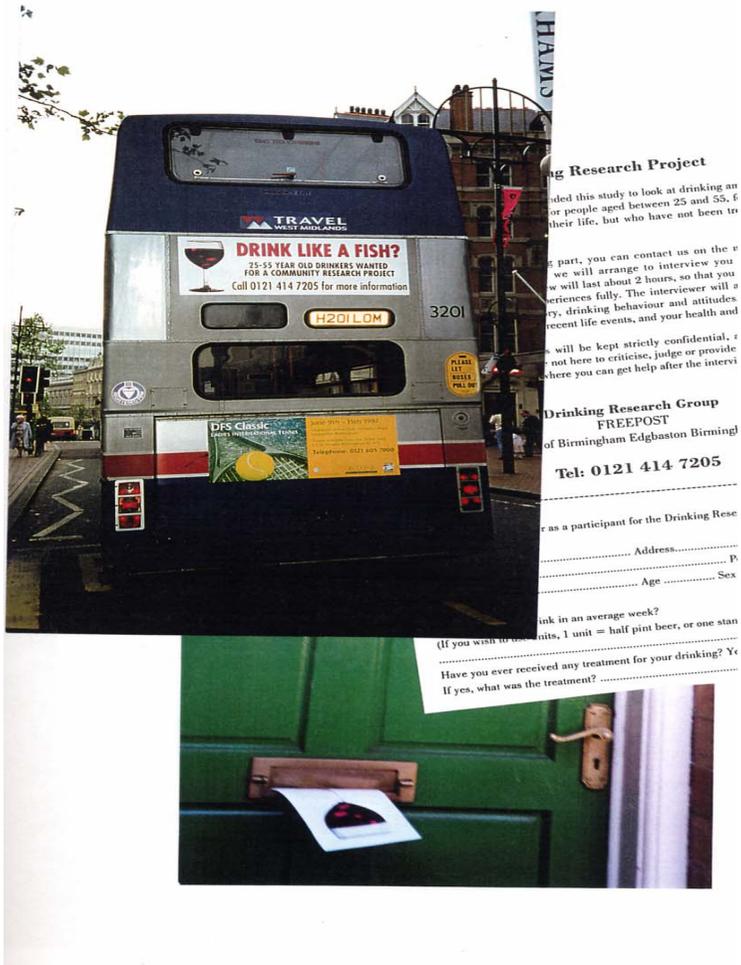
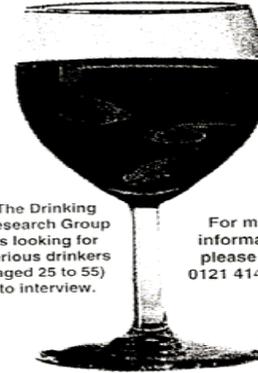


Figure 1: Bus advertisement

## DRINK LIKE A FISH ?



The Drinking Research Group is looking for serious drinkers (aged 25 to 55) to interview.

For more information please ring 0121 414 7205

<p>★ THE FOUR SEASONS ★ Live Band ★</p> <p><b>Food Available Late Bar</b></p> <p><b>DRINK LIKE A FISH?</b></p> <p>The Drinking Research Group are looking for serious drinkers (aged 25 to 55) to interview</p> <p>For more information please ring: <b>0121-414 7205</b></p>	<p><b>KIZEE</b> BUNFAIRWAY</p> <p>OPEN</p>
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THE UNIVERSITY OF BIRMINGHAM  
Drinking Research Group

Edgbaston Birmingham B15 2TT United Kingdom  
Direct Line: 0121 414 7205 Fax: 0121 414 7206

Are you a regular drinker?  
If yes, how many drinks do you drink in an average week?

Figure 2: Newspaper advertisement

## **1.2. Research methods**

Interviews were carried out at two-year intervals, in 1997, 1999, 2001, 2003, 2005 and 2007. Interviews comprised, in approximately equal proportions, structured sections of forced choice questions, paper and pencil exercises, and qualitative focused interview sections<sup>4</sup>. Structured sections of the interview were conducted using a computer-assisted method. Each interview took around 2 hours, and was conducted at a venue convenient for the participant. Most interviews took place at the university, with a minority taking place in participants' homes or in other locations<sup>5</sup>. Only minor changes were made to the interview format between each interview 'wave', to enable comparison over time. Ethical approval was given by the Ethical Committee of the School of Psychology at the University of Birmingham, and informed consent was sought and received from all participants prior to each interview.

## **1.3 Minimising attrition**

One of the key challenges in conducting a longitudinal study is to keep in touch with participants over time and to continue to engage them in the study. Over the ten year study period, strenuous efforts were made to re-interview as many of the original sample of 500 participants as possible. Every two years, all participants were contacted, other than those who had formally withdrawn, been excluded or were known to have died. Various practices were employed in an attempt to both minimise attrition and relocate those who were lost to earlier follow-up interviews. These included:

- Use of a 'warm-up' letter in the year prior to interview
- Stressing, at interview, the importance and value of the participant's contribution
- Having one person with primary responsibility for contacting participants, to ensure a good ongoing rapport
- Flexibility in interviewing - conducting interviews in a place and at a time convenient to the participant
- Re-imburement of expenses for time and travel
- Obtaining alternative 'contact' names and addresses at interview along with permission to ask the contact for the participant's whereabouts, and using these if the research team was unable to locate the person at the last known address
- Use of a range of contact methods and repeated attempts to make contact. This included phone contact attempts at different times of the day, evening and weekend, contact by letter and contact by letter sent to a designated contact person.
- Considerable efforts were made in 1996-1997 to relocate these 'lost' participants, through using the national electronic version of the electoral register to find participants who had

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<sup>4</sup> Details of interview content can be found in Appendix B.

<sup>5</sup> A small minority of interviews took place in other locations such as cafes or workplaces, at the participant's request.

moved address. These participants (around 30 individuals) were then contacted by post, asking them if they would like to re-join the study. This work resulted in one sole interview with an individual who had not been interviewed since 1997.

Over the course of the study, 41 participants formally withdrew from the research, 5 were excluded and 18 were discovered to have died. At wave six interview, 259 participants were re-interviewed, representing 52% of the original sample of 500 (see Table 1 below). The remaining 177 participants were either living abroad or could not be contacted, and were considered ‘lost’ to the research team.

**Table 1: Numbers interviewed and retained at each wave**

<b>Wave of study</b>	<b>Numbers interviewed</b>	<b>Percentage of original sample re-interviewed</b>	<b>Percentage of previous wave re-interviewed</b>
<b>Wave 1</b>	500	100%	n/a
<b>Wave 2</b>	403	81%	81%
<b>Wave 3</b>	350	70%	87%
<b>Wave 4</b>	321	64%	92%
<b>Wave 5</b>	280	56%	87%
<b>Wave 6</b>	259	52%	92.5%

Of the 259 participants interviewed at wave six, 229 had been interviewed at all six waves of the research study. The other 30 participants had been interviewed between two and five times over the decade, (see Table 2 below).

**Table 2: Total number of research interviews attended by those interviewed at wave six**

<b>No. of interviews attended, 1997-2007</b>	<b>No. of participants</b>
Six interviews	229
Five interviews	17
Four interviews	10
Three interviews	2
Two interviews	1

#### **1.4 Comparing the final sample with the initial sample**

In the present study, there were 241 people who took part but were not present at the final interview, and 259 who did complete the study. One important question in any longitudinal study is whether those who do not complete the study differ in important ways from those who are still participating at the end. If there are big differences between these two groups, it could be argued that those who completed the study were not representative of the original sample. For example, it is likely that those living the most chaotic lives, who may be homeless or involved in crime, would be less traceable over a ten-year period.

Furthermore, amongst those who have not completed the study are participants who have died over the course of the decade. Eighteen participants (15 men and 3 women) are known to have died since 1997. Further details of those known to have died are given in Section 3, below. The exact mortality rate for the sample is, however, uncertain, since some participants have become untraceable. The UK Death Index has been used in order to try to trace deaths and to ascertain the cause of deaths. This has enabled the team to ascertain the official cause of death but has not led to any further deaths being confirmed.

Comparative analysis was carried out to investigate whether the final sample (n=259) differed from the group of participants who did not complete the study (n=241). This analysis was conducted using data gathered at the first interview on a range of variables. The results of this analysis revealed some areas where the retained sample and the 'lost' sample were very similar, but other areas where they differed significantly from each other.

There was no significant difference between the two groups on a number of demographic variables<sup>6</sup>, including the following: age, gender, ethnicity, employment status, educational level and marital status. Furthermore, there were no significant differences between the two groups on *some* variables related to health, health-related behaviours, risky behaviours and drinking, including: health (measured by the SF-36), cannabis use, age at which they started drinking; alcohol dependence (as measured by the Leeds Dependence Questionnaire), number of days heavy drinking in the week prior to interview (defined as days drinking over 10 units for men, and over 7 units for women), frequency of risky behaviours after drinking, driving whilst intoxicated, and aggressive behaviour after drinking.

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<sup>6</sup> As measured at the Wave One interview.

There were, however, significant differences between the two groups on a number of variables. First, a higher than expected proportion of the retained sample were in managerial/technical and skilled non-manual occupations<sup>7</sup>, whilst those 'lost' from the sample contained higher than expected numbers of people in professional occupations and in all grades of manual occupations (skilled, semi-skilled and unskilled) [ $\chi^2(5, 491) = 11.1, P < 0.05$ ]. However, the retained sample also differed significantly from those who were 'lost' along the way on a number of variables associated with heavy drinking, use of other substances, and frequency of accidents and intoxicated behaviours. More specifically, compared to those 'lost' from the study, the final sample consumed less alcohol (in units in the previous week) at the first interview, and also had fewer days drinking very heavily (20+ units for men, and 14+ units for women) in the week before the first interview. However, and perhaps rather surprisingly, they were significantly *less* likely to be categorised as in the 'action' stage of 'Readiness to Change' their drinking. They were also less heavy smokers at the first interview, and were less likely to have used Class A drugs during the previous year. The final sample of 259 were also, in 1997, less likely than those who later 'lost' to the study to have appeared in court in the last year, to have been in a fight or ejected from a licensed premises whilst intoxicated, or to have engaged in aggressive behaviour or to have had an argument with someone bigger than themselves, after drinking. They were also less likely than the 'lost' participants to have attended an Accident & Emergency department in the previous year (see Table 3 for details).

Thus, it would appear that those who were 'lost' to the study over time tended to be heavier drinkers, and to be, on average, more likely to use some other substances (including tobacco and Class A drugs), more likely to get into fights and arguments, to have accidents, and to appear in court. In reading this report, therefore, it is important to consider the impact this may have upon the findings. In particular, it is possible that some of the more optimistic findings from the study may reflect the fact that very heavy drinkers, whose drinking is particularly associated with social harms, were more likely to be lost from the research project over time. However, it is extremely challenging to retain some very heavy drinkers with less stable lives in a longitudinal study, despite the use of multiple strategies to retain and relocate these individuals. Furthermore, whilst this attrition bias needs to be kept in mind when considering these findings, this does not invalidate the findings of the study, since the sample still contains a large number of heavy drinkers and some very heavy drinkers, and it has been possible to record continuity and change in the behaviour of these 259 individuals over the course of a decade in their lives.

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<sup>7</sup> Based on 1997 occupational status

**Table 3: Areas of significant difference at Wave One, between those participants interviewed at Wave Six (n=259) and those NOT interviewed at Wave Six (n=241)**

Variables	Mean (SD) at W1 for participants interviewed at W6	Mean (SD) at W1 for participants NOT interviewed at W6	Test statistic	Level of significance
Units of alcohol consumed in week prior to interview	79.9 (49.0)	90.4 (59.0)	T(467.8)=2.13	P=0.033
Number of days very heavy drinking in the previous week (20+ units for men / 14+ units for women)	1.43 (1.69)	1.79 (2.0)	T(463.8)=2.11	P=0.035
Frequency of A&E visits in the last year	0.23 (0.42)	0.32 (0.47)	T(482.8)=2.3	P=0.022
Number of cigarettes smoked in an average week	11.9 (12.1)	16.8 (13.4)	T(372)=3.64	P<0.0005
Frequency of use of Class A drugs in the last year	0.69	1.07	T(497)=2.45	P=0.015
Readiness to Change	1.80 (0.59)	1.94 (0.64)	T(497)=2.50	P=0.013
Number of court appearances in the last year	0.08 (0.28)	0.14 (0.35)	T(457.3)=1.99	P=0.047
Number of times got into arguments with people bigger than oneself, after drinking	0.57 (0.84)	0.80 (0.92)	T(480)=2.97	P=0.003
Number of 'intoxicated behaviours' in the last year <sup>8</sup>	1.61 (1.43)	1.93 (1.57)	T (496)=2.34	P=0.02
Number of fights in last year	0.23 (0.42)	0.34 (0.47)	T(479.3)=2.72	P=0.007
Number of times ejected from a licensed premises in last year	0.14 (0.35)	0.21 (0.40)	T(468.9)=2.06	P=0.04
Frequency of contacts with DSS in last year	0.27 (0.45)	0.38 (0.48)	T(486.3)=2.47	P=0.014

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8

### **PART ONE SUMMARY**

- The Birmingham Untreated Heavy Drinkers research project ran from 1997-2007
- 500 participants were recruited at the start of the study from the West Midlands community
- Efforts were made to ensure that the original sample was representative of the population of the West Midlands on a range of demographic features
- As many as possible of the sample was interviewed at two-yearly intervals
- Interviews lasted around two hours and used a mixture of quantitative and qualitative methods
- At the final interview, 259 participants out of the original sample of 500 were re-interviewed
- The final sample of 259 was significantly different from those who did not complete the study on a number of measures. These included being less likely to be very heavy drinkers, to use Class A drugs, to have accidents and fights, and to have appeared in court over the past year. They were also more likely to be in managerial, technical and skilled non-manual occupations. Nonetheless, it is still considered very valuable to examine continuity and change over time for the sample of 259 individuals who were followed for a decade in their lives.

## **PART TWO: CONTINUITY AND CHANGE IN HEAVY DRINKING OVER TIME**

One of the central questions for this study is, ‘what happens to the alcohol consumption of heavy drinkers over time?’, and this question is the focus for this section. There are a number of different ways of measuring continuity and change in heavy drinking. The main ones used in this study are drinking volume and frequency of heavy drinking days.

Drinking volume is based on alcohol consumption in the week before interview, measured using the Time Line Follow Back procedure (Sobell and Sobell, 1992)<sup>9</sup>. Frequency of heavy drinking was based on two main measures<sup>10</sup>:

- Number of days drinking 7 or more units (women) and 10 or more units (men) during the last week – this is labelled as ‘heavy’ drinking days last week
- Number of days drinking 14 or more units (women) and 20 or more units (men) in the last week – this is labelled as ‘very heavy’ drinking days last week

On all of these measures, the sample has shown a mean decrease in heavy drinking over time.

### **2.1 Change in drinking volume over time, by volume groups**

Over the course of the study, there was an increase in the number of participants who were abstinent or drinking at ‘sensible’ levels, and a decrease in numbers drinking at hazardous, harmful or very harmful levels<sup>11</sup>.

Of those who completed the study (n=259) just 1% had been abstinent in the week before their first interview<sup>12</sup>. With the exception of a small decrease at wave five, numbers reporting abstinence in the week before each interview rose consistently over the ten year study period to 11% (28 participants) in 2007 (see figure 3 below and Table B3, Appendix B).

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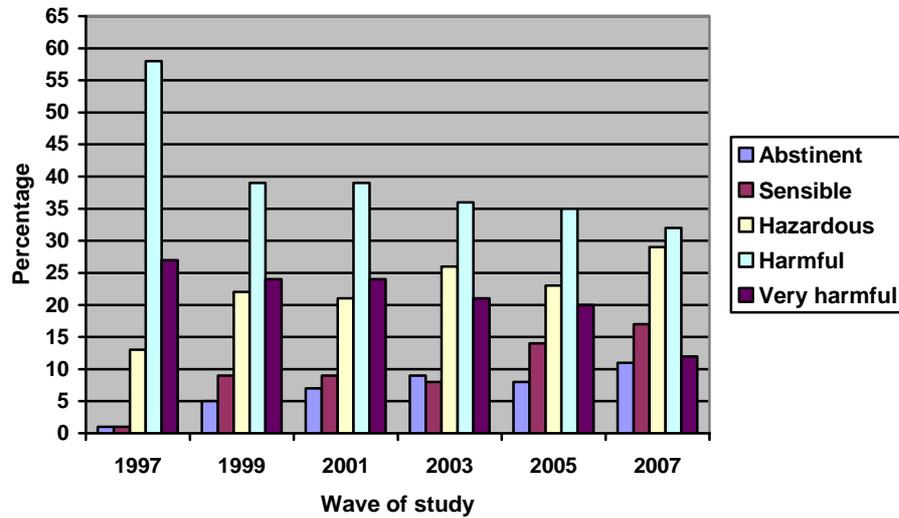
<sup>9</sup> See Appendix B for details of this measure

<sup>10</sup> Data were also collected on the number of days of ‘heavy drinking’ and of ‘very heavy drinking’ in the past *year*. Analysis revealed very similar findings to those reported for the measure of heavy and very heavy drinking days in the past week, so only one set of results is reported here: that for days of heavy and very heavy drinking in the past week.

<sup>11</sup> This analysis is based on the following drinking groups: Abstinent = 0 units; ‘Sensible’ drinking = 1-21 units (men) & 1-14 units (women); Hazardous drinking = 22-49 units (men) & 15-34 units (women); Heavy drinking = 50-99 units (men) & 35-69 units (women); Very heavy drinking = 100+ units (men) & 70+ units (women).

<sup>12</sup> As the project inclusion criteria specified heavy drinking for at least 27 weeks of the year prior to the first interview, one can assume that for the majority of time, participants drinking would have been heavy/very heavy in 1997, but they also reported weeks of abstinence or sensible/hazardous drinking too.

**Figure 3: Percentage of participants allocated to drinking volume groups based on units consumed in week before interview 1997-2007**



The percentage of participants falling within the range of both the ‘sensible’ and ‘hazardous’ groups (in the week before interview), rose by 16% across the duration of the study. Thus, there was an increase over time in participants drinking below the threshold for harmful drinking. There was a concomitant decrease over the course of the study in the numbers of participants drinking at harmful or very harmful levels. Those in the harmful drinking category decreased by 26%, whilst those in the ‘very harmful’ category decreased by 15%. However, across all waves of the study, the ‘harmful drinking’ group remained the largest consumption group. At the final interview, 44% of participants were drinking at levels considered ‘harmful’ or ‘very harmful’.

Based on units consumed in the week prior to each interview, a total of nine participants decreased their drinking at each wave of the study (see Table 4 below). Of these, six reduced to abstinence and this had been sustained for at least a year. Two individuals reported abstinence in the week before the interview at every wave of the study. One of these sustained abstinence throughout and the other fluctuated between very long periods of abstinence and infrequent but very heavy binges that lasted for days or weeks. Over a quarter of the sample reported drinking at a potentially harmful level (heavy or very heavy drinking), at every wave of the study and two thirds moved in and out of the different drinking categories over time.

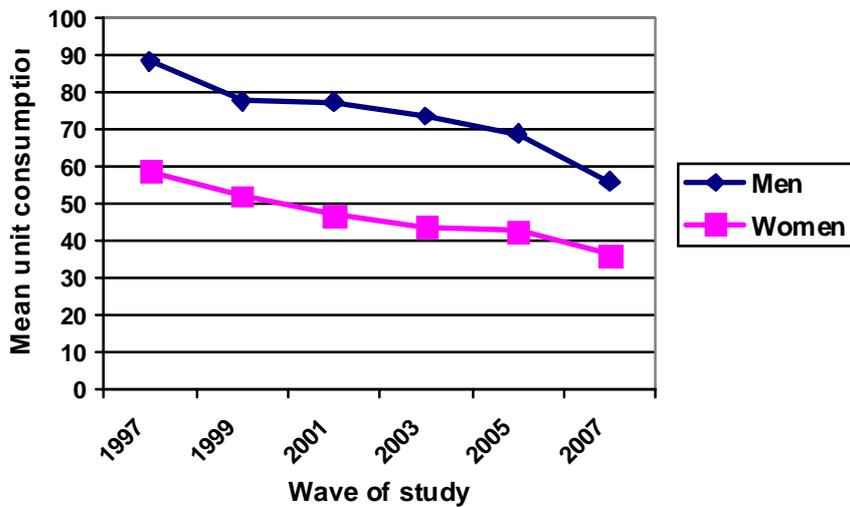
**Table 4: Change in consumption group, based on unit consumption in the week before interview 1997-2007**

Change in consumption group	Number (n = 259)	Percentage
Abstinent throughout	2	1 %
Sensible throughout	0	0 %
Hazardous throughout	3	1 %
Harmful / very harmful throughout	71	27 %
Decrease at each wave	9	4 %
Increase at each wave	0	0 %
Fluctuating between groups	174	67 %

## 2.2 Mean change in drinking volume over time

Turning now to focus on mean levels of drinking for the sample, unit consumption can be seen to have decreased at each wave of the study, and this decline was evident in both men and women's drinking (see Table B1 Appendix B). For men, mean weekly unit consumption declined from 88.5 units per week (SD = 49.2) in 1997 down to 56.1 (SD = 53.5) in 2007. For women, consumption declined from 59.0 (SD = 42.1) to 36.3 (SD = 38.9) (see Figure 4 below).

**Figure 4: Mean unit consumption by gender 1997-2007**

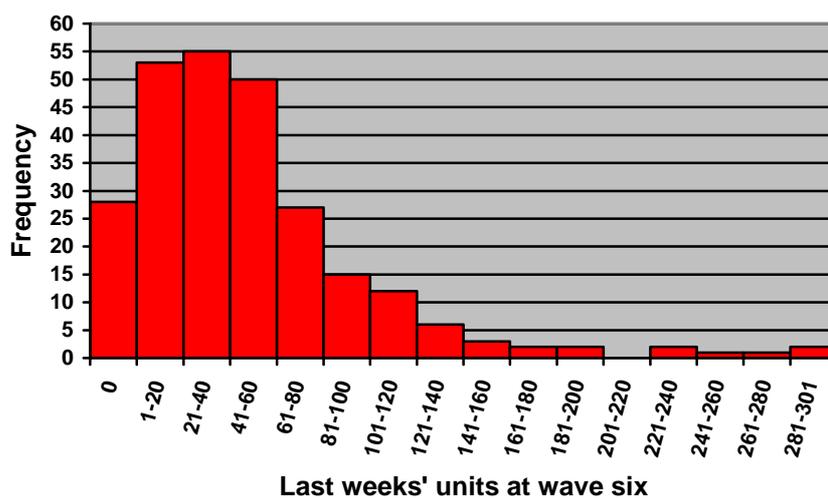


Further analysis<sup>13</sup> was carried out to explore whether these changes over time were statistically significant. This showed that, for men, there was a significant mean decrease in drinking over the whole study period (Wilks' Lambda=0.72, F(5,179)=14.1, p<0.001). Pair wise comparisons also revealed significant decreases in men's unit consumption between 1997 and 1999 (t = 2.42, DF = 183, p<0.05), and also between 2005 and 2007 (t = 3.39, DF = 183, p<0.005). In other words, unit consumption amongst the men in the sample decreased significantly between the first and second interviews, and again between the penultimate and final interview. For women, the overall decrease in consumption between waves one and six also reached statistical significance (Wilks' Lambda = 0.69, F (5, 70) = 6.2, p<0.001). However, the decreases in mean consumption between consecutive waves of the study did not reach statistically significant levels, instead showing a more gradual decline over time.

### 2.3 Change over time at an individual level

Whilst the above analysis shows a general trend towards less heavy drinking in the sample as a whole, there is also considerable variation in the drinking pattern of different individuals within the sample. At wave one, individual scores for units consumed in the week before interview ranged between 0 and 328 units. Similarly, at the final wave of the study, scores ranged from 0 to 301 units in the week before interview, with a few sample members drinking at very high levels (see Figure 5 below).

Figure 5: Units consumed in week before wave six interview (n=259)

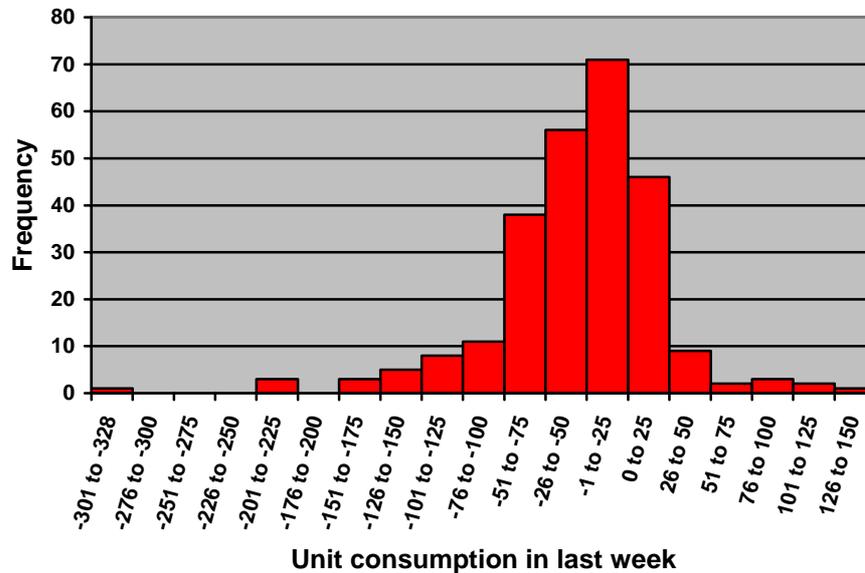


Furthermore, as Figure 6 shows, there is considerable diversity within the sample in terms of the degree and direction of change in drinking between waves one and six. Whilst there is a clustering

<sup>13</sup> Using a mixed between-within ANOVA and pair wise comparisons.

around a reduction of 1 to 25 units over the course of the study, one participant reduced by 328 units, whilst another increased by 140.5 over this time period.

**Figure 6: Change in weekly units between 1997 and 2007  
(n = 259)**



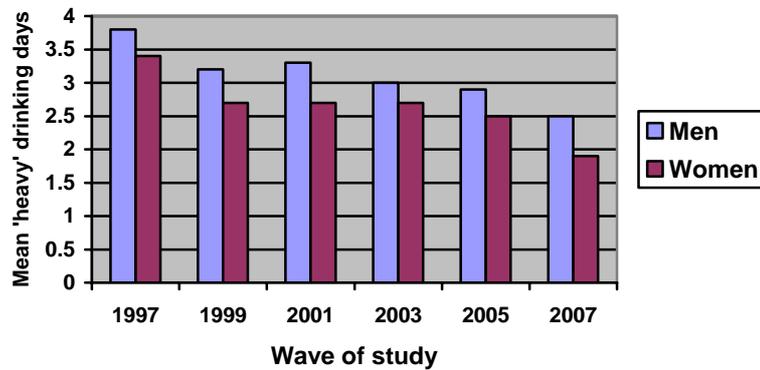
#### 2.4 Frequency of heavy drinking

The mean number of heavy drinking days<sup>14</sup> in the last week decreased at each wave of the study - from 3.7 in 1997 to 2.3 in 2007 (see Table B3, Appendix B). The only exception was the period between the second and third interviews (1999 and 2001), when it rose slightly, though not significantly. Further analysis<sup>15</sup> showed that this overall decrease over time was significant (Wilks' Lambda = 0.73, F (5, 254) = 18.8, p < 0.001). Looking specifically at changes between individual waves, there were significant decreases between the first and second interviews (1997 and 1999) (t = 4.44, DF = 258, p < 0.001) and again between the penultimate and final interviews (2005 and 2007) (t = 3.7, DF = 258, p < 0.001). This reduction in the frequency of heavy drinking days at the start and end of the study mirrors a similar decrease at these stages in the volume of alcohol consumed by participants (see section 2.2 above).

<sup>14</sup> Defined as at least 7 units a day for women, and at least 10 for men.

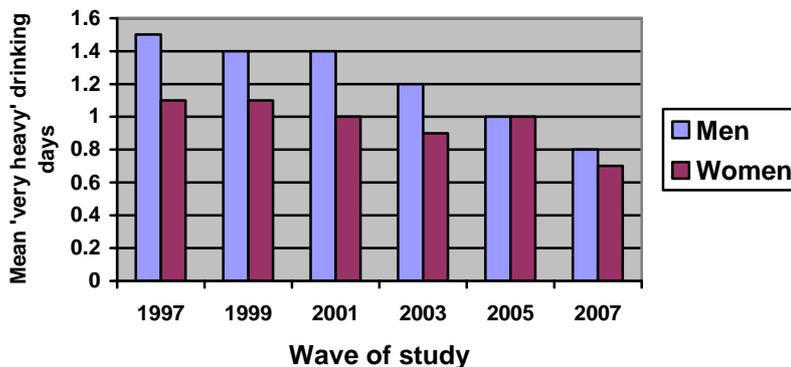
<sup>15</sup> Using a repeated measures ANOVA

**Figure 7: Mean number of 'heavy' drinking days per week by gender 1997-2007**



A similar pattern was found for the mean number of 'very heavy' drinking days<sup>16</sup> in the last week, which showed a decline from 1.4 in 1997 to 0.7 in 2007 (see Table B4 Appendix B). Again, this was a statistically significant result (Wilks' Lambda = 0.83,  $F(5, 254) = 10.22$ ,  $p < 0.001$ ). As with the measure for 'heavy drinking days', further analysis<sup>17</sup> revealed a significant decrease in 'very heavy' drinking days per week between 1997 and 1999, and again at the end of the study ( $t = 2.57$ ,  $DF = 258$ ,  $p < 0.05$ ) (see Figure 8 below). Whilst the frequency of 'very heavy' drinking days has clearly declined over the duration of the study, this decrease is more marked for male participants. As can be seen in Figure 8, there is little reported difference between men and women in frequency of very heavy drinking days at the final interview.

**Figure 8: Mean number of 'very heavy' drinking days in the last week by gender 1997-2007**



At the beginning of the study in 1997, 96% of participants reported drinking at a 'heavy' level on at least one day during the week prior to the interview. This fell to 70% of participants in 2007. A

<sup>16</sup> Defined as at least 14 units in a day for women, and at least 20 units for men.

<sup>17</sup> Using pair wise comparisons

similar reduction in 'very heavy' drinking days was recorded, with 61% reporting drinking at or above 14/20 units per day, on at least one day in the week before the first interview in 1997. This had decreased to 31% at the last interview in 2007. Despite this decrease over time, these figures are still far higher than those for the general population. According to the General Household Survey (2006), 14% of adults drank over twice the recommended daily drinking limit<sup>18</sup> on at least one occasion in the last week.

## 2.5 Dependence on alcohol

According to the Alcohol Needs Assessment Project (Department of Health, 2005), there are around 8.2 million people in England drinking above the low-risk level and around 1.1 million actually dependent on alcohol. There are, therefore, many people drinking at levels that may be harmful to health but who may not be considered dependent drinkers. At each wave of the study, a further alcohol related measure used has been the Leeds Dependence Questionnaire (Raistrick et al., 1994). This is a 12 item measure of alcohol dependence, reported by the developers to be 'sensitive through the range from mild to severe dependence'. Each of the 12 items is scored on a range of 0 to 3, resulting in a total score between 0 and 36. Higher scores represent greater dependence on alcohol (See Appendix C for further details). This measure was based on the notion of dependence as a 'cognitive behavioural construct derived from responses to drinking cues, be those biological, social or cognitive cues' (Tober and Raistrick 2004: 189). The crucial feature of dependence, according to Tober and Raistrick, is the degree of control experienced by the drinker. Although there is a correlation between drinking and dependence (Raistrick et al., 1994), it is possible to have high consumption and low dependence. This latter feature is highly pertinent to the Birmingham Untreated Heavy Drinkers study, amongst whom drinking is at a high level but who have had relatively low scores on the Leeds Dependence Questionnaire (Hartney et al., 2003). In summary, analysis of dependence amongst the BUHD sample reveals two main findings:

- a) The sample has relatively low dependence levels, given their levels of heavy drinking
- b) Mean dependence has decreased over time

To put the mean scores of the BUHD project into perspective, it is helpful to make a comparison to other samples. As shown in Table 5 below, Raistrick *et al.* (1994) reported the mean LDQ scores for three different samples, and these are compared with the BUHD sample at the start and end of the study.

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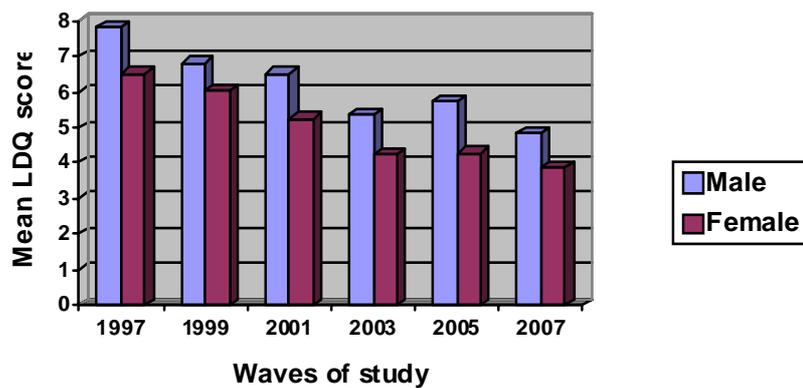
<sup>18</sup> The recommended daily drinking limit for men is 3-4 units, and for women is 2-3 units.

**Table 5: Comparison of LDQ scores from Raistrick et al. (1994) with the BUHD sample**

<i>Sample</i>	<i>N</i>	<i>Weekly units mean (SD)</i>	<i>LDQ score mean (SD)</i>
Clinical	47	122.9 (125.8)	16.3 (8.9)
Student	64	31.4 (23.6)	7.0 (4.4)
GP	14	13.9 (11.2)	3.1 (3.2)
BUHD (1997)	259	80.0 (49.1)	7.4 (5.5)
BUHD (2007)	259	50.4 (50.4)	4.6 (4.7)

By 2007, the mean LDQ score for the Birmingham sample was lower than that for a sample of students reported by Raistrick et al. (1994). This is the case despite the fact that mean alcohol consumption amongst the Birmingham sample in 2007 was still considerably higher than for the student sample. This suggests that, although the sample is still drinking, on average, at levels considered a high risk to health, they are not, on average, highly alcohol dependent. There has also been a steady mean decrease in dependence scores for the BUHD sample over time, from 7.4 in 1997 to 4.6 in 2007<sup>19</sup>.

**Figure 9: Leeds Dependence Questionnaire (LDQ) Score 1997-2007 by gender (n = 259)**



<sup>19</sup> The exception to this general trend was between 2003 and 2005 (see Rolfe, Orford and Chappell, 2006), during which time men's dependence scores increased slightly and women's remained the same.

Further analysis revealed that this mean decrease over time was statistically significant<sup>20</sup> [Wilks' Lambda = 0.74,  $F(5, 254) = 17.83$ ,  $p < 0.001$ ]. Looking specifically at changes between individual waves showed significant decreases at three time points: between 1997 and 1999 ( $t = 3.13$ ,  $DF = 258$ ,  $p < 0.005$ ); 2001 and 2003 ( $t = 4.58$ ,  $DF = 258$ ,  $p < 0.001$ ) and 2005 and 2007 ( $t = 3.15$ ,  $DF = 258$ ,  $p < 0.005$ ).

Further analysis was conducted to explore whether particular groups within the wave six BUHD sample were likely to have high levels of dependence. This revealed no differences for men and women, nor for different age groups. However, those participants who were not in a relationship had, on average, significantly higher dependence scores (mean = 5.9) than those who were in a relationship (mean = 3.8;  $t = 3.53$ ,  $DF = 257$ ,  $p < 0.001$ ). Mean dependence scores also varied significantly according to socio-economic group ( $F = 4.66$ ,  $DF = 6$ ,  $252$ ,  $p < 0.001$ ). The unskilled group's mean LDQ score was higher than that of the professional, intermediate and skilled non-manual groups' scores, suggesting greater dependence amongst those in the lowest socio-economic group.

## **2.6 Readiness to Change**

Participants' motivation to change their drinking was measured using the Readiness to Change Questionnaire (Rollnick et al., 1992). This allocates participants to one of three 'stages of change' considered to be the key stages through which an individual passes when trying to address addictive behaviour. These stages are pre-contemplation, contemplation and action. Pre-contemplation describes the stage at which individuals are not considering a need to change their drinking behaviour. Contemplators are considering the need for change and experiencing the associated conflict and dissonance and those in the action stage have already made a commitment or taken some action to change their drinking (see Appendix B for further details).

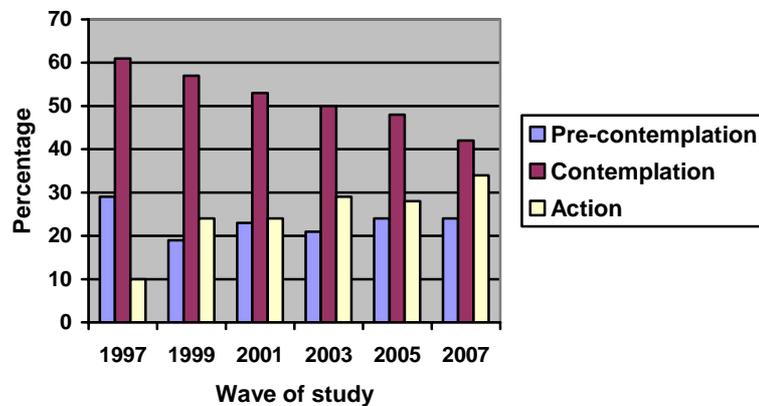
At the beginning of the study, 29% of the sample were assigned to the 'pre-contemplation' group, suggesting that they were not ready to consider changing their drinking at that point (see Table B11 Appendix B and Figure 10 below). This number dropped to 19% of the sample at the following interview and then increased and remained between 21% and 24% for the final four interviews. This means that after the initial interview, over three quarters of the sample were either thinking about changing their drinking or were taking steps to do so.

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<sup>20</sup> A one-way repeated measures ANOVA was conducted to compare the sample's scores on the Leeds Dependence Questionnaire (LDQ) at each of the six waves of the project. Paired samples t-tests were then conducted to investigate when the significant changes in LDQ scores took place.

At the beginning of the study in 1997, 61% of the sample were ‘contemplating’ drinking change and this percentage consistently decreased at each subsequent wave of the study, until 2007, at which time just 42% were contemplating change. It follows that those moving away from the ‘contemplation’ stage’ began to make changes, as there is an overall upward trend in those taking ‘action’ across the study. Over the duration of the study, there has been an increase in the proportion of the sample taking ‘action’ to change their drinking, from 10% in 1997 to 34% in 2007.

**Figure 10: Percentage of sample allocated to the three stages of change groups 1997 - 2007 (n = 259)**



At the end of the study, 63 members of the sample were in the ‘pre-contemplation’ stage, 109 were ‘contemplating’ change and 87 were taking ‘action’ to change. Analysis of stage of change by individuals’ unit level consumption showed that of the 108 participants drinking at harmful levels, 65 were ‘contemplating’ change (see Table 6 below). Similarly, amongst those deemed to be drinking at hazardous levels, the largest category was for ‘contemplation’ of change. Unsurprisingly, the largest category amongst those abstaining at wave six was the ‘action’ stage. For those drinking at sensible levels, equal numbers of participants were allocated to the ‘pre-contemplation’ and ‘action’ stages, with fewer contemplating the need to change.

**Table 6: Stage of change by unit level consumption groups for the sample in 2007**

<i>Stage of change</i>	<i>Abstinent (0 units)</i> n = 29	<i>Sensible (1-14/1-21 units)</i> n = 43	<i>Hazardous (15-34/22-49 units)</i> n = 79	<i>Harmful (35+/50+ units)</i> n = 108
<b>Pre-contemplation</b>	6 (2%)	16 (6%)	18 (7%)	23 (9%)
<b>Contemplation</b>	2 (1%)	11 (4%)	31 (12%)	65 (25%)
<b>Action</b>	21 (8%)	16 (6%)	30 (12%)	20 (8%)

Those aged between 45 and 54 were most likely to be contemplating change (54% of age group) and were also most likely to be taking steps to change (33% of age group). There were minimal differences in motivation to change between those in a relationship and those not in a relationship. More than half (51%) of those not in a relationship at wave 6 were contemplating change, compared with 44% of those in a relationship. However, a smaller proportion of those not in a relationship were allocated to the action group (23%), compared with 34% of those in a relationship. In terms of socio-economic group, results showed that the higher the socio-economic group, the greater the proportion allocated to the action stage of change<sup>21</sup>. Just 15% of those from the unskilled group were taking steps to change their drinking at wave six, compared with 50% of those in professional occupations. However, the unskilled group also contained the highest proportion of individuals (54%) contemplating change, compared to just 17% of the professional group. In terms of gender, a higher proportion of women (34%) were taking action to change, compared with 28% of men. Chi-Square analyses revealed no significant differences within any of the sub-groups.

In summary, those contemplating change were most likely to be between 45-54 years old, in a relationship, and to be in unskilled occupations. Those taking action to change were also most likely to be aged 45-54 and in a relationship, but were also likely to be in professional occupations.

## **2.7 Drink types**

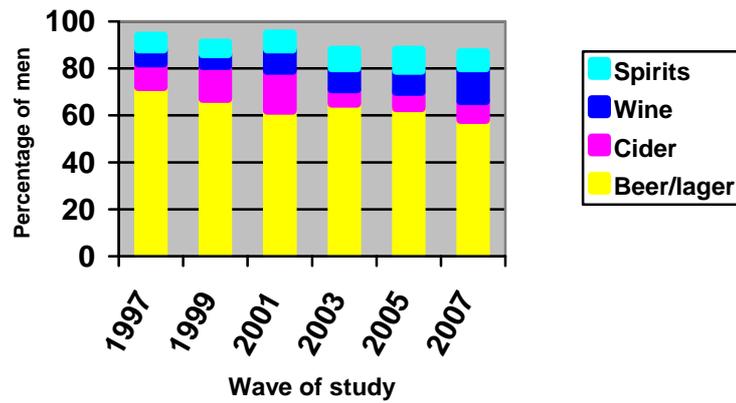
At each wave of the study, participants were asked, not just about the amount they had drunk, but also about the types of drink they had consumed in the previous week<sup>22</sup>. At every wave of the study, the predominant drink for men was beer or lager, with 72% of men reporting this to be their main choice of drink at wave one, reducing to 58% at wave six (see Table B13, Appendix B and

<sup>21</sup> The only exception to this was the 'intermediate' socio-economic group.

<sup>22</sup> Based on the Time line Follow Back of drinking in the week before interview.

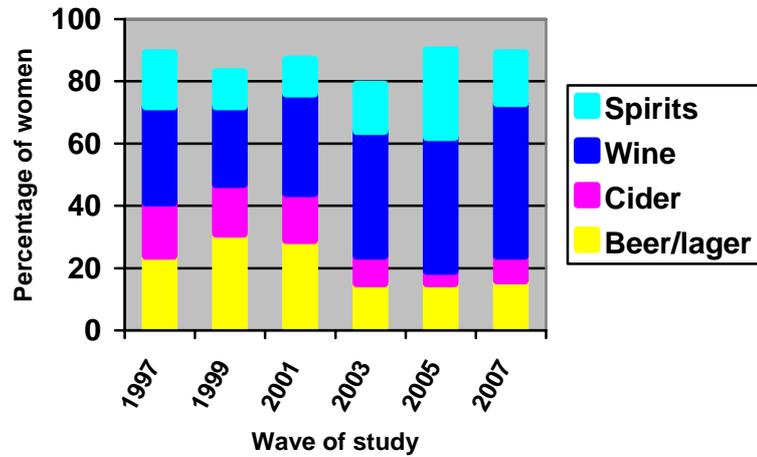
Figure 11 below). For the first half of the study, the second most predominant drink for men was cider, but by the second half of the decade, wine had become more popular.

**Figure 11: Men's predominant drink type  
1997-2007**



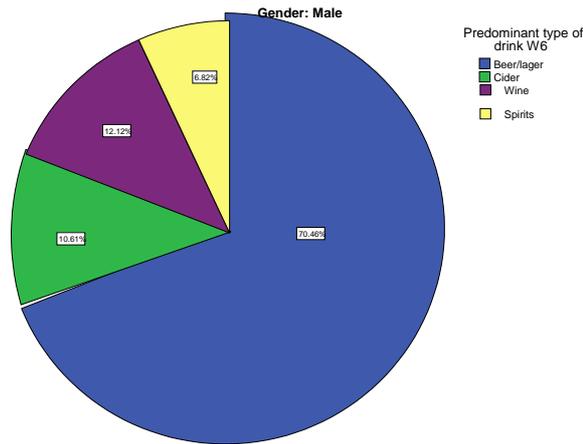
For the women, wine was the predominant drink of choice at every wave except wave two (see Table B13, Appendix B and Figure 12 below). From 1999 onwards, the proportion of women reporting wine to be their main drink of choice rose from 25% to 49% in 2007. From 2001, the percentage of women reporting spirits as their predominant drink of choice rose from 11% and peaked at 28% in 2005, before falling again.

Figure 12: Women's predominant drink type, 1997-2007

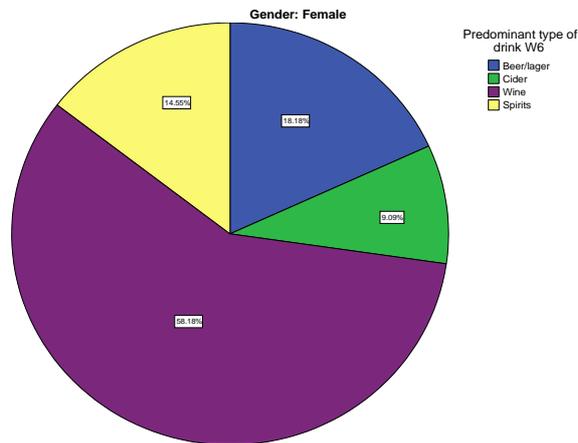


Another aspect of the analysis focused on the types of drink most commonly consumed by participants according to their alcohol consumption group. At the first set of interviews, just over 60% of individuals drinking at a 'heavy' level were predominantly beer/lager drinkers. 15% that were mainly wine drinkers and 7% mainly drank spirits. Amongst the very heavy drinkers, beer/lager was still the most popular drink of choice, but almost a quarter of this group (24%) reported drinking mainly cider and 11% mainly drank spirits (see Table B13, Appendix B).

Analysis of the predominant drink type by gender, using data from 2007 interviews with participants currently drinking heavily (i.e. over 50 units for men, and over 35 units for women), also reveals some interesting patterns. Whilst the stereotype of the heavy drinker is of someone who consumes mainly cider or spirits, the heavy drinking women in the BUHD sample mainly consumed wine, whilst heavy drinking men were predominantly beer drinkers (see Figures 13 and 14).



**Figure 13: Predominant type of drink consumed in the week before interview, 2007 heavy drinking men (n=132)**



**Figure 14: Predominant type of drink consumed in the week before interview, heavy drinking women, 2007 (n=55)**

In addition to the types of drinks consumed, participants were also asked to report the strength of alcohol consumed. At both waves one and six, the group most likely to report drinking predominantly low strength alcohol (0.5-4.5%) was the ‘sensible’ drinkers, with the ‘very heavy’ drinkers being the least likely to report this as their predominant drink strength (see Table B13, Appendix B). At wave one, a similar pattern applied to the 4.6-6.0% drinks, with 33% of the sensible group reporting this as the strength of their predominant drink and just 16% of the ‘very heavy’ drinkers doing so. However, at wave six, the sensible group were less likely to report this as the predominant strength (just 9% of the volume group) and the ‘very heavy’ drinkers were more likely to report this as the predominant strength (39%). This suggests that over the course of the study, the sensible drinkers were (perhaps unsurprisingly) more likely to drink lower strength drinks whereas the ‘very heavy’ drinkers were more likely to drink stronger types. At both waves

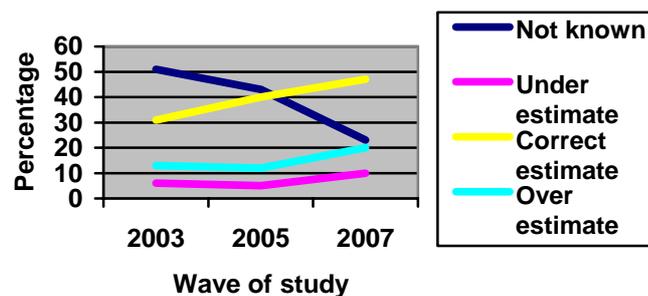
one and six, none of the sensible drinkers consumed alcohol labelled as between 6.1-10% strength (namely strong lagers and ciders). However, at both waves, over a quarter of the ‘very heavy’ drinkers mainly drank these high strength drinks. Analysis also revealed an increase in the proportion of every group reporting their predominant drink strength as between 10.1-13%, reflecting the increase in wine as the predominant drink of choice.

## 2.8 Knowledge of recommended daily and weekly drinking limits

According to the ONS Omnibus survey (2007), 85% of adults had heard of measuring alcohol consumption in units in 2007, compared with 79 per cent ten years earlier. At waves four, five and six (2003 to 2007), all participants were asked to state what they thought the daily and weekly recommended sensible drinking levels were<sup>23</sup> for both men and women<sup>24</sup>.

In 2003, over half of the sample stated that did not know the Department of Health daily recommended guidelines for unit consumption. However, by 2007, less than a quarter said they did not know (see figures 15 and 16 below). Similarly, at wave four (in 2003), just over 30% of the sample correctly estimated the recommended daily unit level, whilst by 2007, around half<sup>25</sup> made correct estimates. Amongst those who gave an estimate but did not guess correctly, a greater proportion overestimated than underestimated the recommended daily unit level, at every interview wave (see Table B59, Appendix B).

Figure 15: Estimates of DoH recommended daily units for men, 2003-2007

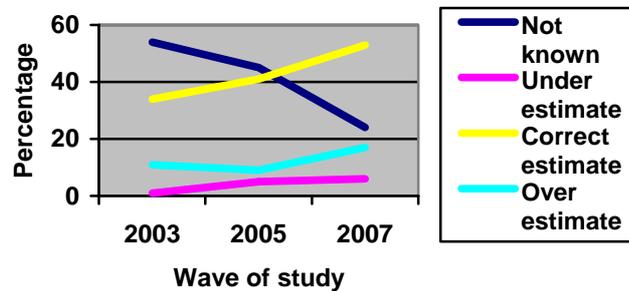


<sup>23</sup> The Department of Health recommends daily (not weekly) limits for alcohol consumption. Nonetheless, in this study both daily and weekly limits were used, in order for participants to be able to compare their own weekly drinking (measured by the Time Line Follow Back procedure) with recommended weekly limits.

<sup>24</sup> All participants were asked about the daily recommended daily limits for both men and women, regardless of the participant’s gender.

<sup>25</sup> 47% correctly estimated the men’s level and 53% correctly estimated the women’s recommended limit.

Figure 16: Estimates of DOH recommended daily units for women 2003-2007



These results suggest that there has been an increase over time in the proportion of the sample who have heard of unit counting, that the proportion that know how many units are recommended as a sensible amount to consume in any one day or week is far smaller, and that there may be a tendency amongst heavy drinkers to overestimate the recommended limits.

## 2.9 Analysis of change over time using advanced statistical techniques

We have always known that the numerical part of the final data set would offer opportunities for further statistical analysis using more sophisticated methods which take advantage of repeated measures and multiple variables. To that end we have sought expert statistical advice and been fortunate enough to engage the interest of Drs Roger Holder and Shakir Hussain of the Department of Primary Care and General Practice in the University of Birmingham. They have indicated that the data set lends itself well to a number of advanced statistical methods. The latter include structural equation modelling (SEM) which is a well respected method, often to be found in papers published in the leading Alcohol and Addiction journals. At the moment two methods have been explored, as follows.

### Cluster Analyses

This is a set of techniques which consider the similarities and differences between the participants based on their scores on a number of key variables. It then suggests a number of categories, or clusters, into which participants can be placed according to certain statistical criteria. Two ways of clustering the participants have been explored to date. Each is based on scores on five key drinking variables and how participants' scores on those variables changed over time. The five variables

are: units of alcohol consumed in the last week; number of heavy drinking days (days drinking at least 10 units for men or at least 7 for women) in the last week; days drinking very heavily (at least 21 units for men and 14 for women) in the last week; estimate of number of days heavy drinking in the last 12 months; and estimate of number of days very heavy drinking in the last 12 months.

(i) The first method (clustering on intercepts and linear and quadratic trends) requires at least 3 data points for each participant. This analysis is therefore based on 326 of the 500 initial participants. That method has suggested three clusters. The largest group (48%) had relatively high wave 1 values and showed relatively little change. The second group (29%) had lower wave 1 values (and the lowest of all for heavy and very heavy days in the last week) and showed considerable change subsequently. The third group (23%) also had low average initial values and showed the greatest change of all on three of the key variables (units last week and heavy and very heavy days drinking in the last year). The third group also showed a relatively large quadratic change component.

(ii) The second cluster analysis method is newer and has only recently been described in the statistical literature (Hussain et al, 2008). Known as multilevel mixture modelling, it is a form of multilevel modelling which examines both variation between participants and variation within the scores obtained by individual participants at different waves, as a basis for clustering participants (clustering on deviations from general trends). An advantage of this method is that it can use the data from all participants however many or few interviews a participant attended. This analysis is therefore based on 499 participants (a key variable was missing for one participant who only attended one interview). This method has also suggested four clusters which show an understandable order from cluster 1 (low initial values on key drinking variables and the greatest change) to cluster 4 (higher initial values and very little change). Table 7 shows the intercept and linear change values for the four clusters for four of the drinking variables (the very heavy drinking days in the last week variable was excluded from this analysis because it added little additional variance). As illustrations, figures 17 and 18 show how members of the four clusters are distributed in 2-dimensional space according to two pairs of statistics. Figure 17 shows the plot of baseline (wave 1) units in the last week against baseline very heavy drinking days in the last year. Figure 18 shows baseline units plotted against change in units over time.

## Regression Analyses

The second method that has been explored so far, rather than attempting to assign participants to clusters, has used the more conventional method of examining associations between variables. Separate analyses have been carried out regressing each of the Wave 1 key drinking variables and *change* for each of the key drinking variables between wave 1 and the participant's final interview (omitting in the final analysis the very heavy drinking days in the last week variable because it added little extra variance). The variables used in these regression analyses have been the following: wave 1 values for the same key drinking variables; *change* on each of the key drinking variables; sex; age; socioeconomic status (four categories); economic activity (three categories); marital status (three categories); relationship status (three categories); predominant type of alcoholic drink consumed (four categories); wave 1 scores for health (SF36), readiness to change (RTC), alcoholic dependence (Leeds Dependence Questionnaire LDC); and change from wave 1 to the participant's final interview on each of SF36, RTC and LDC.

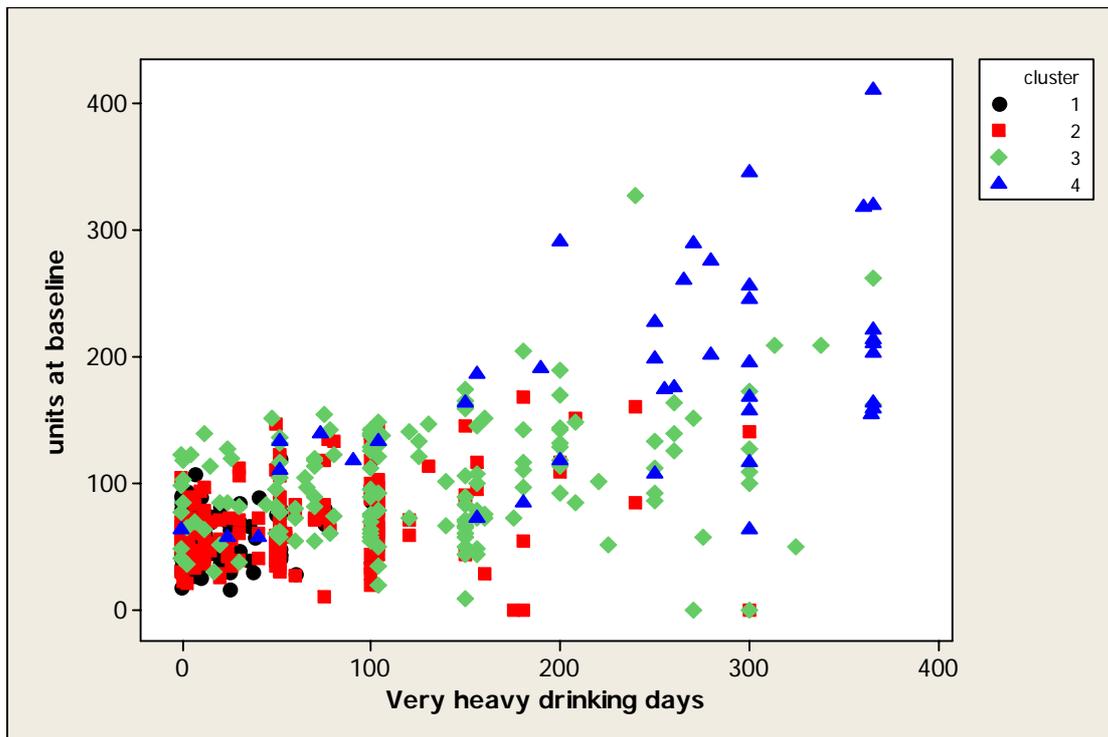
In summary these analyses have so far suggested two conclusions. The first is the importance of socioeconomic status as a correlate of wave 1 scores on key drinking variables. With a minor exception, each baseline drinking variable shows a regular increase in mean score from socioeconomic status group 1 (professional and managerial occupations) to socioeconomic status group 4 (semi-skilled and unskilled manual occupations). In each case the difference between SES groups 1 and 4 is statistically significant, or in one case very close to significance. In the case of units of alcohol consumed in the last week there is, in addition, a complicated interaction between socioeconomic status group and sex, with women in SES groups 2 (intermediate and routine non-manual occupations) and 4 (semi-skilled and unskilled manual) consuming relatively fewer units than men compared to women in the other SES groups.

The second conclusion to be drawn from the regression analyses, so far, is the significant relationship between change over time for each of the key drinking variables and change over time in dependence (LDC) scores. This relationship is statistically significant for each of the four drinking variables, indicating that changes in alcohol dependence over time are generally in step with changes over time in drinking. In only one case (the regression of change in units in the last week) was change in health (SF36) significant. The direction of that relationship was such that reductions in drinking over time were correlated with worsening of health over time. Although that may appear counter-intuitive, it may be interpreted as indicating that decline in health was a principal factor motivating reduction in drinking. More detailed analysis will help to test that interpretation. In none of the regression equations was baseline RTC or change in RTC significant.

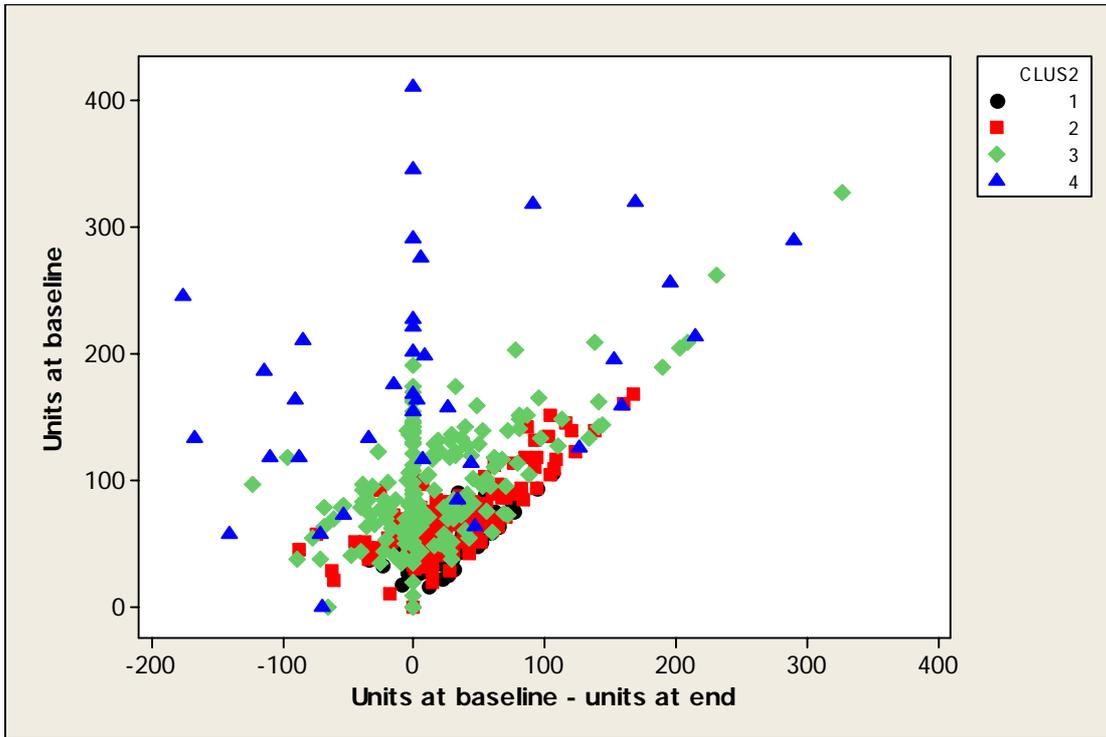
**Table 7. Baseline and linear change on four key drinking variables for each of four clusters of participants based on multilevel mixture modelling.**

		Cluster 4	Cluster 3	Cluster 2	Cluster 1
	N	44	187	196	72
Units of alcohol consumed last week					
Baseline		186	102	100	93
Change		-7.6	-5.8	-44.0	-54.4
Days heavy drinking last 7 days					
Baseline		5.7	5.0	3.2	4.1
Change		-0.16	-0.24	-0.26	-2.81
Days heavy drinking last 12 months					
Baseline		299	260	158	219
Change		not significant	-9.6	-13.8	-154.8
Days very heavy drinking last 12 months					
Baseline		264	115	54	34
Change		not significant	- 8.5	- 6.5	- 21.3

**Figure 17: Baseline units last week plotted against baseline very heavy drinking days last year for four participant clusters (clustering on deviation from general trend)**



**Figure 18: Baseline units last week plotted against change in units for four participant clusters (clustering on deviation from general trend)**



## **PART TWO SUMMARY**

Over the ten years of the study, there has been a significant decrease in both the volume and frequency of drinking, for both men and women.

Dependence levels amongst the BUHD sample have been relatively low, considering their levels of drinking, and have decreased significantly over time

By the end of the study, more participants were taking action to change their drinking. This was particularly true of participants who were in the 45-54 age group, in a relationship, and in professional occupations.

Most male heavy drinkers were predominantly beer drinkers, whilst most heavy drinking women in the sample preferred wine over other drinks.

Knowledge of Department of Health recommended drinking limits has increased over time. However, at the end of the study there was still a tendency to overestimate daily sensible drinking limits.

## **PART THREE: HEALTH**

The association between high alcohol consumption, morbidity and mortality is well established, with the World Health Organisation reporting alcohol as one of the ten leading causes of injury and death in developed nations (World Health Report, 2002). The Alcohol Harm Reduction Strategy for England (Cabinet Office, 2004) calculates the cost of alcohol misuse to the health service to be £1.7bn per annum, including over 30,000 hospital admissions per year for alcohol dependence syndrome, and up to 22,000 premature deaths per year.

Health has therefore been an important area for investigation on the BUHD project. At each wave of the BUHD study, the SF-36 (Ware and Sherbourne, 1992) has been used as a measure of health amongst the sample. This measure allows an assessment of the different dimensions of health, through questions relating to eight different areas: general health; physical function; mental function; social function; physical role; emotional role; pain; and energy and vitality. In addition, data have been collected on use of various health services, including primary care, Accident and Emergency, and hospital inpatients and outpatients services. This section explores changes in health over time amongst the sample, along with changes in use of health services.

### **3.1 Health, drinking, and change over time**

Health amongst the Birmingham sample has been found to be poorer than for the wider population. Some of the most noticeable differences are for mental health and emotional role limitations, where the sample has been found to have much lower scores than for the general population (Rolfe et al., 2006). As can be seen in Table 8 below, the mean SF-36 scores for each dimension are poorer than the general population (aged 25-74) at both waves one and six, with the exception of better physical function amongst the Birmingham sample in 1997<sup>26</sup>.

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<sup>26</sup> Although this then decreased over time and fell below the general population figure by the end of the study.

**Table 8: Mean SF-36 scores 1997 and 2007 - comparison to general population**

Health dimension	SF-36 scores mean (SD)		
	1997	2007	Gen. Pop (aged 16 and over)*
<b>General health</b>	64.9 (21.9)	60.4 (23.4)	71.3
<b>Physical function</b>	90.6 (14.3)	83.3 (22.9)	85.1
<b>Mental function</b>	65.3 (21.0)	71.1 (20.8)	77.0
<b>Social function</b>	83.5 (23.5)	82.2 (24.9)	87.9
<b>Physical role</b>	77.1 (36.0)	73.4 (39.6)	80.9
<b>Emotional role</b>	67.8 (40.0)	75.9 (36.7)	87.4
<b>Pain</b>	75.7 (26.7)	72.4 (21.1)	80.4
<b>Energy &amp; vitality</b>	55.5 (20.4)	54.4 (22.8)	63.9

\*Omnibus Survey (Bowling *et al.* 1999)<sup>27</sup>

There is also some evidence of an association between heavy drinking and poor health. Health scores were negatively correlated with level of alcohol consumption at both Waves 1 and 6, meaning that higher levels of alcohol consumption were associated with poorer health<sup>28</sup>. Further analysis of all 8 SF-36 sub-scores revealed significant negative correlations on several, although not all, of these sub-scores. At Wave 1, there were negative correlations between level of alcohol consumption and physical function, mental health and pain<sup>29</sup>. At Wave 6, negative correlations were found between level of alcohol consumption and physical function, and physical role limitations<sup>30</sup>.

Analysis using Wave 6 data revealed no gender or age differences were found in health scores. However, participants who were in a relationship had significantly higher mean scores for health (M=613) than those not in a relationship (M=505;  $t = -4.80$ ,  $DF = 157$ ,  $p < 0.001$ ). Similarly, mean SF-36 scores varied significantly according to socio-economic group, ( $F = 4.49$ ,  $DF = 6, 252$ ,  $p < 0.001$ ). The unskilled (V) group's mean SF-36 score was significantly poorer ( $p < 0.05$ ) than that of the intermediate (II) and skilled non-manual (III NM) groups' scores. Furthermore, the skilled manual group's score was significantly lower than the intermediate group's score, suggesting poorer health amongst those in the lower socio-economic groups, see Figure 19 below.

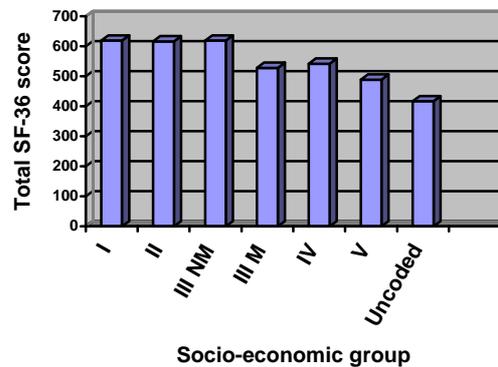
<sup>27</sup> The sample used in the Bowling *et al.* survey used the sample from the Health Survey for England. The sample included adults with an age spread from 16 to over 75.

<sup>28</sup> Correlations between units consumed in previous week and SF36 general health score: Wave 1,  $r = -0.216$ ,  $p < 0.0005$ ; Wave 6,  $r = -0.155$ ,  $p = 0.012$

<sup>29</sup> Wave 1: physical function x alcohol consumption –  $r = -0.136$ ,  $p = 0.002$ ; mental health x alcohol consumption –  $r = -0.098$ ,  $p = 0.029$ , pain x alcohol consumption –  $r = -0.130$ ,  $p = 0.004$ .

<sup>30</sup> Wave 6: physical function x alcohol consumption –  $r = -0.179$ ,  $p = 0.004$ ; physical role x alcohol consumption –  $r = -0.18$ ,  $p = 0.004$ .

**Figure 19: Total SF-36 scores by socio-economic group at wave six (n = 259)**



Analysis of change in health over time shows that there has been a significant decline in the general health of the sample between waves one and six (Wilks' Lambda = 0.947,  $F(5, 254) = 2.83$ ,  $p < 0.05$ ), and this is matched by a significant decline in 'physical function' (Wilks' Lambda = 0.884,  $F(5, 254) = 6.64$ ,  $p < 0.001$ ). It is not, however, clear whether this is related to alcohol consumption, since scores on all SF-36 sub-scales decrease with age amongst the general population (Bowling et al., 1999). However, despite BUHD participants having much poorer 'mental function' than the general population, scores for mental health did increase significantly for the BUHD sample over time (Wilks' Lambda = 0.903,  $F(5, 254) = 5.47$ ,  $p < 0.001$ ). This suggests an improvement in self-reported mental health over time, possibly with ageing. There were no significant changes in the other five areas of health over the ten year study period, and the data suggest that the poorer health scores apply to all age groups over all waves of the study (see Tables B26 and B27, Appendix B)<sup>31</sup>.

This findings need to be considered in comparison with data for the general population (Bowling et al., 1999). These show that younger age groups score, on average, more highly than older age groups on SF-36 measures of general and physical health. The only exceptions to this are measures of emotional and mental health ('emotional role' and 'mental functioning'), where there is little difference found in mean scores between different age groups amongst the general population. Thus, the finding of a significant decline over time in general and physical health in the BUHD sample may be due to the effects of alcohol consumption, but could also be due to the effects of ageing. The findings relating to mental health need to be considered in the light of the fact that general

<sup>31</sup> The only exceptions to this pattern of poorer health scores is as follows: (i) In 1997, physical functioning within the 45-54 age group is better than that of the general population, (ii) For pain, the sample's mean score was better than the general population in each age group at three of the six waves, indicating fewer problems with pain amongst the sample.

population scores for these measures do not usually decline over time, unlike those for physical health. Nonetheless, the fact that emotional role and mental functioning in the BUHD sample significantly improved over time does suggest better mental health at the end of the study.

### 3.2. Mortality

Eighteen participants (15 men and 3 women) are known to have died since 1997. Table 9 shows the details of deaths currently known. The mean age of death amongst those known to have died is 49.5 years and, as can be seen, many of these deaths appear likely to have been alcohol-related.

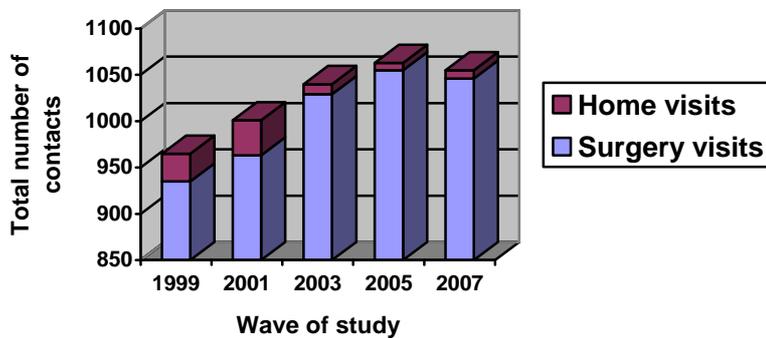
**Table 9: Known deaths amongst the BUHD sample**

<i>Year of death</i>	<i>Gender</i>	<i>Age at last interview</i>	<i>Weekly units at last interview</i>	<i>Cause of death</i>
2002	M	50	131.5	Intracerebral haemorrhage & hypertension
2007	M	54	66	Unknown at present
2002	M	58	118	Haemorrhagic cerebrovascular accident
2000/01	M	50	422	Hepatorenal syndrome and alcoholic liver disease
2006	M	60	56	Unknown at present
2007	F	42	39.5	Official cause unknown at present (unofficially reported to be alcohol and diabetes related).
2000	F	28	38	Metastatic cancer
2004	M	36	51	Bronchopneumonia; diabetes mellitus
2002	M	58	38.5	Metastatic adenocarcinoma, pulmonary embolism, ARDS, renal failure, diabetes
2000	M	36	51	Alcohol-related pneumonia
2002	M	46	94	Bleeding oesophageal varices & alcoholic liver disease
1998	M	51	93	Respiratory arrest & encephalitis
1999	M	52	129	Suicide
2004	M	61	214	Pancreatitis
2001	M	47	0	Liver failure and liver cirrhosis
2003	M	59	50.5	Carcinomatosis, carcinoma of lungs, peripheral vascular disease
2005	F	59	99	Heart attack
2000	M	45	90	Cirrhosis of the liver and infection

### 3.3 Use of GP services

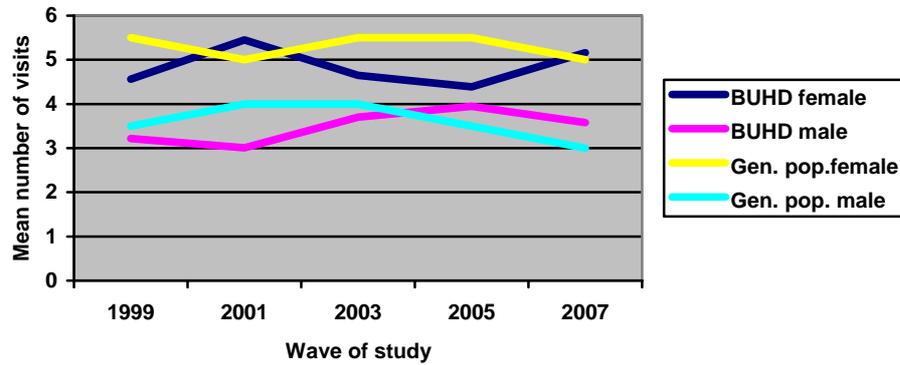
In addition to measuring what people feel about their state of health, data were collected on how much participants' used health services. Data on the number of contacts with General Practitioners were collected from wave two onwards and showed an increase from 1999 to 2005 in numbers of GP contacts, then a slight decrease in 2007 (see Figure 20 below, and Table B48, Appendix B).

**Figure 20: Frequency of contacts with GP 1999-2007**  
(n=259)



At each wave of the study, between 77 and 81% of the sample had contact with their GP on at least one occasion during the year before interview (see Table B48, Appendix B). On average, men had contact with their GP a mean of between 3.01 and 3.95 times per year at each wave of the study and women had contact a mean of between 4.39 and 5.45 times per year (see Table B48, Appendix B). As shown in Figure 21, comparison with data from the General Household Survey, (ONS, 2006) shows that there is nothing to suggest that the BUHD sample are heavy users of GP services when compared to the general population and at several waves of the study they were found to visit their GP less than the general population.

Figure 21: Mean number of contacts with GP in the last year.  
Comparison of BUHD sample with general population\* 1999-2007



\* General Household Survey, 2006<sup>32</sup>.

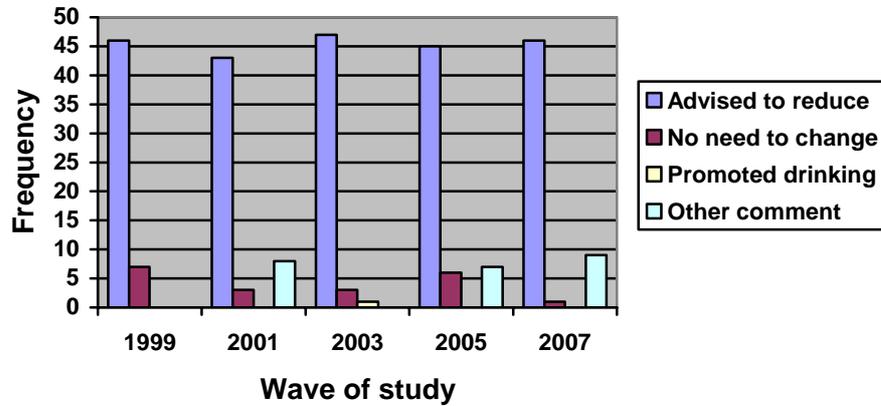
It is estimated that, nationally, each GP sees 364 heavy drinkers a year (Cabinet Office, 2004: 41-2), and GPs may be considered to be in an ideal position to identify heavy drinkers and to conduct a brief intervention. In the BUHD study, participants who reported having contact with their GP were asked whether any comments had been made about their drinking. These data, therefore, provide useful information on the extent to which GPs are both aware of, and are active in making referrals for problem drinking.

Despite the fact that between 73% and 85% of the sample was drinking at hazardous, harmful or very harmful levels at every wave of the study, only a small proportion of these received comments about their drinking from their GP (see Table B27, Appendix B and figure 22 below). Analysis of Wave Six data shows that those who received a comment from their GP about their drinking were, on average, significantly heavier drinkers<sup>33</sup> than those who did not receive a comment ( $t(55.76) = -2.23$ ,  $p = 0.030$ ). The number of participants advised to reduce their alcohol consumption remained fairly stable across the study, with between 43 and 47 participants being advised to cut down at each interview wave.

<sup>32</sup> The General Household Survey sample includes adults aged 16 and over.

<sup>33</sup> Based on units consumed in the week before interview

**Figure 22: Number of participants receiving a comment about their drinking from their GP in the year before interview 1999-2007 (n=259)**



From wave 4 onwards, participants were asked whether they had spent any time discussing their drinking with their GP. Of the 199 individuals who saw their GP on at least one occasion during the year prior to the wave four interview, 26% discussed their drinking. At the wave five interview, 208 participants had seen their GP and a slightly higher proportion - 29% - discussed their alcohol consumption. At the final interview, 203 individuals reported contact with their GP and of these, 27% discussed drinking.

These same participants were asked the extent to which their discussions about drinking with their GP included details of their weekly unit consumption. Over a quarter of those that discussed their drinking with their GP reported not having been asked to describe their weekly consumption patterns<sup>34</sup> (see Table B28, Appendix B). Between 22 and 34 individuals were asked to give a brief description of their unit consumption and the smallest proportion (between 9 and 14 participants) were encouraged to give a detailed summary of their drinking.

These individuals were also asked about which bodily system problem triggered the visit to their GP at which their drinking was discussed. At each of the later three waves, digestive problems and mental/psychological issues were amongst the top three reasons for having contact with the GP and subsequently prompting a conversation about alcohol use (see Table B49, Appendix B).

These data also provide a useful source of information on referral for treatment. It should be noted that, in the BUHD study, there are two sources of information on referral to treatment. The first, presented here, describes referrals made as the result of a GP instigated discussion of the person's

<sup>34</sup> This was the case at each of the last 3 interview waves

drinking. The second, presented in sections 6.1 and 6.2 below, describes access to advice and treatment which is actively sought out by participants. Amongst those that reported discussing their drinking with their GP, less than a quarter were recommended any treatment, and only a small minority agreed to go for treatment (see Table 10 below). Thus, of the 259 participants that completed the study, less than 5% were recommended treatment by their GP and less than 3% of these agreed to access treatment. Using Wave Six data, a positive correlation was found between level of alcohol consumption<sup>35</sup> and GP instigated referral to treatment services<sup>36</sup> ( $r=0.152$ ;  $p<0.01$ ), suggesting that GPs may only be referring to treatment services in the case of very heavy drinking.

**Table 10: Frequency (and percentage) reporting whether their GP had recommended treatment and whether they had agreed to go for treatment, amongst those who received a comment about their drinking (2003-2007)**

	<i>2003 Frequency (%) (n=51)</i>	<i>2005 Frequency (%) (n=58)</i>	<i>2007 Frequency (%) (n=55)</i>
<b>GP recommended treatment?</b>			
No	39 (76%)	49 (84%)	42 (76%)
Yes – with someone at surgery	1 (2%)	2 (3%)	2 (4%)
Yes – with a specialist	11 (22%)	7 (12%)	11 (20%)
<b>Agreed to go for treatment?</b>			
Yes	7 (14%)	4 (7%)	7 (13%)
No	5 (10%)	5 (9%)	6 (11%)

### 3.4 Use of other primary care services

In addition to contact with their GP, participants were also asked whether they had seen other primary care staff in the year before interview. These included surgery practice nurses and counsellors<sup>37</sup>, health visitors, Community Psychiatric Nurses, alternative health practitioners (paid for by the local surgery) and any other health worker. Analysis showed that the numbers accessing a practice nurse increased considerably over the ten year period (from 7% in 1997 to 49% of participants in 2007 (see Table B55, Appendix B and Figure 23 below). However, participants still had, on average, fewer contacts with their practice nurse than members of the general population. Figures for primary care health professionals other than practice nurses showed that these were used by only a small minority of participants. At most waves of the study, those participants who had contact with the practice nurses were consuming alcohol at higher levels than those who did not see their practice nurse (see Figure 23 below).

<sup>35</sup> Based on units consumed in the last week

<sup>36</sup> It should be noted that this includes referrals as a direct result of a GP initiated discussion of the patient's drinking. It does not include the incidence of participants actively seeking treatment for their drinking. The latter is covered in Sections 6.1 and 6.2

<sup>37</sup> These two categories were asked about from Wave one onwards. The other health professionals were added to the list and asked about from Wave Two onwards.

Figure 23: Percentage of sample using different primary care services (n=259)

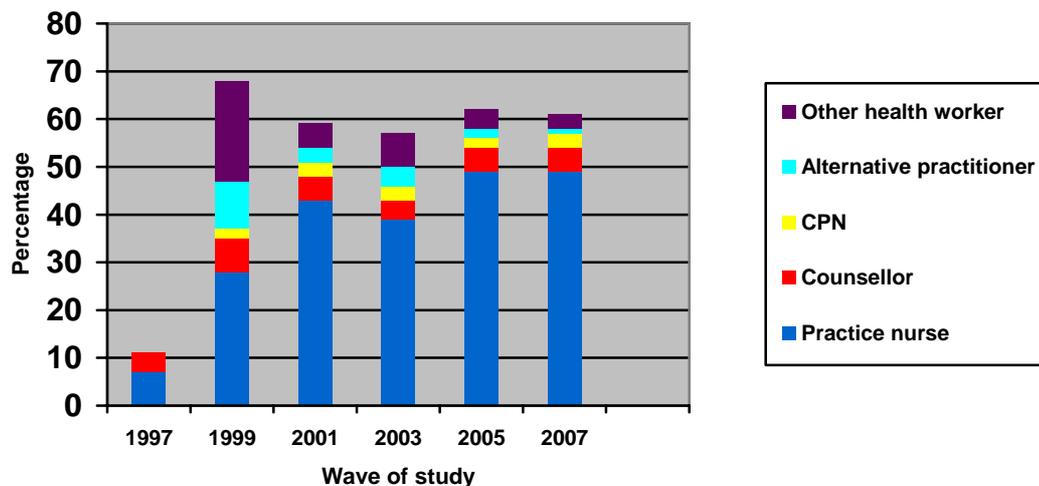


Figure 24: Percentage of men and women in contact with a practice nurse in the last year 1997-2007 (n=259)

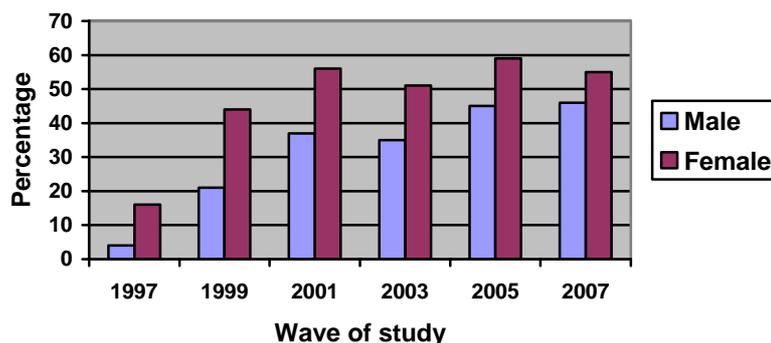
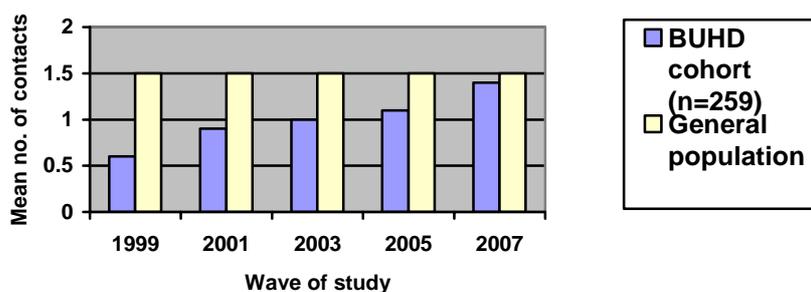
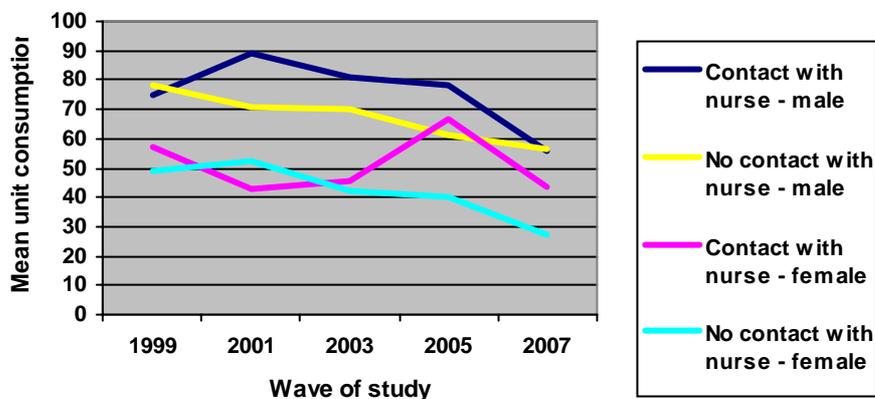


Figure 25: Mean contacts with practice nurse: BUHD sample (n=259) compared to general population\*



\* General population figures from the General Household Survey, 2006 (adults aged 16+)

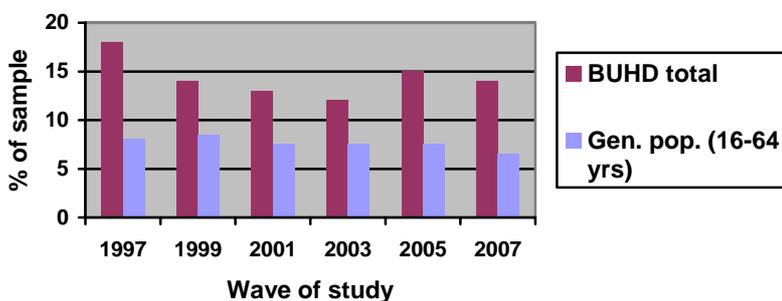
**Figure 26: Mean weekly unit consumption in the year before interview, amongst those that had contact with a practice nurse, by gender (1997-2007)**



### 3.5 Inpatient admissions

The General Household Survey for 2005 (ONS 2006) shows that 7.9% of adults in the general population have had an inpatient stay in the previous year. Whilst the number of participants reporting at least one inpatient stay in the previous fluctuated over the course of the study<sup>38</sup> (see Table B52, Appendix B), the proportion of the sample using hospital inpatient services was greater than the general population at every interview wave, and at some stages of the BUHD study was around twice that of the general population (see Figure 27 below).

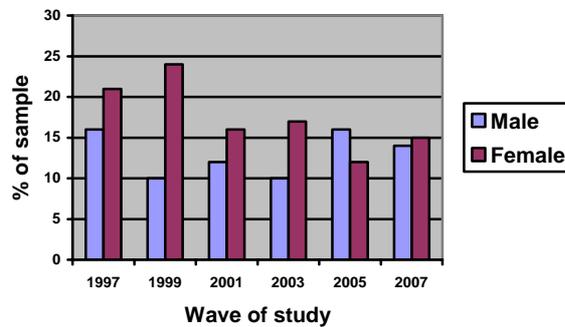
**Figure 27: Percentage attending hospital as an inpatient at least once in year before interview (n=259). Comparison to general population 1997-2007**



<sup>38</sup> From 46 (18%) at wave one to 31 (12%) at wave four. Numbers then increased at wave five before reducing again to 36 (14%) at wave six.

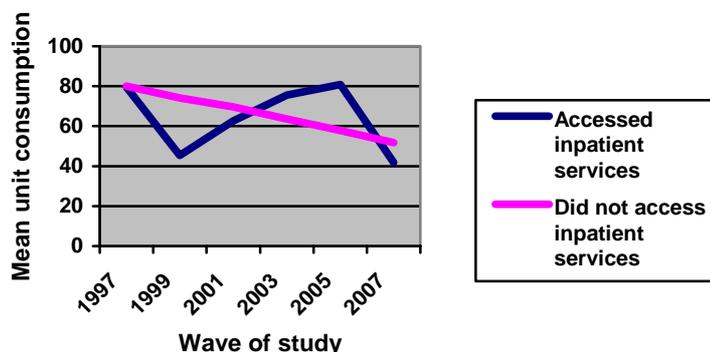
Women were more likely to use inpatient services than men at almost every wave of interviews (see Figure 28 below). However, this difference was found to be statistically significant only at wave two (chi square = 8.14, df = 1,  $p < 0.005$ ). There were no significant differences in inpatient service use between participants from different age groups (see Table B53, Appendix B), with the exception of wave five, when more individuals than expected from the older age group (45-55 years at wave one) accessed inpatient services in the previous year (chi square = 12.94, df = 2,  $p < 0.005$ ).

**Figure 28: Percentage of sample (n=259) attending hospital as inpatients in the year before interview, by gender (1997-2007)**



It might also be expected that those participants having inpatient stays were heavier drinkers than those who had no inpatient stays, but analysis showed a mixed picture here. At the beginning of the study, in 1997, there was very little difference in mean unit consumption between these two groups. However, whereas the alcohol consumption amongst those who were not hospital inpatients fell consistently at each wave of the study, the pattern for those that were admitted to hospital as inpatients fluctuated across the study (see Table B52, Appendix B and Figure 29 below). At wave two, the inpatients consumed significantly less alcohol in the week before interview than those that were not admitted to hospital ( $t = 2.81$ ,  $df = 257$ ,  $p < 0.005$ ). At wave five, however, the inpatient group drank significantly more ( $t = -2.03$ ,  $df = 47$ ,  $p < 0.05$ ).

**Figure 29: Comparison of mean alcohol unit consumption between those that used hospital inpatient services and those that did not 1997-2007**



Data were also collected (from wave two onwards) on the number of nights participants spent in hospital, amongst those who were admitted as an inpatient. Results showed that, with the exception of wave three, the BUHD sample spent more mean nights in hospital as inpatients than would be expected in the general population, particularly at wave 6 (see Table 11 below). Participants were also asked about the reason for their inpatient stay from wave four onwards and analysis showed that having an operation was the most common reason, with injury being the least likely reason at each of the later three waves (see Table 12 below).

**Table 11: Mean number of nights spent in hospital as an inpatient in the year before interview and comparison to the general population (aged 16+) 1997-2007**

	<i>n</i>	<i>Range of nights</i>	<i>Mean nights in hospital (SD)</i>	<i>Gen. pop.* Mean nights in hospital</i>
<b>Wave 2</b>	34	1-56	7.06 (9.87)	6.0
<b>Wave 3</b>	30	1-56	5.90 (10.07)	7.5
<b>Wave 4</b>	24	1-35	7.96 (9.04)	5.5
<b>Wave 5</b>	28	1-42	7.54 (8.94)	6.5
<b>Wave 6</b>	29	1-75	11.59 (18.82)	no new data

\* Living in Britain 1998 to 2006

**Table 12: Reason for hospital inpatient stay (frequency) 2003-2007**

	<i>Illness</i>	<i>Operation</i>	<i>Injury</i>
<b>Wave 4</b>	8	20	3
<b>Wave 5</b>	17	17	5
<b>Wave 6</b>	14	15	7

This analysis is further supported by qualitative data from 16 participants who talked about their experiences of being a hospital inpatient, as part of the qualitative interviews at wave four of the study. Of the 16, only 3 participants said they were asked about drinking. Two of these were asked as part of routine questions over smoking, drinking and drugs, and one was advised to cut down his drinking as a result. A third participant, who was admitted to hospital with cirrhosis of the liver, was told by his consultant that if he did not reduce his alcohol intake, he would be dead within three months. The 13 participants who received no comment or question about their drinking often did not know whether staff were aware of their drinking, although several commented that they had decided not to tell hospital staff. Two participants, however, kept alcohol in their bedside lockers, and were sure that staff were aware of this, but no comments were made to them about drinking. However, the participants considered this lack of questioning and advice about their drinking to be appropriate, given that very few were in hospital for drink-related reasons. For example, one participant said that *'people were treated on an individual basis, as patients and not as a drunkard'*. Another participant remarked that, even if comments had been made about his drinking, he would not have accepted what they would say to him, as he was more likely to take advice from his friends rather than clinical staff. Thus, whilst an inpatient stay might be considered to present an opportunity for professional interventions concerning heavy drinking, it appears that this might not always be welcomed by participants, unless their illness was clearly drinking related.

### **3.6 Use of Accident and Emergency and Outpatients services**

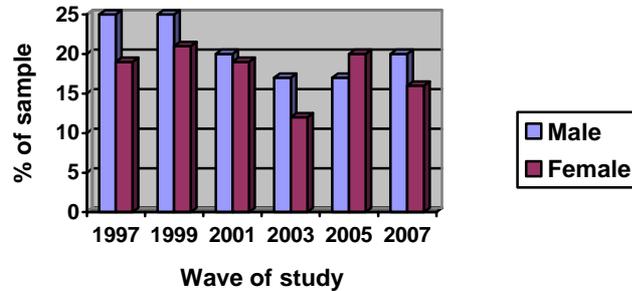
Over the course of the study, the number of participants that accessed Accident and Emergency (A&E) services in the year before interview fluctuated between 16% and 24% of the sample, (see Table B51, Appendix B), with more men than women generally using A&E<sup>39</sup> (see Figure 30 below). Those using A&E services continued, on average, to drink at a heavy level at every wave of the study, consuming a mean of between 57.6 and 92.9 units in the week before interview (see Table B52, Appendix B). However, this difference only reached statistically significant levels at Wave 1 ( $t(190.3)=-2.812, p<0.005$ ) and Wave 6 ( $r=0.18, p<0.01$ ). Correlational analysis also showed a significant correlation at Wave 6 between the number of days binge drinking (defined as drinking at least 10 units (men) or 7 units (women) during the past week), and number of times attending A&E in the last year ( $r=0.126, p=0.021, 1$ -tailed). There was an even stronger correlation at Wave 6 between very heavy binge drinking (defined as the number of days drinking at least 12 units (men) or 14 units (women) during the past week), and number of times attending A&E in the last year ( $r=0.26, p<0.0005$ ). This provides some cautious support for the proposed association

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<sup>39</sup> With the exception of Wave Two

between heavy drinking and disproportionate use of A&E found elsewhere (Cryer, Jenkins, Cook *et al.* 1999).

**Figure 30: Percentage of sample that attended A&E at least once in the year before interview 1997-2007 (n=259)**

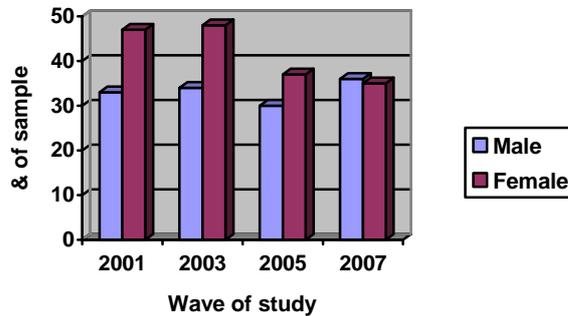


Analysis of data from Waves 1-4 also found a positive association between getting into fights, and frequency of A&E attendance<sup>40</sup>. Whilst this was not found at Waves 5 and 6, it is possible that this reflects the relatively low numbers of participants engaging in fights in the later stages of the study.

Data on numbers accessing outpatient services were also collected from 2001 onwards. Again results showed a fluctuation in use of these services over the latter four waves of the study, with between 32% and 38% reporting at least one visit to an outpatients department (see Table B51, Appendix B and Figure 31 below). Mean unit consumption amongst this group fluctuated but remained heavy throughout the study (between 57.4 and 66.0 units in the week before interview) (see Table B52, Appendix B). However, again, there was no significant difference in mean unit consumption between those that accessed outpatients and those that did not. Perhaps unsurprisingly, the older age group (45-55 years old in 1997) accessed outpatients more frequently than the other two age groups at waves four to six (see Table B53, Appendix B).

<sup>40</sup> Wave 1:  $r=0.212$ ,  $p<0.01$ ; Wave 2:  $r=0.146$ ,  $p<0.05$ ; Wave 3:  $r=0.123$ ,  $p<0.05$ ; Wave 4:  $r=0.109$ ,  $p<0.05$

**Figure 31: Percentage of sample attending outpatients at least once in the year before interview 1997-2007 (n=259)**



Participants in the BUHD sample were almost twice as likely as the general population to have used A&E and/or outpatients services in the previous three months (see Table 13 below). However, further analysis revealed that the mean number of visits for the sample in the three months before interview fell consistently from 0.59 in 2001 to 0.39 in 2007<sup>41</sup>.

**Table 13: Comparison of sample and general population\* (aged 16+) attendance at outpatients and/or A&E departments in the last three months before interview 2001-2007**

	<i>General population %</i>			<i>n (% of sample)</i>			<i>Sample mean visits (SD)</i>
	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	
<b>2001</b>	13.5 %	15 %	14.5 %	48 (26%)	21 (28%)	69 (27%)	0.59 (1.51)
<b>2003</b>	13.5 %	15.5 %	14.5 %	45 (25%)	21 (28%)	66 (25%)	0.41 (0.87)
<b>2005</b>	13.0 %	15.0 %	13.5 %	37 (20%)	21 (28%)	58 (22%)	0.37 (1.03)
<b>2007</b>	12.5 %	15.0 %	13.5 %	44 (24%)	16 (21%)	60 (23%)	0.39 (1.02)

\* General Household survey 2006 (ONS, 2008)

Qualitative interviews at wave four on experiences of hospital services showed that attendance at A&E mainly due to accidents, the only exceptions being three individuals who were suffering from abdominal pain. Around half of accidents were reported to have happened when the person was intoxicated. Drink-related injuries were sustained through falls, being the victim of an assault, or being involved in a fight. Participants were evenly divided between those who were unhappy about their treatment and about the attitude of staff, and those who were very satisfied with their treatment. Some felt they had been treated differently because staff knew they had been drinking. They felt they had been left to wait longer than other patients, whilst others believed they had been

<sup>41</sup> Data for the previous twelve months can be found in Table B51, Appendix B.

treated less sympathetically. For example, a woman who was injured after being involved in a fight outside a pub was dissatisfied with her treatment. She stated:

*Basically, their attitude was 'You've had a drink, so what do you expect us to do about it?' and they didn't ask us about how it had happened or what had happened. They just said, 'you've been drinking'....Basically, because we'd been drinking they didn't really care.*

In contrast, another woman, who had been physically assaulted by her partner whilst intoxicated, was very satisfied with her treatment in A&E. She remarked:

*Although I had to wait a long time they were pretty good there. They x-rayed my eye and everything, but there was some talk of losing my eye, which was very, very scary. I can't really fault them. It was Saturday night. There were lots of people in there who had been fighting... It's pretty horrific there with all the drunk things but I can't fault their treatment.*

Thus, participants' accounts of using hospital services and of responses to incidents of intoxication were very mixed.

### **PART THREE SUMMARY**

The general health of the sample (as measured by the SF-36 measure) was worse than that of the general population throughout the study.

General health has also declined over the ten year period, although this is also the case for the general population.

A correlation was found between poor general health and high levels of alcohol consumption.

Mental health scores amongst the BUHD sample are particularly poor in comparison with the general population, although these have shown some improvement over time.

BUHD participants visited their GP no more often than members of the general population.

At each wave of the study, less than a third of those who had seen their GP in the previous year had received a comment from their doctor about their drinking. Of those who then discussed their drinking, less than a quarter were offered a referral for treatment by their GP. Of this small minority who were recommended treatment, only around half at each interview wave took up this offer and agreed to treatment. As a result, only a small minority of those visiting their GPs entered treatment.

Using Wave Six data, a positive correlation was found between level of alcohol consumption and GPs recommending referral to treatment services, suggesting that GPs may currently be recommending referral to treatment services only in the case of very heavy drinking.

Participants did, however, use hospital services (A&E, inpatients and outpatients) at a rate around twice that of the general population. A&E attendance was associated with heavier levels of alcohol consumption, although this only reached statistically significant levels at waves 1 and 6. A positive correlation was found between binge drinking and use of A& E services. Data from interview waves 1-4 also shows that involvement in fights was linked with frequency of A&E attendance.

Most participants who had been inpatients had not discussed their drinking whilst in hospital. However, they generally approved of this and considered being questioned about their drinking to be inappropriate in this context.

## PART FOUR: RISKY AND HARMFUL BEHAVIOURS

There are a number of risky and harmful behaviours that are associated with heavy drinking. According to the Department of Health *et al.* (2007), ‘people who become drunk are much more likely to be involved in an accident or assault, be charged with a criminal offence, contract a sexually transmitted disease and, for women, are more likely to have an unplanned pregnancy’. Given this background, ‘risky’ behaviours has been one area of investigation on the BUHD project. At each wave, therefore, the Birmingham study has asked participants about involvement in ‘risky’ behaviours (defined as likely to cause harm to themselves), and ‘intoxicated’ behaviours (defined as likely to cause harm to others). Participants have also been asked about health-related behaviours such as smoking and drug use.

### 4.1. Smoking

Smoking and drinking alcohol are known to be strongly related. At the beginning of the study, almost half the sample (n=259) was smoking at least 1 cigarette per day and the mean number of cigarettes smoked amongst the sample was 8.4 (see Table 14 below). By the final wave the numbers smoking had reduced from 126 to 108 (42% of the sample) and the mean number of cigarettes smoked had also reduced (to 6.9). This reduction in the number of cigarettes smoked was found to be significant [Wilks’ Lambda = 0.943, F(5, 254) = 3.097, p< 0.05]. The number of participants smoking at least 20 cigarettes per day also decreased over time, from 56 (22%) in 1997 to 42 (16%) in 2007.

**Table 14: Numbers and percentage of sample smoking at least 1 and at least 20 cigars or cigarettes per day and mean number smoked 1997 -2007 (n = 259)**

<i>Wave of study</i>	<i>Number (%) smoking at least 1 cigar/ette per day</i>	<i>Number (%) smoking at least 20 cigar/ettes per day</i>	<i>Cigar/ettes per day Mean (SD)</i>
<b>1997</b>	126 (48.6%)	56 (21.6%)	8.41 (11.6)
<b>1999</b>	124 (47.9%)	54 (20.9%)	8.00 (11.2)
<b>2001</b>	128 (49.4%)	56 (21.7%)	8.28 (11.8)
<b>2003</b>	122 (47.1%)	57 (22.1%)	8.08 (11.6)
<b>2005</b>	113 (43.6%)	39 (15.2%)	7.35 (11.8)
<b>2007</b>	108 (41.7%)	42 (16.3%)	6.86 (11.1)

This decrease in smoking needs to be seen in the context of wider social changes in relation to smoking. The proportion of the general population who smoke has also decreased over this time period<sup>42</sup> (ONS, 2006). Nonetheless, at nearly 42%, the proportion of the Birmingham sample smoking in 2007 was much higher than the proportion in the general population. Smokers were found to have higher levels of alcohol consumption, with analysis of the wave six data showing a

<sup>42</sup> From 28% in 1998/99, to 24% in 2005

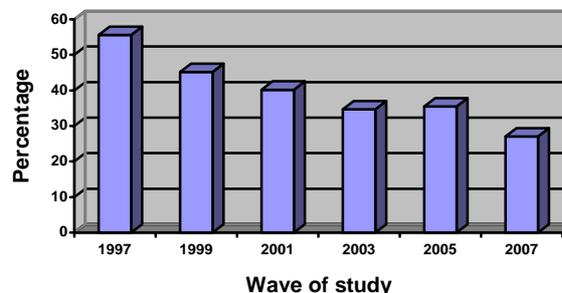
moderately strong positive correlation between smoking and units of alcohol consumed in the past week ( $r = 0.37$ ,  $p < 0.01$ ).

One additional factor in the relationship between drinking and smoking is the ban on smoking in public places. This came into force almost at the end of the BUHD study, on July 1<sup>st</sup> 2007. Participants were asked about the impact of this change during the final set of interviews. Since the law was brought in halfway through the interviewing year, 160 participants were interviewed prior to the change in the smoking law and 99 subsequent to its introduction. Analysis of these two groups revealed no significant difference in the mean number of cigarettes smoked. Asked if the new law on smoking in public places would have any effect on their drinking, 170 participants said it would have no effect, 52 that it would have a small effect, 17 that it would have a moderate effect, and 20 said that it would have a large effect<sup>43</sup>. Overall then, around one third believed the smoking ban would have some effect on their drinking.

#### 4.2. Drug use

The 2006/2007 British Crime Survey (BCS) estimates that 10.5% of the general population and 9.1% of the West Midlands population aged 16-59 have used one or more illicit drug in the last year (Murphy & Roe, 2007). At every wave of the project, drug use for the sample was considerably higher than for the general population. However, with the exception of a small increase at wave five, the percentage of those that had used at least one illicit substance in the year before the interview fell consistently, from 55% in 1997 to 27% in 2007 (see Figure 32 below). Analysis indicated a significant change over time, (Chi-square = 112.4,  $df = 5$ ,  $p < 0.001$ ). This decrease over time is in line with the reduction in drug use that is seen with increasing age.

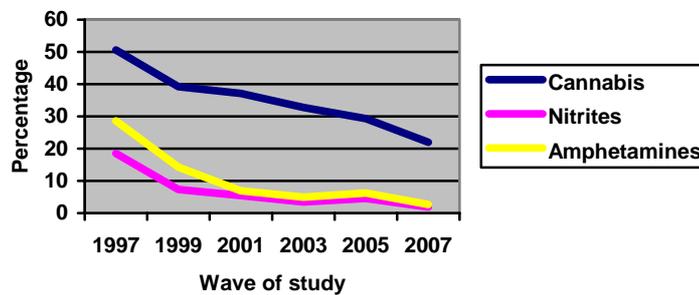
Figure 32: % of sample using at least one illicit drug in year before interview 1997-2007



<sup>43</sup> Further (qualitative) data are available on the nature of this anticipated effect and may be analysed at a later date.

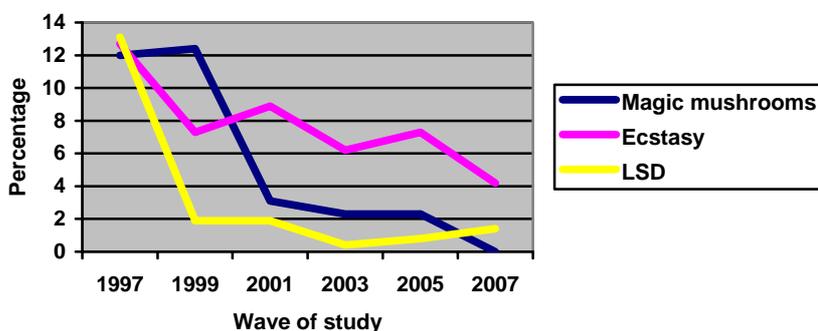
At each wave of the study, the most commonly used drug was cannabis. Over half of the sample (51%) used this on at least one occasion in the year prior to the start of the study in 1997 (see Figure 33 below). The numbers using cannabis decreased consistently over the course of the study, falling to less than one quarter of the sample (22%) in the year prior to the last interview in 2007. A similar consistent decline over time in the use of the other two class B drugs (nitrites and amphetamines) was evident, with the exception of a fluctuation at wave five (see Figure 33 and Table B32, Appendix B).

**Figure 33: % of sample using Class B drugs on at least one occasion in the year before interview 1997-2007 (n=259)**



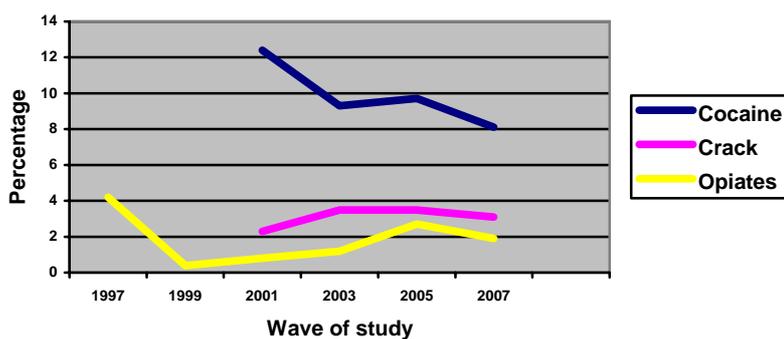
At waves one and two, the second most commonly used drug was amphetamines, followed by nitrites at wave one and magic mushrooms at wave two. However, this pattern changed and the second and third most commonly used drugs were cocaine and ecstasy respectively from Wave Three onwards (see Table 32, Appendix B). This pattern mirrors changes in substance use in the general population. As reported in the BCS (2006), in 1998 amphetamine was the stimulant drug of choice but its usage has steadily decreased as cocaine has become increasingly popular. Although 12% of the sample were using magic mushrooms at the beginning of the study, none of the participants reported using this substance in the year before their final interview in 2007 (see Figure 33 below), thus falling below the 1% level used by the general population.

**Figure 34: % of sample using Magic Mushrooms, Ecstasy and LSD on at least one occasion in the year before interview 1997-2007 (n=259)**



Opiates, cocaine and crack cocaine, whilst only used by a minority, were also used considerably more than in the general population<sup>44</sup>. With the exception of magic mushrooms at wave six, the use of all drugs amongst the sample is considerably higher than the general population at every wave of the study. Further analysis revealed an increase in the number of opiate users and an increase in the mean number of times opiates were used in the year before interview, from 2.5 times in 2001 to 123.8 times in 2007. In other words, those who used opiates were doing so on a more frequent basis.

**Figure 35: % of sample using cocaine and opiates on at least one occasion in the year before interview 1997-2007 (n=259)**



Further analysis was conducted to determine whether there were any differences in substance use between the different sub groups at wave six. With the exception of cannabis, those in the highest

<sup>44</sup> Separate data on cocaine and crack cocaine use were not available at waves one and two of the study, so Figure 32 shows the percentage of the sample using both cocaine or crack cocaine from waves three to six.

socio-economic group did not use any other substances. Cannabis was used across the gender, age and socio-economic groups. It was also used by those in a relationship and those not in a relationship. However, those not in a relationship used cannabis almost twice as many times as those in a relationship (though this difference did not reach statistical significance). Just one person used LSD in the year before the wave six interview and, surprisingly, he was from the highest age bracket (65-74). The majority of those using cocaine were aged 35-44, from all socio-economic groups and were predominantly male, indicating a significant gender difference at this wave of the study ( $t = 2.56$ ,  $df = 15.4$ ,  $p < 0.05$ ). Seventy-five percent of crack users and all of the opiate users were aged 35-44 and 75% of individuals using crack and/or opiates were from the lower socio-economic groups.

**Case study<sup>45</sup>: P808 male aged 36 – Substance use**

Ten years ago was a happy and successful time for Chris, *'I was in a signed band, I was a fully professional musician, we was appearing on TV and radio ...it was a good time'*. He lived in a house with the other band members and recalls that his was a culture of excessive drinking.

Three years after the beginning of the study, Chris' band got signed to a big record label and made a lot of money from an album deal. However, the singer of the band went off to pursue a solo career. This was a big blow to the rest of them as this had been their only dream for 13 years, *'none of us had back up plans so we found ourselves approaching thirty with no careers just the instruments we could play'*. One week later, Chris joined another band, which he remained in for two years. His drinking remained high (over 100 units per week) and on occasions they would be paid in alcohol instead of money. However, when he was 31, the band ended and Chris split up with his girlfriend, at which point he decided to go to the USA for a while, *'at the time it felt like running away but I'm so glad I did it, the feeling of freedom I had when I was doing that at that time, you can't put a price on it'*. In 2005, Chris's sister was diagnosed with cancer and he returned home. His worry about her began to exacerbate an underlying mental health condition. During this period, his drinking increased significantly and he began to fear that he was causing himself liver damage. It was at this time that he fell into bad company and accepted an offer of heroin, thinking it was less damaging for the body than alcohol, *'so I thought I'd try it and now obviously I realise that was an error because it's been torturous trying to get off the stuff'*.

Three years after his musical success, Chris had developed a heroin dependency. Prior to this period, he had been a very sociable person and had enjoyed an active social life with his friends but soon began to isolate himself with the drug, *'I usually wanted to go home and do it on my own and get high on my own and so I look back and think what a lonely thing to wanna do, but at the time it's all I wanted to do'*. He suggests that it may have been a form of self punishment as he recalls being made to feel guilty for raising his own problems when his sister was so ill, *'my mum kept undermining all my problems cos my sister had cancer ...choosing Heroin was maybe a way of hurting myself in a way ...best way of self destructing, I was thinking I'd rather die than my sister'*.

Chris continued to use heroin for approximately one year until his father had an epileptic fit. The paramedics that attended the scene suggested that his father had been two minutes away from death and Chris felt bad that he had been high when his dad was potentially dying and made a decision to

<sup>45</sup> Case studies are used in this report to illustrate particular themes. They are based on qualitative interviews conducted with participants at the final wave of interviews for the study, in 2007. Names and some details have been changed in order to protect the anonymity of participants.

change, thinking *'I need to get off this so that I'm back in the real world, feeling again, you know feeling proper feelings'*. Following this incident, he tried to come off the drug at home on his own, without any medication, *'four days of what I call absolute hell'*. He remained clean from the drug for a month but couldn't handle his feelings without it and relapsed, *'I just felt so empty'*. Two months later, he accessed a drug counselling service and has been on methadone since this time. Due to the side effects of the methadone, Chris only feels able to drink a small amount of alcohol and is currently consuming below the recommended maximum sensible drinking level.

Chris holds some resentment towards his family for some of his childhood experiences, as he had to live through his parents' numerous break ups and ongoing arguments. Even now, they continue to have a volatile relationship which his mum asks him to hide from his sister and he also carries the burden of his sister's problems that she asks him to keep from their parents, *'Why am I such a strong person that I can bear all this and be quiet'*. Chris has had a few relationships over the past ten years but since using heroin, he has not been able to sustain a relationship and doesn't expect to until he is more stable.

Looking back over his lifetime, alcohol seems to have served different purposes. In his early twenties, he was dabbling in hallucinogenic drugs, which brought on feelings that he couldn't manage and alcohol seemed to dissipate, *'I took LSD quite frequently for maybe two years roughly and ended up thinking I was going insane and I discovered alcohol took that feeling away so it served as a saviour there, in my mind, not in my body obviously'*. He also started going out a lot more and *'I discovered that socialising was good fun in pubs'*. However, it continued to serve as a way of dealing with unwanted feelings, *'I discovered that alcohol, whenever I got anxious sort of thing, alcohol helped me calm down'*.

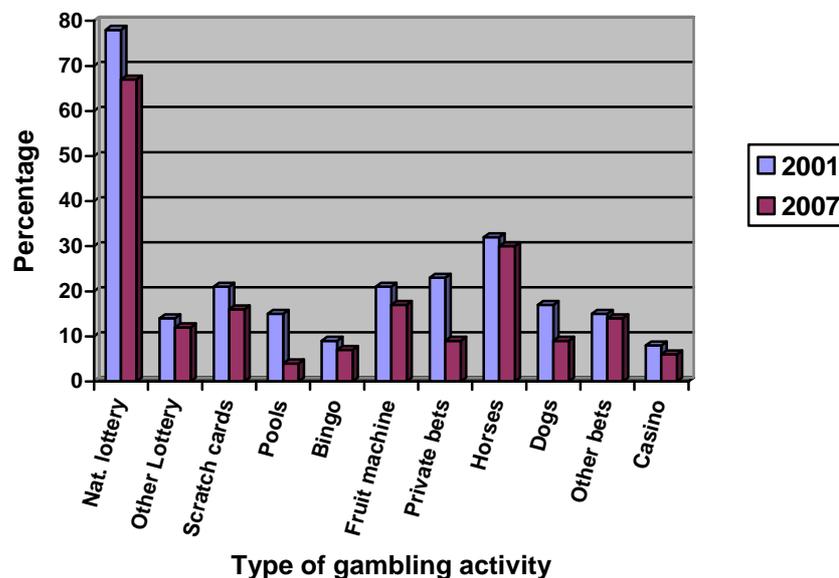
Over the next ten years, Chris hopes that he will be able to meet someone and lead a more stable life, possibly having kids and finding a job he likes, *'so the next ten years, get more positive about working, settle down, maybe family'*. In terms of his drinking, he would like it to stabilise to a few pints a night like his father, *'I'd like it to go back to the way I was, the old Chris, that went out and only found himself with a hangover once a month and really drank three to four pints a night ...and was generally happy with life'*.

### **4.3. Gambling**

Another form of risky behaviour that has given cause for concern, particularly in recent years, is gambling. Data on participants' gambling behaviour were collected at waves 3, 4 and 6, using questions adapted from the 1999 British Gambling Prevalence Survey. A large proportion of the sample (227, or 88%) had engaged in at least one gambling activity in the year before their wave three interview, and the percentage of the sample engaging in gambling was greater than for the general population (Sproston, Erens and Orford, 2000), with the exception of the use of scratch cards. The number participating in some form of gambling fell to 206 participants (80%) by the wave six interviews, at which point the use of scratch cards remained below general population figures and the numbers spending money on football pools and private betting had also fallen below general population figures.

The most popular gambling activity at both waves three and six was the national lottery, followed by betting on the horses (see Figure 36 below). In 2001 (wave three), 78% of the sample had played the national lottery on at least one occasion in the previous year. However, in 2007, this number had fallen to 67%, which is roughly equal to the general population figure of 65%. Further analysis<sup>46</sup> revealed a significant reduction from 2001 to 2007, in the numbers engaging in the following gambling activities: the national lottery, scratch cards, football pools, private betting and dog racing<sup>47</sup>. With the exception of dog racing, these are all activities which have shown a reduction nationally, according to the results of the Second British Gambling Prevalence Survey conducted in 2006-07 (Wardle et al., 2007).

**Figure 36: Percentage of sample spending money on gambling activities in previous interview 2001 and 2007 (n=259)**



Of the sample, 72 (28%) had used only one form of gambling in the year before their wave three interview and 79 (31%) had used only form before their wave six interview (see Table 15 below). This compares with 30% in the general population. However, 72 participants (28%) reported engaging in four or more different gambling activities at wave three and 42 (17%) reported this usage at wave six in comparison to 11% in the general population. Nonetheless, despite a considerable number of the sample spending money on numerous different gambling activities, the mean number of gambling types used was 2.5 at wave three and this reduced significantly to 1.9 at wave six, ( $t = 6.73$ ,  $df = 258$ ,  $p < 0.001$ ).

<sup>46</sup> Using the Wilcoxon signed-ranks test

<sup>47</sup> The national lottery ( $Z = -4.42$ ,  $p < 0.001$ ); scratch cards ( $Z = -2.03$ ,  $p < 0.05$ ); football pools ( $Z = -5.05$ ,  $p < 0.001$ ); private betting ( $Z = -5.40$ ,  $p < 0.001$ ); and dog racing ( $Z = -3.28$ ,  $p < 0.05$ ).

**Table 15: Frequency (and percentage) who reported engaging in different numbers of gambling activities in the year before their interview in 2001 and 2007 (n=259)**

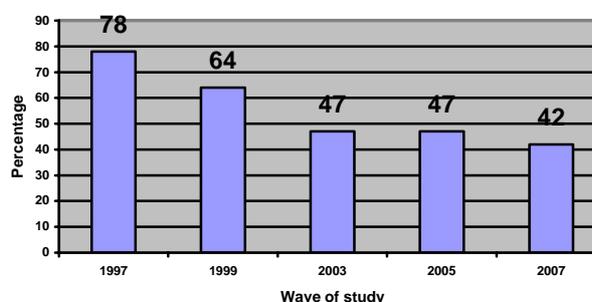
<i>Number of different gambling activities</i>	<i>Wave three Frequency (%)</i>	<i>Wave six Frequency (%)</i>
<b>0</b>	32 (12%)	53 (21%)
<b>1</b>	72 (28%)	79 (31%)
<b>2</b>	51 (20%)	54 (21%)
<b>3</b>	32 (12%)	31 (12%)
<b>4</b>	26 (10%)	19 (7%)
<b>5</b>	18 (7%)	10 (4%)
<b>6</b>	18 (7%)	9 (3%)
<b>7</b>	2 (1%)	2 (1%)
<b>8</b>	3 (1%)	2 (1%)
<b>9</b>	4 (2%)	0
<b>10</b>	1 (<1%)	0

Further analysis showed that there were no differences in gambling behaviour between individuals from different socio-economic groups. Analysis of gambling by age groups revealed that the only activity to show an age difference was the use of fruit or slot machines, with more individuals than expected from the 25-44 age groups (chi square = 13.36, df = 4, p <0.05). More men than women used fruit/slot machines (chi square = 6.46, df = 1, p<0.05), and ‘other betting’ (i.e. betting other than horses and dogs) (chi square = 8.65, df = 1, p< 0.005).

#### **4.4. Risky behaviours**

At the beginning of the study, in 1997, 78% of the sample (n=259) reported engaging in at least one risky behaviour after drinking in the year before their first interview. This number reduced significantly at subsequent waves of the study [Wilks’ Lambda = 0.600, F (4, 255) = 42.56, p<0.001] (see Figure 36 below)<sup>48</sup>.

**Figure 37: % of sample engaging in at least one risky behaviour in the year before interview 1997-2007 (n=259)**

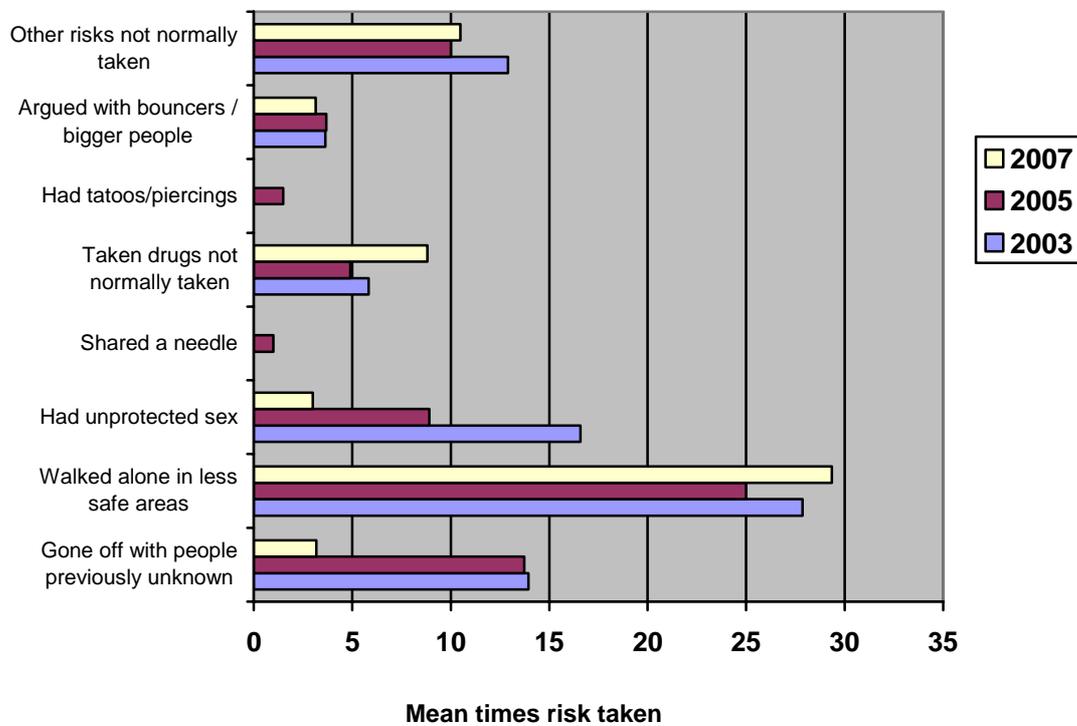


<sup>48</sup> Further paired sampled t-tests revealed significant reductions between waves one, two and four, but the decrease between waves five and six did not reach statistical significance. Wave three data on risky behaviours was found to contain errors, so has not been included in the analysis.

The most common type of risky behaviour after drinking at every wave was ‘walking alone in less safe areas’ (see Figure 38 below). During the latter half of the study, the number of men reporting walking alone in less safe areas remained fairly constant between 33 and 36% of the sample and the mean number of times they did this after drinking also remained fairly constant between 29 and 32 times in the year before interview. For women, the numbers engaging in this risky behaviour after drinking fell from 29% in 2003 to 17% in 2007. However, the number of times these individuals reported walking alone in less safe areas fluctuated between 6 and 31 times in the year before interview.

The second most common risky behaviour after drinking at wave four was having unprotected sex, but the numbers doing so fell at subsequent waves. At wave four, 12% of men engaged in unprotected sex with someone other than a regular partner and did so a mean of 19 times in the year before their interview. However, by wave six, just 5% of men reported this behaviour, a mean of 3 times. Contrastingly, 5% of women reported unprotected sex at wave four and just 1% at wave six and the mean number of times was very low at just 1 to 2 times in the last year at each of the latter three waves.

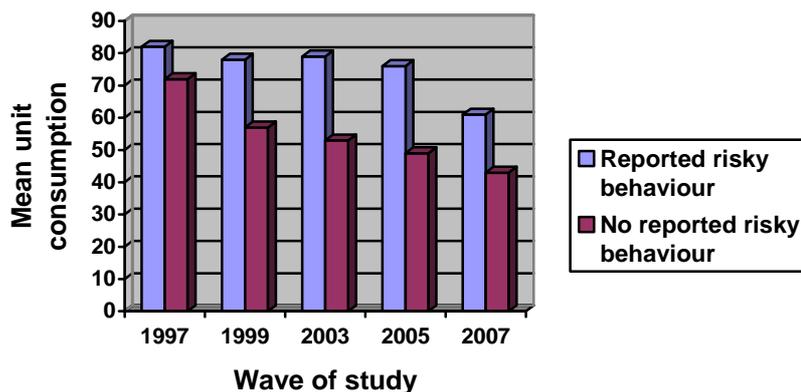
**Figure 38: Mean number of times each risk taken amongst those reporting each behaviour after drinking 2003-2007**



Analysis of results also showed that the mean alcohol consumption (measured in units consumed in the week before interview) of those engaging in risky behaviour was higher than those not taking risks at every wave of the study (see Figure 39 below). The difference between these two groups was significant at waves two ( $t=-3.02$ ,  $df = 232$ ,  $p<0.005$ ); four  $t = -3.47$ ,  $df = 212$ ,  $p< 0.005$ ); five ( $t = -3.75$ ,  $df = 201$ ,  $p< 0.001$ ); and six ( $t = -2.86$ ,  $df = 257$ ,  $p< 0.001$ ). Furthermore, whereas the mean weekly unit consumption of those *not* engaging in risky behaviour fell from 72 units in 1997 to 43 units in 2007, the decrease in mean weekly unit consumption in the risk taking group was smaller, from 82 units in 1997 to 61 units in 2007.

Risk taking was more common amongst those aged between 35 and 45 and those not in a relationship for all risk behaviours. Individuals from the skilled manual group were more likely to argue with bigger people or bouncers than those from other socio-economic groups.

**Figure 39: Mean weekly unit consumption amongst those reporting at least one risky behaviour and those reporting no risky behaviour (n=259)**



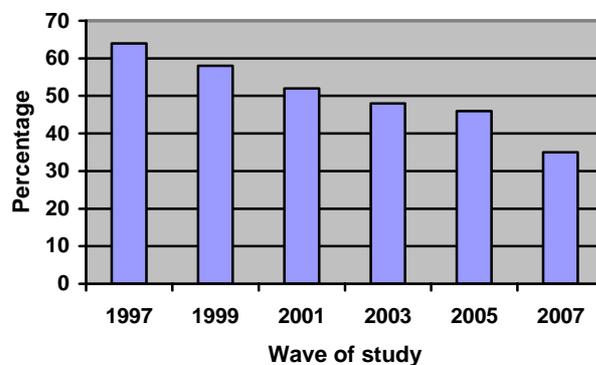
#### 4.5. Intoxicated behaviours

Alcohol consumption has been found to be associated with violence in both direct and indirect ways (Graham et al., 1998, cited in Finney, 2004). Previous research has also found that there is a sharp increase in the risk of being involved in assaults (either as a perpetrator or victim) when drinking more than 8-10 units (Shepher et al., 1994; Shepherd and Brickley, 1996, cited in Finney, 2004). Given that a substantial proportion of the BUHD sample are known to drink at or above this level on a regular basis, it seems likely that they may have a higher than average frequency of involvement in violent incidents. This was measured through asking participants about their involvement in a range of 'intoxicated behaviours'. These behaviours, defined as those likely to cause harm to others, are listed as follows: Been inappropriately aggressive, been in a violent

argument/fight, damaged property, neglected a child, been asked to leave a licensed premises, and any other behaviour later regretted.

At the beginning of the study, in 1997, 64% of the sample (n=259) reported engaging in at least one 'intoxicated behaviour' in the year before their first interview. This number consistently reduced significantly<sup>49</sup> at subsequent waves of the study and fell to 35% in the year before their final interview (see Figure 40 below).

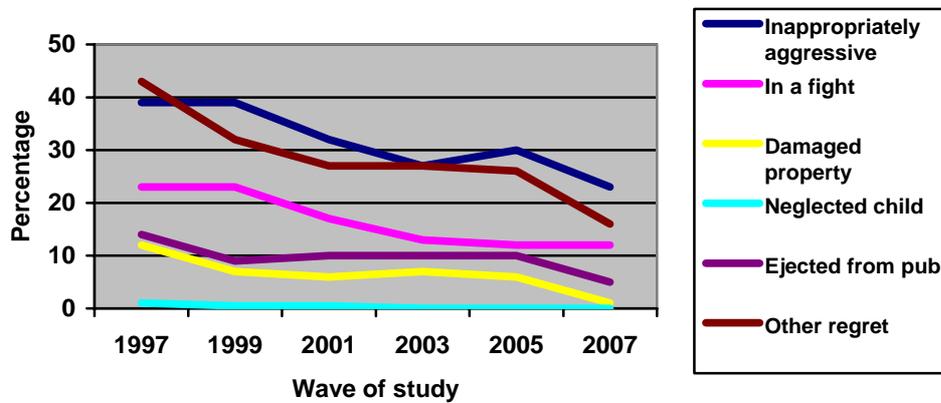
**Figure 40: Percentage of sample engaging in at least one intoxicated behaviour in the year before interview 1997-2007 (n=259)**



Further analysis revealed that the most common type of intoxicated behaviour was being 'inappropriately aggressive' (see Figure 41 below). Thirty-nine percent of the sample reported having been inappropriately aggressive after drinking at wave one interview. This fell to 23% of the sample by the wave six interview in 2007. It is also worth noting that, at waves one and six, the proportion of women reporting inappropriate aggression was greater than the proportion of men reporting this behaviour (see Table B33, Appendix B). It is unclear why this is the case, although it is possible that interpretations of whether aggression is 'inappropriate' may vary between men and women. The second most commonly reported intoxicated behaviour was 'other regrets'. This included embarrassing behaviour and saying things that were later regretted. In 1997, 43% of the sample reported 'other regrets', but this fell considerably over the study to 16% in 2007.

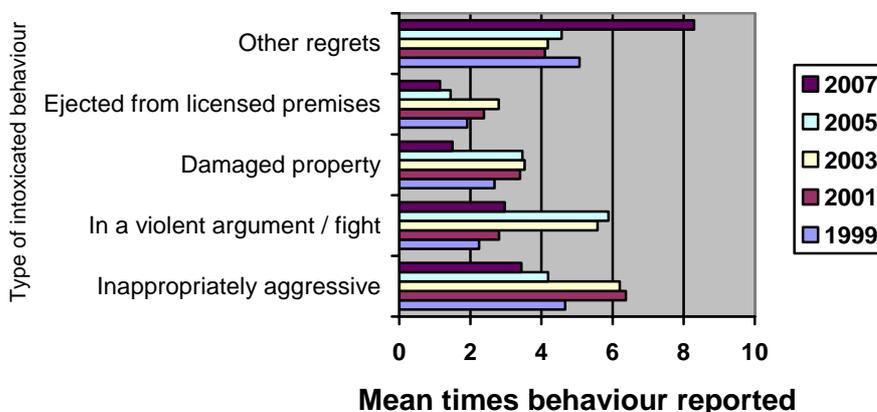
<sup>49</sup> Wilks' Lambda = 0.761, F (5, 254) = 15.97, p<0.001

**Figure 41: % of sample engaging in different risky behaviours in the year before interview 1997-2007 (n=259)**



The third most commonly reported intoxicated behaviour was being in a violent argument or fight. At wave one, almost a quarter (23%) of the sample reported being in a fight on at least one occasion in the year before their interview. This number almost halved (to 12%) over the course of the study. Again, at waves one, two and six, the proportion of women reporting being in a violent argument or fight was greater than the proportion of men. However, it should be noted that these data do not distinguish between perpetrators and victims, and the relatively large number of women involved in arguments and fights *could be* indicative of higher rates of domestic violence experienced by women (see Rolfe et al., 2006). Amongst those that have been in a fight, the mean number of fights rose from 2.3 in 1999 to 5.8 in 2005 and then declined to 3.0 at wave six. Four men and one woman admitted to neglecting a child between waves one and three but none did so in the latter half of the study.

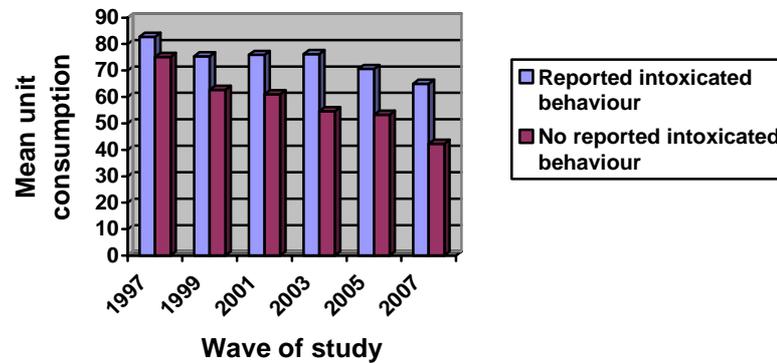
**Figure 42: Mean number of intoxicated behaviours amongst those reporting each behaviour 1999-2007\***



\*Due to the small numbers 'neglecting a child', this variable has not been included in figure 42).

With a similar pattern to those engaging in risky behaviours, analysis of results also showed that the mean alcohol consumption (measured in units consumed in the week before interview) of those engaging in intoxicated behaviours was higher than those not doing so. This was the case at every wave of the study (see Figure 43 below). The difference between these two groups was significant at waves three ( $t = -2.01$ ,  $df = 257$ ,  $p < 0.05$ ); four ( $t = -2.94$ ,  $df = 257$ ,  $p < 0.005$ ); five ( $t = -2.43$ ,  $df = 257$ ,  $p < 0.05$ ); and six ( $t = -3.09$ ,  $df = 128$ ,  $p < 0.005$ ). Furthermore, whereas the mean weekly unit consumption of those *not* engaging in intoxicated behaviour fell from 75 units in 1997 to 42 units in 2007, the decrease in mean weekly unit consumption in the intoxicated behaviour group was smaller, from 83 units in 1997 to 65 units in 2007 (see Table B37, Appendix B). This confirms the suspected association between levels of heavy drinking and involvement in behaviours likely to cause harm to others.

Figure 43: Mean weekly unit consumption amongst those reporting at least one intoxicated behaviour and those reporting no intoxicated behaviour (n=259)



Further analysis was conducted to determine whether there were any differences in intoxicated behaviours between the different sub groups at wave six (see Table B38, Appendix B). There was a significant difference between the socio-economic groups in relation to violent arguments / fights (chi square = 14.13, df = 6,  $p < 0.05$ ) and ‘other regrets’ (chi square = 12.70, df = 6,  $p < 0.05$ ). Results showed that there were a higher than expected number of individuals from the skilled manual group reporting ‘fights’ and a higher than expected number from the professional group reporting ‘other regrets’. Analysis also indicates a higher than expected number of individuals *not* in a relationship, reporting ‘fights’ whilst intoxicated (chi square = 7.65, df = 1,  $p < 0.01$ ).

#### 4.6. Qualitative accounts of violence and abuse

At wave six of the study, all participants were asked to talk about their life over the previous decade. Many of the stories highlighted the effects of violence, aggression and harassment from the perspective of both perpetrators and victims. Participants were not specifically asked to talk about experiences of violence during these interviews. Nonetheless, content analysis<sup>50</sup> revealed that 42 participants talked about the following issues in qualitative interviews: violent/violence; abuse; evil; bullied; harassed/harassment and aggressive/aggression.

Thirteen participants disclosed that they had been victims of violence and abuse from a partner. Eleven of these cases were in the past ten years and a further two prior to the beginning of the study. This ranged from emotional abuse, ‘*he was a very possessive person ...he was always like putting you down, knocking your self esteem and stuff like that*’, to severe physical harm, ‘*broken jaw, broken wrist, he broke my arm ...cracked my ribs*’. Eleven of these participants were female and a further two were male. In addition, one man and one woman talked about the effects of

<sup>50</sup> This involves searching documents for these key terms using a computerised search facility.

childhood abuse and the link to their drinking, *'I drank to just escape some of the things that had gone on with my family and myself...that was the reason for drinking I think...a hundred percent'*. A smaller number disclosed that they had been the perpetrators of violence towards a partner (n=2) or towards another person (n=3) in the last decade and a further four acknowledged a past history of violence and aggression, *'I'd either sort things out with a joke or a punch, that was me'*.

Although some participants did not report physically harming another person, five individuals did acknowledge that they had behaved aggressively when intoxicated, for example towards a priest talking about religion or towards a football fan from an opposing team, *'I reacted, which is what I do at times when I've had a drink'*. The association of alcohol use with aggression/violence was further highlighted by some individuals who had witnessed incidents in pubs, clubs, hostels and the home, *'it was so unhappy being there, and watching my Mum being abused and all the alcohol'*.

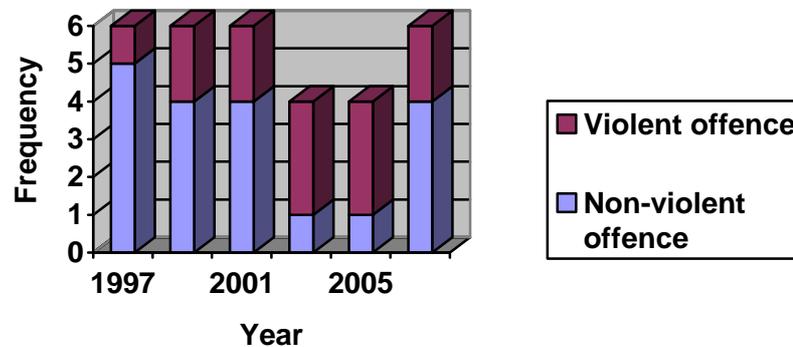
In addition to alcohol-fuelled behaviour, those on the receiving end of bullying and harassment identified this as a significant factor in their own drinking. Four individuals talked about being bullied at school, within their neighbourhood and at work, *'work started to become a really grim place to be....so instead of going out for a drink socially after work...you'd go home and sink a bottle of wine on your own...try to forget how awful the day had been'*. A further four disclosed harassment by an ex-partner and by neighbours, *'one of them hit me on the head with a hammer and after that my windows were going through every night, the door was getting kicked off, I had to sell the house, to get out'*. These qualitative data suggest that the participants perceive alcohol to play a large part in fuelling violence and aggression, but that being the victim of violence is also given as a reason for heavy drinking.

#### **4.7. Contact with the criminal justice system**

Whilst participants tend to report relatively high rates of involvement in behaviours that could be considered risky or potentially harmful to themselves and others, very few of the final sample (n=259) reported court appearances for criminal offences. At each wave of the study, between 4 and 6 participants appeared in court (see Figure 44 and Table B42 Appendix B). This represents a maximum of just over 2% of the sample reporting making such court appearances at each interview wave. Similarly, although rates of contact with the probation service were relatively high at the start of the study (9 participants at wave one and 8 at wave two), this decreased markedly over time, and at waves three to six there were no more than 3 participants having contact with the probation service in the year before interview (see Table B43, Appendix B). It should be noted that this figure may be affected by sample attrition, since participants at Wave One who had court appearances in the previous year were more likely to be 'lost' to the study (see Section One on

attrition). Nonetheless, it does suggest that some people may drink heavily, at levels likely to be harmful to their own health, but without coming into contact with the criminal justice system.

**Figure 44: Numbers of participants appearing in criminal courts in previous year**



#### **PART FOUR: SUMMARY**

Smoking amongst the BUHD sample has reduced in line with reductions in the general population. Nonetheless, it has been much higher than amongst the general population throughout the BUHD project.

One third of participants thought the ban on smoking in public places would have some effect on their drinking.

The use of illicit drugs decreased over time, but was considerably higher than amongst the general population. This is particularly true of cannabis use, which was used by half the sample at the start of the study, and a quarter by the end.

Levels of gambling were higher than those for the general population when this data was first collected in 2003. However, this has decreased over time.

The most common forms of risky behaviours following drinking were walking alone in less safe areas, and having unprotected sex. The incidence of risky behaviours was higher amongst the heavier drinkers. Single people aged between 35 and 45 were most likely to engage in risky behaviours.

At the start of the study, over a third of the sample had engaged in a form of behaviour likely to be harmful to others ('intoxicated behaviours'). This had reduced to just under a quarter by the end of the study. The commonest form of such behaviour was being 'inappropriately aggressive'. The findings support previous research which shows an association between heavy drinking, and aggressive or violent behaviours. These kinds of behaviours were more prevalent amongst those members of the sample drinking more heavily. Getting into fights was most common amongst single men from skilled manual occupations.

Some participants in qualitative interviews talked about having experienced domestic violence. These participants perceived drinking to be both a catalyst for violence and as a maintenance factor in heavy drinking.

Despite these findings, few participants had court appearances for criminal offences.

## **PART FIVE: EXPLANATIONS FOR HEAVY DRINKING**

The reasons for heavy drinking are complex and diverse. In this section, some of the main reasons given by participants for their own heavy drinking are highlighted, focussing particularly on social and psychological factors that maintain their drinking. It begins by considering some of the main differences, identified through quantitative analysis, between those who have been drinking heavily at every interview wave on the project, and the rest of the sample. Following this, qualitative analysis is presented from waves 4 and 5. First, qualitative findings from wave five interviews are presented. This focuses specifically on the role that drinking plays in the lives of participants who were drinking heavily at the time. Next, analysis of wave four interviews on ‘pub and community’ are presented, in order to explore the relationship between drinking and social life. The final part of the section consists of three case studies<sup>51</sup>, which are based on wave six qualitative interviews, during which participants were encouraged to reflect on the last ten years of their lives (1997-2007)<sup>52</sup>. These case studies have been selected in order to illustrate some of the diversity within the sample, through the presentation of three quite different types of experience and drinking trajectories.

### **5.1 What do we know about the chronic heavy drinkers?**

Those who were heavy drinkers at the final interview form a significant minority (42%) of the sample. Some of these will have been fluctuating in their drinking over the course of the study, and may have been drinking at lower levels at some waves. However, over a quarter (26%) of those who took part in every interview (n=229) were drinking above the ‘heavy drinking’ threshold at every interview. Broken down by gender, 28% of men and 23% of women who took part in every interview have been heavy drinkers at each interview.

Analysis was conducted to examine whether this group of chronic heavy drinkers (n=60) differed in any way from the rest of the sample (n=169). Analysis revealed no significant differences between the two groups in terms of demographic variables such as gender, age, household income or employment status. There was also no difference between the two groups for drug use, health (measured by the SF36), and for the number of risky and harmful behaviours they engaged in when intoxicated.

Analysis did, however, reveal significant differences on a number of measures, mainly relating to the volume and pattern of drinking. The chronic heavy drinkers, perhaps unsurprisingly, were

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<sup>51</sup> Names and some other features of these case studies have been altered, in order to protect the anonymity of the participants.

<sup>52</sup> See Appendix C for further details of the interview guide.

found to drink significantly more<sup>53</sup> (M=100.1, SD= 56) than the others (M=33.9, SD=36.3;  $t=-8.5$ , DF=77.4,  $p<0.005$ ). They were also found to have many more very heavy drinking days in the last year (M=105.8, SD=112.8) than the rest of the sample (M=35.8, SD=75;  $t=-4.5$ , DF=78.3,  $p<0.005$ ).

Again, perhaps unsurprisingly, the continuous heavy drinkers have much higher scores for dependence (M=7.7, SD=6) than the other sample members (M=3.8, SD=3.8;  $t=4.7$ , DF=76.2,  $p<0.005$ ). They also smoke more than twice as many cigarettes per week (M=12.1, SD=13.6) as the rest (M=5.0, SD=8.9;  $t=-3.8$ , DF=77.8,  $p<0.005$ ). There were also significant differences between the two groups in terms of who they drank with, and where they consumed alcohol. Analysis of drinking company<sup>54</sup> showed a significant difference between the two groups, with a much higher than expected proportion of the continuous heavy drinkers drinking alone, and fewer than expected drinking in groups [ $\chi^2$  (2, 229) = 16.7,  $p<0.005$ ]. Similarly, there was a significant difference between the two groups in terms of the drinking venue [ $\chi^2$  (2, 229) = 7.3,  $p<0.05$ ], with more than expected of the chronic heavy drinkers group naming their home as the main place where they consume alcohol. Analysis of the types of drinks mainly consumed by the two groups showed that the chronic heavy drinkers drank proportionately more beer, lager and cider, and less wine and spirits than the rest of the sample, but this difference did not quite reach statistically significant levels.

## 5.2 Reasons for heavy drinking: qualitative analysis

Participants gave a wide range of reasons why they choose to drink. These can be placed in three main categories: events and social circumstances, individual factors and benefits, and social reasons. Within these broad categories there are a number of themes, as summarised below:

### *Environmental factors*

- Early environment
- Response to current circumstances: stress reduction
- Response to negative life events

### *Individual / cognitive factors*

- Boredom
- Habit
- Gastronomic pleasure

### *Social factors*

- Social pressure

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<sup>53</sup> Based on units consumed in the previous week

<sup>54</sup> i.e. Who they usually drink with, based on the predominant company in the past week.

- Pub as social life
- Drinking culture
- Drinking as ‘social glue’

### 5.2.1 *Environmental factors*

A number of participants talked about growing up in an environment where alcohol was freely available. For example, P163 talked about being given whisky when he was teething. P580 reported enjoying the taste of alcohol as a child, and P288 said: *‘my father was a drinker...we were just brought up with drink. We’re from the Irish side of the family and the Irish are known for being big drinkers. All the family does it.’*

For some participants, drinking served as a way of coping with current circumstances, particularly being viewed as a stress reducer, or a ‘release’. For example, P50 described alcohol as a *‘major support’* when dealing with stress at home. For other participants, this stress originated at work; P259 said: *‘I do need a drink mainly to unwind from work. If I couldn’t have a drink, I’d be in trouble I think because I’m under immense pressure at work...’* Alcohol was sometimes seen as a coping mechanism for dealing with stress, as in the case of P785: *‘When I’ve gone through terrible times not knowing when the next bill’s going to be paid...if I had a couple of drinks then I’d think, well I’ll sort it tomorrow. And I’ve always got through. It takes away that terrible thinking, you know, oh god, I’m not coping’.* Others described it as a crutch; for example, P162 said: *‘I suppose drinking really has become like a best friend to me, you know. It helps me in some ways but then again it bites me back in other ways’.* P052 continued: *‘Alcohol can be a crutch and a friend’s substitute’.* One of the most popular reasons for drinking seems to be for relaxation. P364 said of drinking: *‘I can relax and enjoy what I’m doing a lot more’.* P447 continued: *‘I think it’s the only thing that relaxes me’.* For some participants, having a drink after work is an important signal that the working day is over, and can also improve their humour.

Some participants talked about drinking in response to life events, for example the breakdown of relationships, or bereavements; P265 had problems with an ex-partner, and said: *‘I’m trying to drown it out, you know what I mean’.* Often they acknowledged that this drinking was excessive, for example P572 commented that, in response to her divorce: *‘I was drinking far too much. Sort of behind closed doors, when the kids was in bed. But it was just as if, it was a shut down for me’.* However, alcohol is sometimes used to numb the pain of certain situations, for example P815 could no longer see his children following separation from his partner: *‘It is positive because it helps numb the pain of not being with the kids, that crucifies me, the negative is that if I need something like chemicals then I must have a problem and that plays on my mind’.* Fortunately for some

participants this increase in drinking was only temporary. As P193 said: *'It ain't right at the end of the day, is it? You've got to face up to things at the end of it, haven't you? You're always sober eventually'*.

### **5.2.2 Individual / cognitive factors**

A number of participants stated that they simply drank out of boredom. P235 described a typical evening: *'When it comes to about ten o'clock, I think, right, what shall I do now. And rather than go out the house, and do something, and mix with people I don't want to mix with, I think, right, what shall I do now? And that's when I drink'*. Another participant (P407), who was virtually housebound due to illness, said of his drinking: *'I think it's too much, I know it's too much. But there ain't nothing else to do... That's why I just sit here and drink'*. Other people admitted they drink purely to get drunk; for example, P691 explained: *'I have a drink when I want a drink...I like getting drunk...When I've had a drink and I'm nearly there, you know, getting drunk then I feel relaxed, right and calm and can have more of a laugh'*.

Some participants attributed their current drinking to habit; this could be due to going out the same evenings each week, or automatically opening a bottle of wine when getting home from work. P266 admitted: *'It's no longer a treat, because it's become the norm'*. Another participant (P481) said: *'Half the time, I don't know why. When I come in from work at night before I've got my coat off I've poured myself a glass of wine'*. Many of the heavy drinkers acknowledged a feeling of dependence on alcohol; P141 remembered: *'At one stage I used to keep a small bottle of scotch in the car, and I was actually waking up thinking about [drink]'*. P315 talked about an incident that happened the morning of his interview, which led to him having a drink, and said: *'If I had, like, a choice, I wouldn't have drunk this morning'*. P234 summed up: *'I can't really do without drinking, at the end of the day... It's part of my life, basically'*.

Eating and drinking go hand in hand for a number of the heavy drinkers. P347 described opening a bottle of wine when cooking: *'It follows on. Seems to be a logical extension'*. Another participant (P529) said: *'I couldn't imagine having Sunday dinner without a glass of wine'*. Quite a few participants said that enjoying the taste was their main reason for drinking. P580 said: *'I love the taste of alcohol. I tell you, if wine didn't have alcohol in it, I'd drink it anyway. I love the taste of booze'*.

### **5.2.3 Social factors**

There were several types of reasons given for drinking which were related specifically to its role in social life. Three participants described themselves as feeling under social pressure to drink; for example, P302 said:

*‘Occasionally feel that you need to have a drink...at a funeral a couple of weeks back...at the wake afterwards there were a lot of old school friends came and we were drinking and I knew I had to go to work in the afternoon and I got an option of ordering a soft drink or ordering a soft drink or alcohol and I nearly went for the soft drink but because I knew what stick I would get because of this social circle I did have the alcohol, I only had a couple of pints and was the first to leave which was good’.*

A few other participants described matching their friends drink-for-drink in social situations, or adopting the drinking habits of people close to them; for example, P141 used to work for somebody who was a heavy drinker, and said: *‘I just followed the same pattern, you know, really’.*

The majority of participants mentioned the social role of drinking, and for some people this played a very important part in their lives, often revolving around the local pub. For example, P013 talked about his current lifestyle:

*‘Because of the life I lead now, being unemployed and that, if I don’t drink, I don’t go out. Say for instance I never had a drink now for 10 days, I’d be 10 nights sitting in the house...and because I don’t have a partner, I’ve nobody to go with to the theatre or go out for meals...you can only go one place on your own and that’s to the pub’.*

P036 described how he has been going to his local pub for over 20 years: *‘I’m well liked there, I’m well known’.* Similarly, P181 said: *‘It’s the best place to go and meet somebody and unwind...talk a bit of sanity to certain people or whoever’s there...get out of the house’.* In some cases, participants drink by themselves in the pub. As P073 said: *‘It doesn’t matter to me too much if I go down the pub and there’s nobody there... I can sit there for an hour or so..... I can take it either way but I don’t like it going too over the top too many people around’.* In other cases, participants drink with a group of ‘regulars’. P721 said: *‘I enjoy the socialising. I enjoy the meeting people and chatting and get to know what’s going on’.* However, not all participants would class these people as close friends. P087 said:

*‘It’s a very loose circle of friends, you know. You don’t really get close to many of them in the local pub environment...But you can still regard them as friends; you just keep them at a slight distance... You’ve got to set a level of tolerance, because you can’t expect everybody to fit your ideals’.*

Some participants elaborated on the importance of drinking as part of a culture. For example, P006 said: *‘Pubs can be a nice warm safe environment where you might have a little bit of conversation; a refuge ...it’s like an essential part of English culture, it’s rooted in my past’.* P160 talked about Irish drinking culture: *‘We lived in a very strong Irish community and growing up, when you sort of*

*started getting into your late teens, 15, 16...the pub was very much part of the community.....I didn't have my first drink until I was 18 but I felt like I'd arrived. This was what it was all about. This was our culture. This was how we are'*. One participant (P730) who went to Medical School also talked about the drinking culture at University, describing it as a *'way of life'* for medical students.

Alcohol was considered to play an important role in social situations for many participants. For example, P002 stated: *'It's the glue that makes somebody bother to phone you up'*. Several others commented that drinking improves their confidence. For example, P483 finds that a drink makes him feel better before doing poetry readings in pubs and another (P902) remarked: *'I'm one of those people who needs a drink to start talking to strangers'*. However, this is not always a positive thing, as P052 reported: *'Feels as though I am enjoying life more and that I am more likeable to other people...that ain't the real me, so I am living a lie'*. Many participants considered drink to enhance their friendships. For example, P460 said: *'If I didn't drink so much or at all it would probably have a negative effect on my relationship with my friends, purely and simply because I wouldn't see them so much and they would think I have gone mad'*. Some of the heavy drinkers reported that most of their family and acquaintances were also drinkers, for example, P351 said: *'Everybody I know drinks, apart from my wife'*. However, they were not always complimentary about other people's drinking, and P783 talked about the effect that his father's alcoholism had on his own drinking: *'That's why I always watch my drinking, I always have a day when I don't drink.... I've seen what it can do to people, so I'm a bit more cautious'*.

As can be seen, there are many different reasons given by heavy drinkers for their drinking. One point worthy of note is the way in which, for many people, alcohol consumption is closely connected with socialising and with friendship. Therefore, any change in drinking is likely, for many, to have marked implications for social and cultural life.

#### **5.2.4 Pub and Community**

Because those participants – the majority – who drank regularly in public houses might be considered to be particularly knowledgeable about pubs and the part they play in community life, one of the qualitative topics at wave four was devoted to exploring that topic. Ten such topics were addressed at wave four, of which 'community' was the one explored with the largest number of participants ( $n = 79$ , 64 men, 15 women). That topic was addressed as a high priority, taking precedence over most other topics in the first 3 months of the year (from January to March 2003). Sub-topics were: the participant's definition of community; whether she/he felt part of the local community and if so in what way; the places where the participant usually drank, and his or her likes and dislikes about those places; ways in which drinking places served social or economic

community functions for the participant and/or the local community; how drinking places were linked to their local communities<sup>55</sup>.

Qualitative analysis of these data suggested that the pub constituted for many participants a very significant setting in their lives. The clearest conclusion that we draw from these interviews is that the pub was often viewed as more than just a setting for drinking, and, can in and of itself provide, for many, a real feeling of community.

Whereas the role of the modern pub within its wider, local community emerged as debatable and uncertain, there was more unequivocal support for the idea of the pub itself constituting a micro-community. Many participants were well integrated into friendship groups who met in the pub and a variety of needs were fulfilled including social companionship, the sharing of information on a variety of subjects, the sharing of fun and games, jokes and laughter and, for many, emotional support at times of need. Important elements were the freedom from constraints that apply elsewhere (at work, in the home, with people whose interests one does not share), plus the relaxed, convivial atmosphere that can be achieved in a pub, and the opportunity for joint, preferred activities. For many there was also the sense of a common history of time spent together and joint experiences that constitute a sense of shared emotional connection.

At the same time it was evident that pubs were seen as places that served a variety of interests and needs, and most drinkers were carefully selecting those fellow pub-goers with whom they already had friendships, who shared common interests or who were seen as being like-minded people. It was often the case that drinkers were deliberately avoiding other pub-goers who did not share their interests, and particularly avoiding those who were seen as trouble-makers. It was not clear, therefore, that drinkers generally felt common membership and a sense of belonging with the pub as a place. More common was a sense of membership in more select friendship groups.

The present analysis provides a good example of how pubs as communities are in fact often viewed as groupings of smaller sub-communities of people with shared interests, in the sense that pub users may choose to congregate with those other people in a particular pub setting who facilitate the actions required to perform one's preferred identity as a particular drinking person. There is also a negative aspect to this; many participants spoke of actively avoiding certain pubs as whole places or sub-groups of other pub users if they did not share preferences for different activities or norms of behaviour. Sometimes it was possible, by selecting times and spaces to share use of the same

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<sup>55</sup> A full report of this analysis is also available. See Orford et al. (2008).

pub with groups with whom a drinker did not identify, whereas in other cases a place was avoided altogether as being personally uncongenial.

Participants were more ambivalent about the role of the local pub as a contributor to a broader positive sense of local or neighbourhood community. Some were well able to describe how the pubs they knew contributed to the cohesiveness of community friendship networks, including their vital role in the passing and sharing of information. Others were of a quite contrary view – that there had been a decline in the ability of pubs to serve those positive local community functions. In some cases this was linked to what some saw as a decline in community more generally. Some participants went further by implying that the degeneration of the local community pub was not merely a reflection of community decline, but also a factor contributing to the deterioration of community.

It is undoubtedly the case that the different views expressed are partly a reflection of the different types of community in which participants lived or did their drinking – urban or suburban, poor or well-off, for example. It was also the case that some negative views were attributed to the fact that previously favoured pubs were now serving new clientele – diners for example. It may be the case, therefore, that pubs, in the plural, offering a wide range of social niches, are serving an ever more important function in an increasingly diverse society, providing important compensations for what are seen by many as the increasing stresses and loss of traditional extended family and neighbourhood supports that were once characteristic of communities and of which the ‘local’ was a part.

### 5.3 Case studies of chronic heavy drinkers

#### **Case study: P483 – male aged 36, drinking tied to social identity**

When George joined the study, he was in his mid twenties and *'on the sick'* with a back injury. He was starting to get involved in music and gigs, and helped out with his mate's band. Before that he was *'just sort of hanging around pubs... I was fairly bored'*. At the time, he was drinking over 50 units per week and has continued to drink at what he considers to be his moderate level of between 50 and 75 units per week for the last ten years.

Several years ago, George went to investigate a music venue for his friend and was *'amazed'* to meet *'like minded people...creative types'*. He began doing *'open mike nights...with groups of poets'* in pubs and *'making people laugh'* and felt this was a *'positive change'*. He got to know people in the pubs around Birmingham and his popularity increased. He spent a lot of time *'just meeting people'* and became *'a bit of a celebrity'* in the pubs he frequented, suggesting that some people described him as a *'bit of a genius'*. People began to recognise him from gigs and approach him in the street. George says that socialising around the pubs of Birmingham made him feel part of the community, *'everybody sort of knows who everybody else is ... see each other in the pub and just say hello...a close knit community'*.

When he was young, George was quite shy and insecure but has grown in confidence over the years. He suggested that in the past he was misunderstood, *'probably didn't understand me...couldn't probably work me out'* and felt that since he has met other creative people in the pub who have watched him perform, this has helped him to become more sure of himself. A few years ago he obtained a regular slot for six months covering for someone introducing bands and he felt that he learnt a lot from this, whilst making steady progress with his poetry and music.

In the last two years, George has attended A&E on one occasion due to a dislocated shoulder which happened when he tripped over a raised piece of pavement after he had been drinking. A health professional asked him how much he had had to drink for the purposes of administering analgesia medication, but there was no discussion of drinking in general.

When asked about his drinking career, George said that where he came from *'drinking was just something you done on a Saturday... just something to do...but now I'm not just going out drinking for the hell of it...there is a purpose to my drinking now'*. He feels that drinking in pubs is associated with the three important things in his life: poetry, socialising and music. He also thinks it is a good way of networking in order to gain work and make contacts, *'sometimes it just happens by accident...I met someone in the pub...wanted me to do a gig'*.

George suggested that drinking has performed a mainly social role throughout his drinking career and that he does not enjoy drinking at home, *'it doesn't appeal to me'*. He says that he enjoys going out to drink but *'sometimes you just need to stay at home and detox ...replenish yourself'*. He has 2 or 3 days a week where he stays at home and listens to music and this has been the case for the past few years. He has also changed the pubs where he drinks over the past ten years, and often travels out of the district where he lives to visit pubs he enjoys - where they have music gigs and poetry, for example, *'there's something going on there'*. George likes pubs where he is likely to bump into acquaintances and people that he knows, but also uses pubs as a way to relax *'to think about nothing'* and to find material for his poetry.

When asked about the next ten years, P said that he would like to be successful and make money from being a poet, but that he was still learning his craft. He would also like to do more with music – to explore all aspects of his creativity. He has no plans to change anything about his drinking, just to *'take it as it comes'*.

**Case study: P046 – female aged 38, no fun without drink**

Ten years ago, Wendy *'was having a good time'*. She had boyfriends but no one serious, was working at a job that she didn't particularly care about and *'my social life was huge'*. At the time, she was drinking  $\frac{3}{4}$  of a bottle of vodka nearly every night, *'every single night I'd be drunk and hardly ever had a day off'*. This partying lifestyle was sustained from the age of about 22 for 11 years, until she met her current partner and settled into a stable relationship. Although she would have a couple of days of not drinking each week, she still continued to consume large volumes of alcohol at home, around 100 units per week. Over the decade, Wendy has had many different jobs as employee and manager. Despite changes in roles and responsibilities, she does not consider her employment to have made any difference to her drinking behaviour, *'even when I was a pub manager I used to just drink later when the pub was closed'*.

Over the years, drinking has served many purposes. Wendy did not start drinking until she was 22. She recognised that *'I've never been a confident person ... always been quite shy'*. Thus, drinking at this time gave her the confidence to go out and mix with others, it *'made me a social animal'*. Furthermore, it helped her when she has had difficulties sleeping, *'I've always been like an insomniac so I've got into the habit of just drinking so much vodka that I go to sleep'*. However as time passed, the drinking no longer helped her to sleep and she found that she would spend night after night sitting up drinking, *'it actually stopped having the effect I started doing it for'*.

Although Wendy was able to identify many functions that drinking served in her life, many seemed to centre around her lack of confidence and positive self-regard. She acknowledged that childhood experiences may have been a significant factor, in particular, *'my emotional relationship with my mother ... I think that's had a massive impact on how I feel about myself and therefore heavy drinking is just saying well I don't care I'm not worth anything'*. Wendy recognised that at first, heavy drinking helped to block out unhappiness and reflected her self-perception, *'when I think about what I'm doing to my body and doing to myself, I didn't care about myself either, so it was just reinforcing what I thought my mum thought of me anyway'*.

The most significant turning point for Wendy happened in 2005, when she conceived the baby she had been planning. This had an immediate effect on her drinking, *'I didn't have a problem stopping the drinking it just stopped because I was pregnant and I knew there was a baby inside me'*. Overall, the impact of having a baby meant that she *'calmed down, completely calmed down'*. Had she not conceived, Wendy thinks that she would not have made the changes herself and remembers saying, *'my plan was to have a baby and that would save my life, it'll save me from an early grave from drinking'*. Her GP has made no comments about her drinking but her partner/family regularly comment about the volume.

Once her baby was born, Wendy did return to drinking at the weekends. *'I still love having a drink but I just have to limit it to just once or twice a week ... you can't be a good parent and be drunk, you just can't'*. Despite being *'happier than I've ever been'*, she still feels that there are occasions when she needs to drink. She continues to see drinking as playing a necessary role in her social life and ability to have fun, *'I can't do that if I don't have a drink'*. Recently though, her drinking has become a source of conflict and reduced to 35 units.

Wendy has recently returned to education and is hoping to gain employment in this area. In terms of her drinking, she suggests that it would be unrealistic to think about abstaining in the future, *'there's no point in me saying I'm going to stop drinking completely cos in my mind that's not me ... I've got to be true to myself'*. Wendy is clear that her drinking would always come second to the needs of her child however, *'it'll always be a weakness cos I always think of it, I just control it now'*

**Case study: P453 – male aged 62, very heavy drinking but successful and happy.**

Ten years ago was a good time for Fred. He was living in a million pound house, had a very successful business, had just bought property abroad and was financially in a position to spend time with his family. So 1997, *'generally yeah it was good and got better'*. Not only was he content with his home and job, but also with his family, *'having Chloe (daughter), who would be five at that time, just gave us a lot of pleasure'*.

Fred sets his story against a working class background and a childhood of deprivation and neglect. At the age of ten, he was moved across Birmingham as part of the slum clearance and recalls spending his first year in a new school sat at a large table with lots of books, just reading. This is prominent in Fred's mind as he believes *'the reading was a big part of enabling me to be successful'*.

Over the past decade, Fred's daughter has been a central part of his life. She is talented in the field of sports and Fred is very involved in helping her to be successful in this area. Focusing on family life has been extremely important to Fred because he has some regret of not doing the same in his first marriage, from which he has two older children. *'I missed them growing up completely ... I was just too busy, I was just trying to make a living or make a success of life, or financially a success of life'*. Over the decade, his relationship with his first wife has remained strong although, he describes it as having changed *'more to a friendship'*.

In 2006, Fred sold his 32-year old business. This was a big change for him as work had been such a huge part of his life and he suggests that *'there would have been a massive void, but because I'd got another business to go into, that prevented that'*. Over the decade, being involved in business has brought Fred a lot of enjoyment. However, he has also made losses at times and recalls a low point when he lost £250,000, *'but it wasn't the end of the world ... it was a blip'*. Another low point that he identified was three years ago when *'mother died, but we weren't ever very close'*.

Over the past ten years, Fred considers his drinking pattern to have remained the same, although since selling his business, he has not been attending corporate events and so his consumption may have decreased. Aside from business meetings and social events such as dinner parties, Fred does not drink during the day. Fred rarely feels that he drinks too much and knows when to stop, *'I automatically get to a position where I do not want to drink any more ... I just can't drink any more, I don't want any more'*. He consumes around 90 – 100 units per week at present and has drunk over 70 units per week since his 30s. However, as he has not experienced negative affects, he does not consider his drinking to be excessive, *'never thought my drinking is a problem to me or anyone else and it doesn't seem to have had any adverse affects at all on me or my life'*. Over the past 2 years, Fred has not received any comments from his GP or any other health professional about his drinking.

Over his lifetime, Fred considers the role of drinking in his life to be *'a social thing'*. Not only does he consider it to be relaxing but also beneficial when meeting new people, *'there's lots of things I'm not very confident about but certainly having a drink helps'*. Over the last decade, drinking has been a dominant part of his business dealings and overall, he thinks that *'drinking has been a positive for me rather than a negative'*

With family at the forefront of his mind, Fred thinks that his major interest over the next ten years will be his daughter and recognises that *'when she flies the nest there will be a big big void'*. He perceives that otherwise there will be *'no major changes'* because *'I've already got pretty well all I've wanted'*. Fred plans to travel a little more and spend time in his property abroad. In terms of his drinking, he has no plans for any change *'I don't think it'll increase and I don't think it'll decrease, I think it'll probably stay pretty consistent'*.

## **PART FIVE: SUMMARY**

Around a quarter of participants (28% of men and 23% of women) who took part in every interview have been heavy drinkers at each interview.

These chronic heavy drinkers have higher levels of dependence on alcohol and are heavier smokers than the rest of the sample. They are much more likely to drink alone and at home than other members of the sample.

Participants gave very diverse reasons for heavy drinking. These can be categorised as (i) environmental factors (early environment, response to current circumstances, stress reduction, and response to negative life events); (ii) Individual / cognitive factors (boredom, habit, gastronomic pleasure), and (iii) Social factors (social pressure, pub as social life, drinking culture, and drinking as 'social glue')

Qualitative analysis suggested that the pub constituted for many participants a very significant setting in their lives. The pub was often viewed as more than just a setting for drinking, and, could in and of itself provide, for many, a real feeling of community.

## **PART SIX: PATHWAYS TO REDUCING DRINKING**

In this section, the main focus is on how drinking reduction was achieved, by those participants who did cut down on drinking during the period of the research project. In the first part, quantitative analysis is presented, showing how many participants sought and received advice or treatment for a drinking problem over the course of the study. These data complement those in Section 3.3., where referral to treatment that is instigated by GPs is described. The difference between these two sections is that the current section examines advice and treatment that is actively sought by the participant, rather than being the outcome of a GP intervention.

This section also includes findings from qualitative analysis based on participants' accounts of how and why they reduced their drinking. This includes a section based on interviews at wave five with participants who were abstinent or drinking at very low levels, and a further section based on wave four interviews on the relationship between life events and reducing drinking. Following this, further analysis is presented from wave four, comparing the accounts of those who reduced their drinking with and without professional help. This part of the report concludes with two case studies, representing contrasting experiences of reducing drinking.

### **6.1 Seeking help with a drink problem**

From wave two onwards, participants were asked about whether they had sought any help or advice concerning their drinking over the previous two years. A small number of participants (20-25 participants; 8-10%) reported having sought help at each interview wave of the study (see Table B29, Appendix B). This group was drinking, on average, between 74.4 units to 115.7 units per week<sup>56</sup>. Those who sought help between waves one and two were significantly heavier drinkers ( $M = 115.7$ ,  $SD = 80.7$ ) than those who had not sought help<sup>57</sup> ( $M = 77.0$ ,  $SD = 44.4$ ;  $t = -2.12$ ,  $df = 20$ ,  $p < 0.05$ ). However, there was no significant difference between the levels of drinking amongst these two groups at later waves of the study. A further difference between the 'help-seeking' group and other sample members is that the 'help-seekers' were found to have more days of very heavy drinking than other sample members<sup>58</sup> (see Figure 45 below).

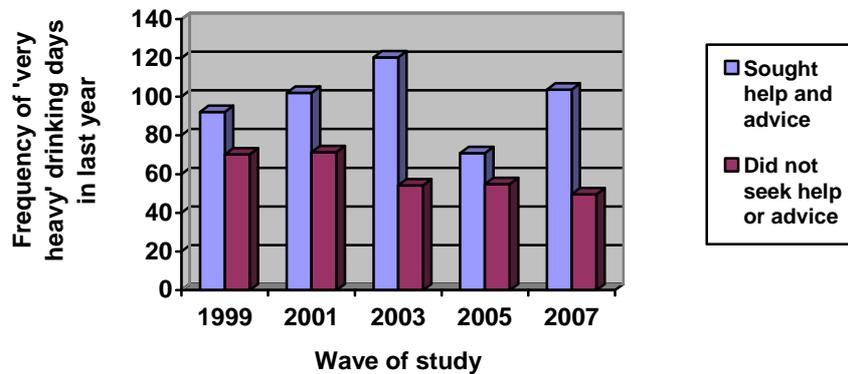
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<sup>56</sup> The range of unit levels relates to the mean at different waves of the study.

<sup>57</sup> There was also a significant difference in the mean number of 'heavy' drinking days in the previous year between those that sought help between waves two and three (mean = 230.3,  $SD = 107.8$ ) and those that did not (mean = 162.7,  $SD = 122.8$ ;  $t = -2.65$ ,  $df = 257$ ,  $p < 0.01$ ).

<sup>58</sup> This was defined as number of days drinking over 20 units in one day for men, and 14 units for women, over the past year. A significant difference was found between those that sought help between waves three and four (mean = 120.3,  $SD = 113.9$ ) and those that did not (mean = 54.2 ( $SD = 87.9$ ;  $-2.65$ ,  $df = 23$ ,  $p < 0.05$ ) and again at the final interview, between those who had sought help between waves five and six (mean = 103.6,  $SD = 111.4$ ) and those who had not (mean = 49.5,  $SD = 89.4$ ;  $t = -2.11$ ,  $df = 21$ ,  $p < 0.05$ ).

**Figure 45: Comparison of mean 'very heavy' drinking days in the last year between 'help-seekers' and others, 1999-2007**



Seeking help to change drinking did not always translate into receiving treatment. At wave two, 20 participants sought help with their drinking and all of these individuals received help from different agencies. At subsequent waves however, far fewer participants who sought help then went on to receive support from an agency. For example, at wave five, 23 individuals sought help but only 8 actually received any help or advice (see Table 16 below).

**Table 16: Proportion of sample receiving help or advice for a drink problem, and changes in their drinking, 1999-2007**

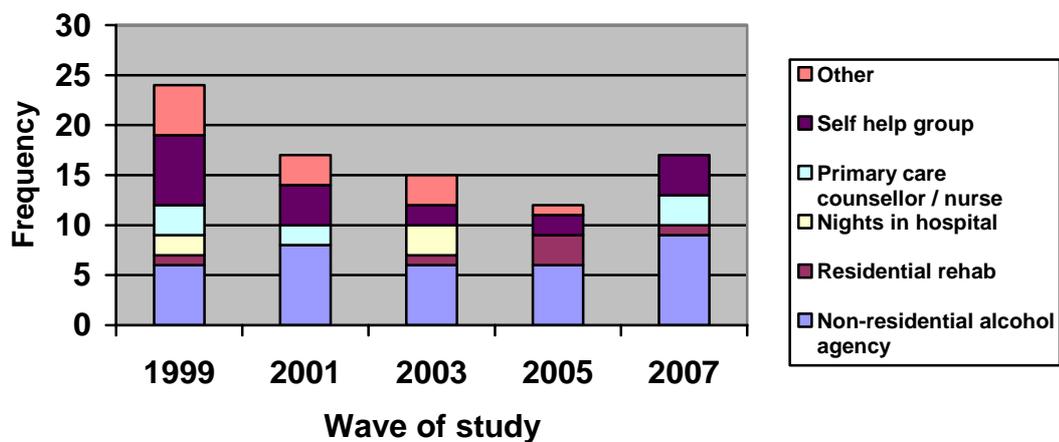
	Received help for drinking Frequency (%)	Mean unit consumption in week before interview (SD)	Unit consumption - Range	Mean unit consumption in week before previous wave interview (SD)	Unit consumption - Range	Number (%) that had reduced drinking since last interview
<b>Wave two</b>	20 (8%)	81.1 (41.9)	0-172	116.0 (81.1)	0-328	12 (60%)
<b>Wave three</b>	13 (5%)	75.9 (74.4)	0-217	69.7 (57.1)	0-240	8 (62%)
<b>Wave four</b>	9 (3%)	69.6 (110.7)	0-329	110.4 (123.3)	0-360	6 (67%)
<b>Wave five</b>	8 (3%)	66.9 (77.6)	0-206	52.9 (60.3)	0-162	2 (25%)
<b>Wave six</b>	12 (5%)	63.1 (91.9)	0-271	90.2 (112.6)	0-408	4 (33%)

## 6.2 Receiving treatment

Over the duration of the study, 34 individuals accessed treatment or support for their drinking. Seventeen participants reported accessing treatment in one two year period, ten in two periods; five in 3 two year periods, and 2 participants accessed treatment services in between each wave (see Table B30, Appendix B).

At each wave, the majority of those who accessed treatment, did so with one agency. However, some individuals also accessed multiple treatment services. At wave two, the most common treatment type accessed was a self help group, but at subsequent waves the most popular type of support was a non-residential alcohol agency (see Table B29, Appendix B and Figure 46). Of the 34 individuals who accessed treatment over the course of the study, eight saw a primary care counsellor or nurse and four spent time in a residential rehabilitation unit. Two individuals accessed residential rehab on two occasions and were both abstinent at wave six of the study.

**Figure 46: Numbers accessing different treatment types for help with a drink problem 99-07**



Analysis was conducted<sup>59</sup> to compare those who received treatment at some point in the ten years ( $n = 34$ ; 24 male and 10 female) with those who had not ( $n = 225$ ). This showed that those in the ‘treatment’ group were drinking at a significantly higher level at wave one (mean = 114.1, SD = 72.4) than those who had not received treatment to date (mean = 74.8, SD = 42.4;  $t = -3.1$ ,  $df = 37$ ,

<sup>59</sup> Independent t-tests were carried out at each wave separately, in order to determine whether there was a significant difference in the volume of alcohol consumed by those in the ‘treatment’ and ‘non-treatment’ groups at each interviewing wave.

$p < 0.005$ ). At subsequent waves, however, there was no significant difference in alcohol consumption between those in the ‘treatment’ and ‘non-treatment’ groups.

Those in the ‘treatment’ group tended to be younger, with 44% in the youngest age group (25-34), 35% in the middle age group (35-44) and 21% in the highest age category (45-55). The majority of those seeking treatment (38%) fell into the semi-skilled socio-economic group at the start of the study, but individuals seeking help came from all socio-economic groups. Fifty-three percent of the treatment group fell into the ‘very heavy’ drinking category at wave one of the study<sup>60</sup>.

At waves two, three and four, between 60% and 67% of those who had had accessed a treatment service in the previous two years reduced their weekly alcohol consumption over this time. At wave five, a quarter reported a reduced intake and at wave six a third said they drank less than they did two years before.

### **6.3 Reasons for reducing to abstinence or low risk drinking**

Detail on the reasons for abstinence or low drinking, and how this is maintained, was obtained through qualitative interviews at wave five (in 2005). These interviews were conducted with a subgroup of participants who had either become abstinent or had reduced their drinking to within sensible limits, and had maintained this for at least six months. Ten participants were interviewed about their experience of becoming abstinent and a further 17 were interviewed about cutting down to within sensible limits. All these participants gave multiple reasons for the decision to cut down, which generally formed part of a longer narrative of change in outlook and behaviour over time. As P722 commented, *‘It was the impact of having all those things so close together’*. There were, however, five main types of reason given for the decision to reduce or stop drinking.

1. Family and relationships
2. ‘Getting older’
3. Wanting a life change
4. Health
5. Practicalities and changed circumstances

There are some points of overlap between the first three categories, and they can be grouped together under a broader (core) category of ‘settling down’. First, several participants referred to reasons relating to close relationships, such as with partners and other family members. For several participants, a key reason for stopping or cutting down was to spend more time with children or grandchildren. For these, there was sometimes also a sense of having missed out on seeing these

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<sup>60</sup> A further 44% were included in the ‘heavy’ drinking volume group and one person was in the abstinent group, who was likely to have been an intermittent heavy drinker

children in their earlier years. For others, it was about the practicalities of parenthood. For example, P506 remarked that, after the birth of her child, she stopped drinking because of having too much to do and little money: *'I wasn't anti drinking or against anything like that. It's just life'*. Others decreased after realising that it could negatively affect children. For example, P735 stated, *'my daughter's getting hurt by it. She's coming to an age now when she understands so that's why I said, I better do something because I don't want her to reject me'*. For this participant and several others, the experience of having themselves been the child of a parent who drank heavily was an important factor, since they did not want their child to have similar bad experiences. Other family-related reasons included having a partner who had stopped drinking and was disapproving, or the experience of relationships breaking down, or being isolated from family members because of *'behaving intolerably'*. As P664 commented, his partner *'just turned around one day and said, 'look, you know, this had got to stop'. She'd obviously had enough. And what she was saying did actually make sense to me'*.

The second category of reasons for stopping or reducing drinking relates to 'getting older'. This overlaps with family-related reasons, such as having children and wanting to see them grow up, but also includes changed priorities, having friends who are cutting down on their drinking, and having a change of friendship group due to 'growing out' of a previous set of friends. For example, P746 described how she and her friends simply became 'bored' of going out drinking:

*'You just become interested in different things. You haven't got the energy and it just loses its appeal... You can't be in your mid-thirties and still go clubbing every week. You just look ridiculous... You just can't do it. You just don't want to. Your sleep is more important. Having a nice time in the park with the kids is more important'*.

Some participants talked about the decision to reduce or stop drinking in terms of wanting something different from life. Typically, these participants had come to feel that they were wasting their lives drinking, and no longer wanted to be the person they were when drinking. These kinds of explanations often came from participants who drank as part of a social circle, and the decision to change drinking often required a change of social life. There was some overlap between this category and that of 'getting older', since this wish for a different kind of life was often expressed by those who spoke of moving away from a youthful lifestyle. However, it forms a distinct category in itself, since it is concerned with people's perceptions of themselves and who they want to be. For example, P722, commented, *'I think I wanted change. I think I wanted something different for me. I think it was a downward spiral of drink and deception'*.

Another set of reasons related to health. A common perception is that abstinence or a major reduction in drinking is decided upon due to a major health event, and this was the case with five

participants, three of whom developed liver disease, one who had poorly controlled diabetes and one who suffered a stroke. In addition, one participant stopped drinking partly because of a non drinking-related illness which made her lose her desire for alcohol, and several others cited the physical effects of heavy drinking as one of the main reasons for deciding to stop. Other participants saw friends becoming ill due to the long-term effects of drinking and decided they had to do something to ensure that this did not happen to them.

A few participants discussed their decision in practical terms, either as being linked to a desire not to drink and drive, financial reasons, a change of job, or moving to a different area. For example, P664 considered his decrease to be mainly due to financial problems: *'We were just getting the bare things, you know, buying the gas, electric, milk, you know, just the bare essentials'*. Another participant, who had suffered a stroke, stated that the need to continue to drive was a major motivator in his decision to reduce his drinking, since his mobility problems made driving a virtual necessity. However, these kinds of practical problems were commented upon by a minority of participants.

There was considerable variety in the process through which people went in order to reduce or stop drinking, and to maintain this over time. Almost all of this sub-sample of 27 participants reduced or stopped drinking without professional help. Only one attended a residential unit and AA, and in this case the participant was using other drugs in addition to alcohol. One other participant used AA as a source of support and one other had recently been attending an alcohol agency for counselling. Other participants all relied on informal support or stated they could 'do it alone'. For example, P446, who described his drinking as having been 'very heavy', and who was seriously ill due to drinking, stated, *'I thought, well, I'm not going to be away from my own home for three months when I can do exactly the same in my own home as what you do in a clinic'*. There were two main ways of talking about this decision not to go for treatment: firstly, participants often talked about the process as a very individual process and spoke of having a 'strong will', so that they would not need 'help'. For example, P664, asked whether he considered going to any alcohol agencies to help him cut down, replied, *'No, no, I wanted to do it for myself. No, no'*. A second type of reason given for not going for treatment was that these participants did not feel they were severe enough cases to require treatment. For example, one participant, who had consumed 25 pints per day at his peak of heavy drinking, stated that he did not need treatment because *'I was never an alchy. I could leave it alone just like that'*. Similarly, P664 (referred to above) remarked, *'I didn't think I was that bad really, compared to some people'*. Thus, there was a sense for the participants that since they did not see themselves as 'addicts', they either did not want to seek professional help, or did not fall into the kind of category of drinker who would be seen as meriting treatment.

Most, however, drew on the support of others to achieve this change. For two participants, religious faith was a major factor in both the decision to cut down, and in being able to maintain abstinence. The majority of participants, however, received most support in their decision to become abstinent from their family. In order to sustain change, however, most found they had to change their friendship groups, since many friendships had been based around drinking and pub culture. For example, P272 commented, *'I basically cut out people who really weren't helping me and I tried to hone in on people who were positive'*. Another remarked, *'I no longer fitted into that social circle'* (P722). For some, there was considerable pressure to continue drinking, or to return to their previous lifestyle of drinking, clubbing and partying. As P726 commented, *'I get emails and texts saying that you are not the bubbly outgoing person that you used to be, and I'm thinking, 'I have done this for a while, and you are still on this treadmill, going round, and when are you going to get off?''* The main ways of resisting such pressure were to feel the gains of a new lifestyle, involving spending more time with family, getting physically fit, or finding new hobbies, interests and social groups. For many this also involved changing where they spent their leisure time, since most did not want to spend time in pubs anymore. This was difficult for some of those whose social lives had always involved pubs and drinking. For example, P611 decided to change the pub in which he drank, because in his regular pub he was known as a heavy drinker (*'the drunk in the corner'*). He did not want to stop drinking in pubs altogether, because he was concerned that he would not have a social life, but felt able to reduce to two pints per day by drinking in a different pub.

For the abstinent participants, the decision to choose abstinence rather than low drinking was mainly because of feeling that drinking is 'all or nothing' for them, and that it is best to avoid drinking altogether. Abstinence was often seen as a positive choice, and only one participant stated that he would drink at a low level if it was not for the disapproval of his partner, but all others were happy with their decision to be abstinent and saw many benefits from this, not only to their health but in their ability to get the most from life. As P001 stated, *'It's life-giving, you know. You start to live again'*. Those who chose to cut down rather than stop were more likely to describe this as a 'natural process' and not an active decision. For example, P289 commented,

*'It wasn't a conscious decision. I didn't say, 'right, that's it, I'm not drinking anymore'. I'd just think, I don't want to go out tonight. I can't bear it and I've got work. I've got a lot to do tomorrow and if I do have too much to drink tonight, because sometimes it can just be a couple of glasses of wine now and I feel crap in the morning'*.

These kinds of remarks, that it was a gradual process, and did not involve particular strategies or conscious decisions, were common, particularly amongst those who reduced drinking rather than deciding on abstinence.

Many participants also commented on the reduction in drinking being so beneficial that they did not want to return to their previous drinking level. For example, several commented that they had travelled to places they would not previously have visited, that they had more money, and that they appreciated feeling physically better than before. As P723 remarked, *'it all changes your outlook on life and once you have changed it is difficult to go backwards'*.

#### **6.4 Life events and change in drinking**

Qualitative interviews were conducted at wave four (in 2003) with a subset of 34 participants who had experienced a significant life event during the previous two years<sup>61</sup>. The purpose of these interviews was to gain greater insight into the participants' understanding of the relationship between these events and their pattern of drinking. The events included illness, becoming a parent, becoming a carer of an elderly or ill parent, bereavement, starting a new job, and getting married. Participants responded in diverse ways to the change. Seventeen decreased their consumption, nine increased drinking, and eight did not alter their drinking. This response seemed to depend on the nature of the life event, the participant's perception of the event, their understandings of the functions and meanings of their drinking, the social context of the event, and whether the individual was already in a process of personal change. Analysis of interviews with those who had reduced their drinking led to reasons for decreasing being categorised in three ways: 'having to', 'needing to' and 'being able to' cut down their drinking.

##### ***'Having to' cut down***

Under the category of 'having to', caring responsibilities for others were a clear factor in leading participants to cut down. Events that required the participant to stabilise life in some way, such as being a carer of an elderly parent, or becoming a parent, appear to have been more likely to lead to a sustained major decrease in drinking. These life events were connected with close relationships, employment or education, and the reduction in drinking was in response to their responsibilities for others or for their career. This category can be further sub-divided into having to cut down because of external events, such as illness of others, and having to cut down because of an internal decision to achieve a goal, such as starting a new job or course. Amongst those who cut down due to external events, four (two male and two female) described themselves as having to reduce their drinking because of caring responsibilities for elderly, ill parents. They drank less in order to be confident that they could be relied upon to cope in an emergency. For example, P572, a woman with two elderly, frail parents commented, *'unconsciously, all the time, I daren't have a lot to drink because, at any time, the phone could ring'*.

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<sup>61</sup> Further details of this analysis can be found in Rolfe et al., 2005.

In general, these participants did not describe specific strategies to cut down. Rather, they felt they had to cut back if they were to achieve other goals, and that cutting back was made more possible by their change in lifestyle and routine. For example, P090, who started an Open University course, remarked, *'you can't study if you've had a drink, so I had no choice really'*. Another participant, a lone parent with four children, tried to get back into the job market and, after a great deal of effort and training, managed to gain employment as a driver. He commented, *'all the time I was thinking about getting a job driving, I knew in my own mind I'd got to stop drinking, cut down drinking'*. He was especially aware of the possible ramifications of drinking, when driving on an early morning shift, and again this made him think, *'I've just got to stop myself drinking'*. He did this by avoiding the pub, but generally felt that it had not 'bothered' him. It can clearly be argued that these participants did not *have to* decrease drinking, since they could have prioritised drinking over their goal. Nonetheless, their own explanations of the situation were that they had no choice if they were to achieve their aim. For those who described their decreased drinking in terms of 'having to' cut down, this did not involve a conscious effort or particular strategies. In effect, they felt they were no longer in a position to drink as much, and that decreased drinking was a side effect of changed circumstances.

#### ***'Needing to' cut down***

Six participants described reducing their alcohol consumption because of the direct impact of their drinking on their lives and well being, leading them to feel they 'needed to' cut down their drinking. Most cases coming into this category were of serious health problems. In two cases, participants described having reached 'rock bottom'. This had been triggered by an event, leading to a process of self-reflection and a re-evaluation of their drinking. Both then decided on abstinence. For example, P016 developed gastric problems and his GP suggested this could be stomach cancer or liver damage. Despite an eventual diagnosis of gastritis, he considered this illness to be a 'wake up call'. He commented, *'You need that scare to do it... You don't pack it in until you've had that scare and reached rock bottom'*. He reduced his drinking from 150 units a week to abstinence, and had remained so for thirteen months at the time of interview. Four other participants had health problems that led them to make major reductions in their drinking, including tachycardia, high blood pressure, suspected liver damage, mild cardiac damage and abdominal pain. In each case, they believed they needed to reduce their drinking, but this was because they were told this was necessary by a doctor. For example, P007 developed high blood pressure, possible liver damage and mild cardiac problems, and was advised to reduce his alcohol intake by his GP. At the time he was drinking an average of 130 units of alcohol per week. He stated,

*'Someone who was in my position would have to be pretty stupid not to think about the amount of alcohol they were drinking', particularly whisky, or not to cut back.... When they tell you these things it is reasonably sensible to do something about it'.*

However, in these cases, after an initial major decrease, the participants subsequently re-evaluated the need to drink less, leading to the view that the doctor's advice had been exaggerated or insufficiently supported by evidence. Each described having weighed up the available evidence for and against the need to decrease drinking. They responded more to advice to decrease (rather than to stop) drinking, and to specific evidence of the impact of alcohol on their personal health status (rather than general warnings about the health effects of alcohol). Having been through this process, and in some cases, having received test results, they decided that the evidence that they should cut down was not conclusive, and that they did not need to do cut down. For example, P007 increased his drinking towards its previous level, and explained this as follows:

*'At the end of the day, only I can make the decision...On this occasion I have listened to what people have to say, I've asked questions from professional people and I have worked it out for myself...I did a risk assessment on myself'.*

Similarly, P073 reduced his drinking from 220 to 42 units per week as a result of advice from his GP and from a consultant, when he was having investigations for abdominal pain. The results of a scan on his liver, however, did not provide conclusive results, and he decided there was no evidence of liver damage. He then increased his drinking, though not as high as previously, drinking an average of 116.5 units per week. He switched from drinking pints of beer to shandies, but continued to drink the same volume. The experience of having cut down so far left him feeling *'a bit annoyed ...that I had spent months cutting down on drink, which I enjoy, and there was no reason for it, because it was nothing to do with the liver, which I had said all along'*. He was particularly annoyed to have missed out on nights at the local pub, *'because it is my social life'*. These participants subsequently increased their drinking, though not quite to the same level as before the warning.

### ***'Being able to cut down'***

A further seven participants framed their drinking change in terms of no longer wanting or needing to drink. In many cases this was considered to be a by-product of positive change in a different area of their life, such as successful medical treatment, a new relationship or a change of job. These events were generally said to have led to a happier, more settled state of mind. Others reduced their drinking due to a negative event, such as bereavement, bankruptcy or being the victim of a crime, leading to a change in priorities and decreased desire to drink.

Some of these participants said they had previously used alcohol to relieve depression and stress. Alleviation of depression or stress then made a reduction in drinking possible. For example, P030 found that changing to a different anti-depressant medication made a major difference to symptoms of depression. He explained, *'I no longer have the feeling of doom in the morning that I used to have. I start the day with a smile now'*. This had resulted in a loss of motivation to drink, as he had often used alcohol as a way of masking his feelings. He also had less time for drinking, as he was more motivated to do other things, such as a course in computing. In another case, a female participant (P189) was able to reduce her drinking once her personal life stabilised. She had previously been having an affair, which was a source of considerable stress. When this ended and she began another relationship, she felt much happier and calmer. She considered this to be the main reason for her being able to reduce her drinking.

In other cases, a seemingly negative event was considered to have been the key trigger to decreased drinking. One man (P432) described reducing his consumption when his business went into liquidation and he began working as a gardener. This meant that he had less money for alcohol, but he considered it more significant that his new employment was more satisfying and much less stressful. He commented,

*'I didn't realise at the time but a lot of that may well have been comfort drinking, and looking back, I mean, you never think you're living under stress. I suppose stress is a bit like depression, if you think you've got it, you haven't, but looking back I must have been under an awful lot of stress ...drinking the amount I was drinking then was certainly helping me to sleep at night'*.

A rather different perspective was provided by a female participant (P412), who was able to cut down following the death of her father. She accounted for this in terms of the nature of her father's illness, which was alcohol-related. She considered that this must have subconsciously affected her desire to drink and smoke. Whilst she had not previously felt sufficiently worried about her own health to consciously change her behaviour, she had lost a lot of her desire to drink, because of thinking *'that's what killed him in the first place... drink just reminds me of my dad and vice versa'*. This had led her to sometimes avoid situations that were likely to trigger thoughts about her bereavement. Her father's death had also led her to re-evaluate her life and the things that gave her pleasure.

## **6.5 Seeking change with and without professional help**

At wave four of the study in 2003, in-depth qualitative analysis was conducted to explore the experiences of those participants who were taking action to reduce their drinking. At this stage of the study, the Readiness to Change questionnaire was used to identify 36 participants who were

taking action to change their drinking. These participants were asked to discuss this process in depth. Twenty of the 36 had changed their drinking ‘naturally’ without professional intervention (the ‘self-directed change group’), whilst a further 16 had received some kind of professional help (the ‘professional help group’).

Analysis revealed that the professional help group differed from the self-directed change group in the extent to which they reported feeling ‘in control’ prior to seeking help. The feelings of many in the professional help group prior to seeking help were exemplified by P359 who felt, ‘*My drinking was getting out of hand, totally out of control*’. These feelings contrasted sharply with members of the self-directed change group who felt self-sufficient in their ability to control their drinking. As P615 stated, ‘*I don’t think we needed it (help). It was under our control*’.

The professional help group also described having many more drinking related problems than did the self-directed change group. P465, for example, had sought professional help because the interaction between his manic depression and drinking left him feeling ‘*physically and mentally at rock bottom*’. Neither group however was changing drinking because of health reasons per se, but due to the impact of their drinking on their social roles. For example: ‘*I try and spend more time with the kids, you know. I know the drink side does interfere with that really... Also you know it’s not really fair on my wife. She’s very good supportively to me, and I’m not really reciprocating*’ (P141, Self-Directed Change group). Similarly, another male participant described how he wanted to stop drinking, ‘*because of my health, and because I’ve got an eleven year old son and I want to see him grow up and be part of his life*’ (P127, Professional Help Group).

The professional help group also differed from the self-directed change group in terms of their psychological dependence on drinking, as measured by the Leeds Dependence Questionnaire, and differed in their unit level of drinking at the previous wave three interview in 2001 (see Table 17 below). The professional help group was found to be more dependent on drinking, and consumed more units of alcohol in 2001. However, this gap had diminished substantially by 2003.

**Table 17: Mean unit levels of drinking, by gender, in the week before interview in 2001 and 2003 and LDQ scores in 2001 and 2003 for the self-directed change group and the professional help group.**

		2001			2003		
		Units		LDQ score	Units		LDQ score
		Men	Women	All	Men	Women	All
Professional Help Group	n=	12	4	16	12	4	16
mean (sd.)		93 (86)	51 (34)	11.13 (9.6)	58 (91)	19 (16)	5.80 (6.8)
Self-Directed Change Group	n=	13	7	20	13	7	20
mean (sd.)		41 (35)	31 (24)	4.95 (3.7)	41(39)	24 (18)	4.20 (3.0)

One possible explanation for why the professional help group seemingly delayed seeking help for their drinking lies in their apparent alienation from sources of collaboration to change their drinking. The self-directed change group, who seemed to change at an earlier stage, described changing in *collaboration* with others, friends and partners, who had concurrently wanted to make a change to their own drinking. The following extract provides an example: *'We're very close, we go out every time together...so everything's down to a group decision with us.....we're all married and between the ages of 45 and 50 now, so that's got a lot to do with it....the group decision made it easier, us all deciding'* (P615).

The professional help group, on the other hand, described feeling alienated from collaboration prior to seeking help. The possibility that such alienation is one reason that change is delayed was supported by findings from a third group of people (n=24), again identified using the Readiness to Change questionnaire, who were 'contemplating' changing their drinking. These 'contemplators' predicated the success of future change on the availability of collaborators. For example, P771 thought that his ability to change his drinking in the future depended on the ability of his partner as well as himself to *'make a joint decision to try and reduce'*. In summary, those taking action to reduce their drinking can be considered to fall into two broad groups, according to whether they did so with or without professional help. Those who sought professional help tended to feel more 'out of control', and perceived themselves as less able to draw on the collaboration and support of others.

## 6.6 Case studies of those who have reduced drinking

### **Case study: P358 – female aged 63, abstinence following liver disease.**

Ten years ago, May was working as a shop manageress with up to thirty staff. She lived alone in a flat above the shop and had been in a relationship for almost a year, *'when we first met, we just sparked off each other you know it was just brilliant'*. Over the following 7 years, this relationship proved to be disastrous, as her partner became violent. He had introduced her to vodka and she recalled that as the violence escalated, so too did her drinking, it became of *'prime importance, sustenance, confidence, it kept me going when I wanted to just lie in bed and pull the covers over my head ...it meant everything to me. I lost my self esteem, I lost my teeth ...broken jaw, broken wrist, he broke my arm ...cracked my ribs'*.

This relationship not only impacted on her self esteem but also on her social life. Over the years, because no one liked her partner, May became isolated, *'and the only friend I had then was basically Paul (partner)'*. Later, when her partner was violent to her at her place of work, this led to the loss of her job. So, May moved home and found a job working for the minimum wage, remaining in the relationship with Paul. Eventually, in 2004, she decided that she had had enough, *'it took me a long while to firmly decide no, that was it, that was enough, I was never going to be harmed again'*. Throughout this difficult time, May was also trying to cope with the deteriorating health of her mother and was forced to let her go into a nursing home.

Over the decade, May also isolated herself from her children, *'I kept them at a distance, especially when I was drinking, way at arms length'*. However, just over two years ago, her health began to deteriorate and because of their concern for her well being, they persuaded her to move nearer to them, which she has found extremely difficult, *'I loathe where I live, I loathe being here because ... you can't walk out the door, everybody knows who you are'*. Shortly after moving, her mother had a stroke and died and May felt that she had to take on a new role that she wasn't ready for, *'I moved up into her shoes and they expect the same high standards that my mother would, but I'm not the same person, I'm not my mother'*. Due to her unhappiness, May continued to drink heavily and her health continued to deteriorate. She now has diagnoses of emphysema, osteoporosis, depression, fatty liver and a heart condition and has fallen three times in the past year, resulting in inpatient hospital stays. The condition of greatest concern to the medical practitioners was the severe liver damage from excessive alcohol use. May acknowledged that she drank for days without eating.

Drink has played a significant part in the last decade, particularly during the years she was experiencing violence, *'the more it happened the more I drank'*. Although she was drinking a lot at the beginning of the decade, this escalated over the years from around 200 to over 300 units per week. Once near her family, her alcohol use continued to remain high because of her unhappiness. Following each admission to hospital, May abstained from drinking for a few weeks and since her most recent visit, has continued to abstain for 6 weeks.

Looking back over her lifetime, May recalls that she grew up around drink as her family were publicans. Over the years, she has used alcohol to get through difficult times and the role of drink was to *'blot out things I didn't want to think about ...it gave me the confidence in a way to get up and get on with it'*. Despite feeling that she is not so uptight, she does find it hard to cope without alcohol, *'I do miss the drink very much ...it was my answer that solved everything'*. However, she feels that her personality is returning and has begun to assume her parental role again, *'now we're a family, we are a family, I'm mum again, they know I'm not drinking and they know I'm mum again'*. Furthermore, she has taken on her responsibility as a grand mother and been trusted with her grand children's care, *'and they love me and I love them ...that's another reason why I don't want to drink, I couldn't bear to lose that'*. Despite a difficult decade, May's hope for the next ten years is to *'enjoy them. I would like to stop off alcohol, I would like to go on a damn good holiday, I would like to make friends or join in a couple of societies ...I would like to have a bit more get up and go about me'*.

**Case study: P752 – male aged 46. Abstinence following a spiritual experience.**

Ten years ago, Jim had just started teaching in a college part-time. He used to buy a few cans at lunchtime to drink during the afternoon and smoked cannabis most days. Towards the weekends he would drink even more, and do different drugs, mainly opiates, sometimes cocaine. He felt resigned to this lifestyle, but *'totally unaware that I wasn't really doing anything with my life. Totally unaware that at one stage my wife was considering divorcing me'*. Jim and his wife had been married for about a year then, and had two children, but he didn't find time to spend with the children. He was drinking around 64 units per week and *'I wouldn't have said I was unhappy, drinking, because I wasn't. I really enjoyed it'*. He couldn't see any problem with it, although it had started to impact on his ability to work.

Jim recalled that his father was *'always drunk, all his life... you have this whole thing in the family where drinking and stuff is acceptable. You know, like father like son'*. In his childhood, *'there were a lot of fights and arguments ... because of alcohol'*, which ultimately led to his parents divorcing. Jim recalls that as soon as he was old enough, he would escape from witnessing the abuse of his mother and go out drinking himself. His drinking continued into adulthood and escalated. His brother had an accident when drunk and was left with a permanent disability, but is still drinking heavily, and considered to be alcohol dependent.

One day, eight years ago, Jim went to church with his wife. He hated it, and was verbally aggressive to the people there. A minister prayed and said that anyone who prayed with him would be saved. He prayed and *'absolutely nothing happened'*. He was furious and went outside, looked up at the sky and swore at God. The preacher then came out and called him back in, asking if he had accepted the Lord as his saviour. He went back in as the preacher had offered to pray for him, and *'boof, that was it. Everything went black. I thought 'what's going on here?' I just thought, I'm nowhere near myself ... I'm not in my own body. I was aware that I actually had a spirit'*. Jim felt God put his arm around him, and realised that God was real. *'I just realised he was real and as soon as I realised that, this heat filled me up from my toes right the way through my head. Whoosh! And obviously it was the Holy Spirit coming upon me'*.

He didn't change overnight, but gradually decreased and stopped using both alcohol and drugs over a period of 2-3 months and has been abstinent ever since. His main source of support in this process was Bible School and has now become a Bible Teacher himself. He was then able to go to college and took a teaching qualification. He didn't have a day off work in 12 months. *'Things did change because I'd got the Lord in my life, and because I was able to overcome addictions, because I was definitely addicted'*. Jim knows that any time he gets an urge to smoke or use substances he just goes and prays and the urge will leave him. He occasionally thinks *'oh, I could do with a glass of wine, but that soon passes'*. He knows he has to be abstinent because he couldn't be a moderate drinker.

Two years ago, Jim started studying for a religious diploma and began training to be a pastor. He now works as a minister for his church. In the past year, he has officiated at two funerals and a wedding. The first funeral was his father, who died after a long illness with cancer. He then officiated at the wedding of his mother who married her long-term partner. Finally, he buried an old friend, who had been a very heavy drinker, and who committed suicide. This was very difficult for Jim to do, but he felt it was important to do it for the friend's family.

Over the next decade, he has made his mind up that there won't be any more alcohol in his life. *'I've made my mind up to make a stand against that'*. Jim can't make firm plans for the future, because *'you never know where you're going to be called next'*, since God may call on him to work somewhere else, even in another country, and *'you don't have much choice in these matters'*. For this reason he chooses instead, *'to do what I can do where I am'*.

## **PART SIX SUMMARY**

Between 8–10% of the sample had actively sought help for their drinking at some point over the previous decade.

Those who sought help tended to drink heavily more frequently than other sample members.

Thirty-four members of the sample received treatment for alcohol-related problems over the ten-year period. The most common form of treatment was through a non-residential alcohol agency.

Those who sought and received treatment tended to be amongst the younger sample members. They also tended to be in the ‘very harmful drinking’ category at Wave One of the study.

The main reasons given for wanting to stop or reduce drinking were: settling down (responsibilities for family, new relationships, or ‘getting older’); wanting a life change; health; practicalities and changed circumstances.

Participants who cut down without professional help tended to comment that they did not need professional help, due to ‘strong will power’, or because they did not perceive themselves to have a sufficiently serious problem to require professional help.

## **PART SEVEN: STORIES OF CHANGE OVER TIME**

At the final wave of the project, qualitative interviews were conducted with each participant, in which they were asked to tell ‘the story’ of the last decade, during which time they had taken part in the research project<sup>62</sup>. Several types of stories were found to be commonly told by participants, including the following:

### **Main story types:**

Success stories

Tragic stories

‘Settling down’ stories

‘Stable content’ stories

Stories of ‘still searching’

Stories of surviving adversity

Stories of overcoming adversity

In the following section, some of the most common of these story types are described in more detail, namely: ‘tragic stories’, ‘success stories’, and ‘settling down’ stories<sup>63</sup>. Together, these represent some of the extremes of negative and positive experiences of this ten year period, amongst this sample.

### **Success stories**

Thirty participants told success stories at their final interview. These were defined as stories in which feature improvement more or less throughout the ten years – in which things may have been at a bad point 10 years ago, but have got ‘better and ‘better’. The success stories are about self awareness and self development. Individuals in this group enjoy happy, fulfilled lives. Occasional negative decade events have included bereavements, relationship endings, redundancies and health scares but in general, the group cope well and often turn these events into positive learning experiences or triggers for change. Employment and relationships seem to be major factors in this group. Over 75% have reduced their drinking over the decade and almost 75% are in long-term stable relationships.

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<sup>62</sup> See Appendix C for details of the interview guide.

<sup>63</sup> Analysis was carried out using a form of narrative analysis (see Lieblich et al., 1988). Space precludes full discussion of all story types in the current report.

### **Features of participants telling ‘success stories’ (in 2007)**

Gender: 24 male & 6 female

Relationship status: 22 in a relationship & 8 single

Drinking trajectory: 23 reduced, 1 increased, 4 stable and 2 unclear

Mentioned divorce: 7

Employment status: 24 employed, 4 retired and 2 unemployed

Mean age: 44.7 (range 34 – 65)

Mean unit consumption: 36.7 (range 0 – 132)

Several themes emerged from analysis of these accounts, as follows:

- Ambitious; high achiever
- Awareness of ageing
- Maturing; becoming responsible
- Creative, self discovery, self development
- Saved by ‘knights in shining armour’
- New paths alleviate stress
- Active lifestyle change

These are described in further detail below.

#### *Ambitious, high achiever (734, 370, 747, 793, 911<sup>64</sup>)*

For this group, new jobs have been a catalyst for progress. They are all motivated, driven hard workers and there is a general feeling of becoming more organised, structured and responsible than at previous points in their lives. They all aspire to be high achievers, whether through work status or material gain and are confident that they will continue to progress. All are able to recognise limiting factors in their lives that may hinder their progress. These factors include unrealistic ambitions, friends, partners and alcohol and they seem happy to leave these behind. For this group, drinking has been and largely continues to play a social role. Previous heavy drinking was very much influenced by work culture or community culture. Four of the five in this sub-category have reduced their drinking in order to progress, and the one that has increased his drinking has moved into a work culture of heavy drinking.

#### *Awareness of ageing (516, 591, 762)*

For this group, there is a general awareness of the ageing process and slowing down. All three talked of an increased attention to health and a desire to lead healthier lifestyles. All three show an

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<sup>64</sup> Numbers in brackets indicate participant identification numbers

interest in hobbies or outdoor social activities and have more time for themselves or others. There is a sense of becoming more responsible, calming down, taking personal responsibility and becoming less assuming. Two of the three in this group have experienced bereavements and the third has experienced a health scare, which may have been the trigger for increased age and health awareness. All three have reduced their drinking. Drinking has been associated with socialising, reward and pleasure.

*Maturing, becoming responsible (657, 189, 083, 497, 798, 584)*

For this group, there is a general feel of maturing, growing up and becoming more responsible/taking more control of their lives. For some there is a sense of growing personal responsibility and for others there appears to be a growing sense of social responsibility. There is a feeling of settling down, though not in the traditional 2.4 children way. This is about becoming more content with themselves and more relaxed and calm. Half of this group mentioned an awareness of risk factors, such as substance use, drink driving and offending and seem to be making a conscious effort to move away from these risks. All seem to have stable employment and have made steady work progress. The role of drinking in this group is mainly associated with having fun, enjoyment and socialising. However, over the decade, drinking has become less of a priority and less desirable. Four of the six have reduced their drinking, one has remained stable and the other's drinking trajectory is unclear.

*Creative, self discovery, self development (234, 215, 347, 483)*

This group all seem to have experienced turning points which have led them on a journey of self enquiry, self-awareness and self-development. These journeys have led to personal growth, strength, confidence and a taking control of their lives. They have been motivated to realise their potential and move forward. All four have either acquired new skills or had their skills recognised and are all creative types in various ways (practical, musical, inventing, poetry). There is an increasing sense of pride, happiness and fulfilment in all four stories and two mention enjoying a feeling of belonging. The role of drinking for three of the four was as a means of escaping (difficulties, pain, boredom/isolation). The current role of drinking is social and for enjoyment, relaxation and creativity. Two of this group have reduced their drinking, one has remained stable and the other has a fluctuating drinking pattern.

*Saved by 'knights in shining armour' (064, 472)*

Two stories fit into this group and have in common the idea that they have been rescued from an undesirable life by a man. These new relationships have given a new lease of life and triggered changes that have brought happiness and contentment. Both are women and have become happier and calmer within themselves. The stories include ideas of moving away and creating a better

quality of life. Previously, both drank in order to deal with their circumstances, whether that be to fit in, relieve stress or escape from unhappiness. For both, the role of drinking is now social, enjoyable and contributes to relaxation. One woman's drinking has reduced, whilst the other remains stable.

*New paths alleviate stress (007, 738, 145)*

In this group, these individuals have all chosen to take a new path relating to a change in employment circumstances. These changes have brought about a reduction in stress and thus feelings of being more relaxed and easy going, calmer/more tolerant and contented. There is a sense of stability in these stories and financial security/freedom. Despite a hint of health concerns in two, the general feeling is one of positivity, balance and making the most out of life. Previous drinking roles include stress/pain relief and work culture drinking, however, now, they all describe enjoying drinking and see it as serving a social purpose. All three in this group have reduced their drinking.

*Active lifestyle change (146, 002, 802, 284, 523)*

This group have all made active decisions to change their lifestyle, either as a means of getting out of a rut or to fulfil a need (e.g. for meaning, companionship, wealth etc). Four of the five in this group have moved in order to establish their new lifestyle and make a fresh start. In all five stories, there is a sense of achievement and reward for taking personal responsibility for the positive changes they've made. Health is mentioned in four of the five stories, either as a health scare, or a general desire to lead a healthier lifestyle. All five in this group are in relationships and have all reduced their drinking.

**'Tragic stories'**

Twenty-two participants told tragic stories. These are characterised by loss, isolation, deterioration and hopelessness. Individuals in this group are unhappy, lonely and unfulfilled, with little sense of purpose. This group have generally not experienced any positive events or high points in the last decade. Relationship breakdowns, loss of mothers (50%) and incapacity to work (mainly due to mental health difficulties) are major factors in this group. Only two people in this group are in a long term relationship, one of whom is unhappy in this relationship. The majority are single due to relationship breakdowns and the others have not had a relationship at all in the past decade.

### **Features of participants telling ‘tragic stories’ (in 2007)**

Gender: 20 male & 2 female

Relationship status: 20 single & 2 in a relationship

Drinking trajectory: 2 remained stable and high, 4 increased, 5 reduced and 11 fluctuated

Mentioned divorce: 9 divorced & a further 3 long-term relationship breakdowns, 10 did not mention divorce

Employment status: 15 unemployed, 6 employed & 1 retired

Mean age: 50.2 (range 33 – 66)

Mean unit consumption: 86 (range 0 – 294.5)

There are a number of themes running through these tragic stories, as follows:

- Primary themes: loss; social isolation; coping with mental health problems; life as unfair.
- Secondary themes: hopelessness; low self opinion; physical illness; routine.

These are described in further detail below.

#### *Loss*

This is possibly the most common theme within the tragic stories. The losses relate to two areas: employment and relationships. The employment losses are extremely prevalent, either through redundancy or an inability to work due to deteriorating physical or mental health. Some participants in this group talked about the loss/lack of a role or purpose in their lives. The relationship losses include the breakdown of intimate relationships, the loss of contact with children and the death of parents (mainly mothers) or friends. Around a quarter of this group identify their own drinking as being a major factor in losses.

#### *Social isolation*

This is a common theme running through these stories. For many, their situations, (often as a result of losses) have left them feeling socially isolated and sometimes socially excluded. This has led to an overwhelming sense of loneliness, being stuck on their own and for some, feelings of alienation. One or two have withdrawn themselves due to feelings of not coping with life.

#### *Coping with mental health issues*

Mental health issues can be identified in almost every story in this group. The participants talk of feeling stressed/under pressure, depressed and sometimes suicidal, anxious, paranoid, grieving. One mentions post traumatic stress disorder and another has a diagnosis of schizophrenia. There is a general sense of deteriorating mental health and for some, mental health issues are all encompassing, often resulting in social isolation and incapacity to work. Although some do not

mention specific mental health issues, they talk of a deep sense of unhappiness, emptiness and hollowness and many lack the motivation to make any changes and report a sense of helplessness.

#### *Life is unfair*

Some of this group put emphasis on being treated unfairly. These feelings range from being hard done by at work to feeling abused, harassed or victimised. The stories for which this features as the main theme give a sense of not being in control of what happens to them, being a victim. There are slight undertones of self pity. Individuals that have experienced these feelings of injustice or victimisation are resentful and some even bitter.

#### *Hopelessness*

In addition to one of the primary themes listed above, in almost every story there is an element of hopelessness and pessimism for the future. This feeling is often linked to feelings of emptiness, insecurity, helplessness, being trapped and having no purpose or role in life. For some, these feelings have resulted in careless/reckless behaviour with an expectation that life will continue to deteriorate and death may come early and may even be welcomed.

#### *Low self opinion*

A general sense of low self worth runs through these stories, though is not so evident in those that consider life itself to be unfair. Individuals in the tragic stories group talk about low self-esteem, self-blame and guilt, self loathing, regret and failure. For a few individuals, there is little insight into emotion and they present flattened affect.

#### *Physical illness*

As well as a multitude of mental health issues within the group, many individuals also suffer from physical health problems including: gout, stomach ulcers, epilepsy, IBS, thyroid problems, arthritis, cancer, liver disease, burst spleen, diabetes and heart attacks. Many of these illnesses are related to heavy drinking.

#### *Routine*

Although this does not apply to all stories in this group, some individuals seem to have developed a daily structure or routine around their drinking, which may replace the lack of any other external structure due to lack of employment or relationships. This routine is very rigid for some.

#### *The role of drinking within tragic stories*

Around half of this group have been drinking heavily on a regular/daily basis since their teens. Whereas the role of drinking in the success stories was mainly to do with socialising, pleasure and

relaxation, these purposes are only mentioned a handful of times in the tragic stories. Individuals in this group acknowledge that they drink either to deal with negative feelings, in order to function or because they have nothing else in their lives. Examples are shown below:

- Drinking to function: dependency, necessity, crutch, habit, part of life
- Drinking to fill a gap: something to do, for company, to fill a void
- Drinking to cope with feelings: take the edge off, block out, self-medicating, ease guilt, reduce anxiety and depression, for confidence, to anaesthetise, blank out

The mean unit consumption in this group was 86 per week, which constitutes heavy, harmful drinking four times higher than the recommended sensible guidelines for men.

### **‘Settling down’ stories**

Twenty-three participants told stories in which the predominant theme was of ‘settling down’. These were similar to the success stories, but are characterised by a story of change and taking on responsibilities. Classically, this is someone who has had quite a hedonistic and wild past (for example, partying / clubbing in their youth, drug-taking etc). They then reach an age at which this is no longer appropriate because of responsibilities (relationship, parenthood, career) and therefore stop doing it. Often found in participants in their thirties, but are sometimes older.

The settling down stories are generally about adjusting from a carefree, social and active lifestyle to a family focused lifestyle, typically including marriage and children. With the exception of one, individuals in this group happily make the settling down transition and accept the inevitable increasing responsibilities of family and work life. There is a general sense of maturing and progressing. All but two individuals in this group are in full time employment and those that are not, have given up work to look after children. 96% of the group are either married or in long term relationships and only 2 have previously been divorced. Lifestyle change has naturally led to a decline in drinking over the course of the study. Although 2 people reported that their drinking had remained stable, there were no reports of increases in consumption within the group.

#### **Features of participants telling ‘settling down’ stories (n 2007)**

**Gender:** 15 male & 8 female

**Relationship status:** 20 married, 2 in a long term relationships & 1 single

**Drinking trajectory:** 22 reduced and 1 remained stable

**Mentioned divorce:** 2 had been divorced

**Employment status:** 21 employed & 2 not available for work (housewife/mother)

**Mean age:** 39.3 (range 34 – 49)

**Mean unit consumption:** 33.5 (range 0 - 88)

There were several main themes within this group, the majority of which run throughout all of the settling down stories, as follows:

Hedonistic lifestyle

Settling down

Responsibilities & priorities

Maturation

Contentment

Loss or worry (as a secondary theme)

#### *Hedonistic lifestyle*

The settling down stories generally begin at a point in the individuals' lives when they have relatively few commitments or responsibilities. Some are living the 'student life'; others adhere to the 'work hard, play hard' attitude and for a few, socialising and heavy drinking is part of their culture, (e.g. life in the police force or in a band). All have active, (sometimes hectic) social lives with friends or colleagues and drink heavily and regularly, at pubs or clubs. Some of those not in relationships enjoy the single life or engage in flirting, flings and risky behaviour. This theme does not ring true for just one individual in the group who seems to be stuck in a rut at the start of the last decade, and, whose pub drinking is part of an established routine since the death of his father, rather than purely pleasure seeking, (see P904).

#### *Settling down*

All of these stories have a settling down element, which is a process that is triggered by some or all of the following: buying a home; establishing employment security; getting married and getting pregnant or having children. Some make an active choice to make the transition to family life and for others it is a lifestyle that they simply adapt to as life events occur and changes are accommodated. With the exception of one (P904), it is a process that is happily accepted and adjusted to and one that is being undertaken by those around them too.

#### *Responsibilities and priorities*

Amongst this group, increases in responsibilities and obligations are mentioned frequently. These are mostly to do with family responsibilities but in order to support the family, work and finances are also important and promotions or work progress attract greater commitments. Individuals tend to naturally move towards stability and security and within the group, the priority is clearly family focused, (again with the exception of one – P904).

#### *Maturation*

Although the majority of individuals do not consider themselves to have changed as a person over the last decade, many acknowledge that they have undergone a period of maturation. They talk of growing up, becoming more responsible and realistic, growing in confidence and esteem, becoming more socially aware and less selfish, more sensible and sensitive and developing personally. This maturity occurs in preparation for, or as a result of parenthood.

#### *Contentment*

For the majority of this group, the settling down process has led to increased satisfaction. Although most were happy before their family commitments, the lifestyle change has led to feelings of contentment and pride; raised self esteem and a positive outlook. It is a lifestyle they have embraced and one that proves rewarding.

#### *Loss or worry*

Although the general feeling of these stories is in the most part positive, individuals have experienced difficulties. These include the death of a parent; the death of a child; redundancies; relationship breakdowns and debt concerns. These issues have mainly occurred prior to the settling down period and have been accepted by individuals and dealt with constructively enabling them to move forward with their lives.

#### *The role of drinking in settling down stories*

This group started drinking between the ages of 14 and 18. Several talked about coming from heavy drinking backgrounds/cultures where consuming alcohol to excess was considered part of the norm. Two individuals mentioned being given alcohol by their parents. Others began drinking due to peer pressure or to fit in.

As with the success stories, the most common roles attributed to drinking was for social and enjoyment purposes, (including having fun and liking the taste). A couple talked about the association of drinking with enhancing meals and celebrating. However, as family and work responsibilities increased, individuals increasingly found that alcohol helped them to relax, chill out and unwind.

For some, alcohol had become part of their life, either because it was a factor in their work culture or because it had become a habitual part of daily life (though not problematic).

A handful of individuals used alcohol to ease stress, slow down or occasionally as an escape, though there was not a sense of reliance on drinking. Others suggested that drinking helped to give them social confidence or to fit in.

The mean unit consumption per week for this group was 33.5, which, although significantly more than the recommended sensible guidelines for both men and women, does not constitute heavy, harmful drinking. The mean unit consumption for women was 19, just 5 units over the recommended sensible level. For men, the mean unit consumption was 42, twice the recommended sensible level. These differences may reflect differences in childcare responsibilities. The one person who did not reduce his consumption over the decade was the one person in the group not to have had children.

## **Discussion**

The story types outlined above represent a sub-section of stories told at the final interview stage by participants, and represent some particular extremes of story types: those characterised by success or tragedy, or by maturation and 'settling down'. The main purpose of the present section has been to explore what sense particular sub-groups of participants have made of their experiences over the past decade. One notable absence from these stories is reference to experiences of formal treatment, and it is important to note that 'treatment stories' do not form the focus of this section of the report. References to experiences of treatment were disappointingly rare amongst the BUHD sample, and where they do occur, they are more likely to be found within the sub-type, 'stories of overcoming adversity'. This group of stories is the subject of continuing analysis, to be written up at a later date.

Having said this, there may be particular reasons why these three particular groups of participants do not include 'treatment stories' in their narratives of the last decade, and this relates to the role of drinking in their lives. Those telling 'success stories' appear able to decrease their drinking without use of formal treatment services, because of having a strong sense of purpose and well-defined goals (the desire for career success, for example). Similarly, those telling 'settling down stories' appear able to decrease drinking without professional help, since these participants tend to be amongst the younger age groups, and to associate drinking with a youthful social life. Once their life circumstances change, they report being able to re-assess the role of drinking in their lives and to cut down in order to take on new responsibilities. For the third group, those telling 'tragic stories', the opposite is the case. Here, drinking appears to provide structure and meaning to lives that are otherwise characterised by loss and social isolation. A notable feature of this group is the extent of mental health difficulties and relationship breakdown. This group would appear to be most in need to accessing treatment services, but are perhaps unlikely to identify this themselves, since they perceive alcohol as being one of the few sources of structure, support and socialising in their lives.

Whilst further analysis of these stories, and of the other story types, is needed, this preliminary analysis highlights how the possibility of change in drinking is associated, for these participants, with the meanings given to drinking, and how these relate to other sources of motivation and meaning in the participants' lives, be it a career and material success, or (more commonly) social networks, relationships and family responsibilities.

#### **SECTION SEVEN SUMMARY**

Participants' stories of the last decade show considerable diversity. Some of the main story types are: success stories, tragedies, and settling down stories

Around 1 in 9 participants told success stories. These were stories characterised by success and personal happiness. These participants tended to be in paid employment, to have decreased drinking over the past ten years, and to be in a long-term relationship.

Around 1 in 12 participants told tragic stories. Individuals in this group were unhappy, lonely and unfulfilled, with little sense of purpose. Relationship breakdowns, loss of mothers (50%) and incapacity to work (mainly due to mental health difficulties) were major factors in this group. Mean unit consumption was much higher in this group than the other two, and tended to fluctuate over the decade.

Around 1 in 11 participants told stories of 'settling down'. These were characterised by moving from a hedonistic lifestyle at the start of the decade, to a more settled lifestyle by the end of the decade, and the taking on of responsibilities. Nearly all these participants were in long-term relationships, and had reduced their drinking.

## **PART EIGHT: INTERVIEWS WITH RELATIVES OF PARTICIPANTS**

In addition to interviews with participants, a sub-sample of participants' close relatives was also interviewed at waves 1, 2 & 3. Each heavy drinking participant was asked at the conclusion of the wave one interview whether he or she was willing to nominate a close family member who knew the participant sufficiently well to be able to provide a further perspective on his or her heavy drinking. Ninety-five (19%) did so. Whilst the relatively low proportion of family members who took part, along with sample attrition over time, means that these findings need to be treated with some caution, they do appear to offer some potentially valuable insights into the experiences of family members of heavy drinkers.

The majority of family members nominated were female partners/wives of male participants, and only a small minority were men. Hence family members were approached selectively in order to maximise diversity in terms of relationship between family member and heavy drinker. Sixty-five nominated family members were approached in order to achieve the desired total of 50 interviews (a 77% response rate). The composition of the sample in terms of the relationships of family members to heavy drinkers is shown in Table 18. Ages ranged from 16 to 71 with a mean of 35.9 years (4 were teenagers, 15 in their twenties, 12 thirties, 12 forties, 5 fifties, 1 sixties and 1 seventies). They had known their heavy drinking relatives for an average of 15.8 years (range from 1 to 43 years). Thirty-six of the 50 were currently living with their heavy drinking relatives and had done so for an average of 13.0 years (range from 9 months to 40 years).

**Table 18: Relationship of participating family members to their heavy drinking relatives**

Wives	15
Female partners (incl. 1 lesbian)	13
Male partners (incl. 1 gay)	6
Daughters	6
Son	1
Sisters	3
Brothers	3
Mothers	2
Father-in-law	1
Total	50

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Like participant interviews the interviews with family members were divided into a structured part, consisting of the administration of a number of standard questionnaires, and a part that took the form of a relatively open, semi-structured interview. There were three standard questionnaires: (1) the perceived benefits and drawbacks of heavy drinking, (2) readiness to change drinking, and (3) the coping with a relative's drinking questionnaire<sup>65</sup>.

In summary the results were as follows. First, family members, with some exceptions, mostly acknowledged the benefits that their relatives obtained from their comparatively heavy drinking, particularly in terms of the association of drinking with socialising, fun and relaxation. These are things that on the whole family members did not wish to deprive their relatives of. Most were clear that they did not want their relatives to stop drinking altogether. Many would have liked their relatives to moderate their drinking, but the level of their readiness for their relatives to change their drinking was no greater than (in fact slightly less than) the average level of the drinkers' own readiness to change their drinking. The average levels of coping with their relatives' drinking (engaged in trying to do something about it, tolerating it, or withdrawing from the drinker as a result of it), were very significantly below those shown by family members of relatives with identified drinking problems (see Table 19).

**Table 19: Coping questionnaire (CQ) scores of close family members of untreated heavy drinkers compared to those of identified problem substance users**

	<i>Family members</i>		
	<i>Of untreated heavy drinkers (N = 50)</i>	<i>Volunteering for research on problem drinking and the family<sup>1</sup> (N = 60)</i>	<i>Seeking help in primary care on account of problem substance use in the family<sup>2</sup> (N = 35)</i>
CQ Score			
Engaged	8.4 (10.9)	18.4 (9.2)	27.3 (8.2)
Tolerant	4.6 (5.8)	9.0 (5.3)	13.4 (5.5)
Withdrawal	8.2 (4.2)	12.4 (5.1)	10.8 (4.9)
Total	18.8 (20.1)	38.3 (13.7)	51.7 (13.3)

<sup>1</sup>Orford *et al.* (2001). <sup>2</sup>Copello *et al.* (2000b).

<sup>65</sup> Please see Appendix C for details of the interview content.

At the same time, there was other evidence in the present results suggesting a more mixed view on the part of family members. On average they recognised less benefit from the heavy drinkers' drinking than did the latter themselves, reflected in their significantly lower benefits-drawbacks balance score, and particularly their lower average benefits score (see Table 20). What characterised the sample most of all was its diversity of response. Readiness for their relatives to change drinking spanned the whole spectrum from those who, on their relatives' behalf, were extremely 'contemplative' of their relatives changing their drinking. Similarly, responses to the coping questionnaire, although on average low, included many who had been adopting ways of coping familiar to those who work with families and family members in clinical settings. Analysis of the open-ended accounts given by family members clarified the statistical findings since it became clear that the range of positions adopted was very wide indeed. There were those who convincingly put the view that their relatives' drinking, very heavy though it might be by the project's definition, constituted an unmixed benefit. Others, equally convincingly, described their relatives' drinking as an unmitigated disaster. Perhaps of greatest interest is the fact that the majority of accounts lay somewhere in between these two extremes.

**Table 20: The benefits and drawbacks of heavy drinkers' drinking, according to heavy drinkers and family**

Members			
	<i>Benefits score</i>	<i>Drawbacks score</i>	<i>Benefits minus drawbacks</i>
	<i>mean (s.d.)</i>	<i>mean (s.d.)</i>	<i>mean (s.d.)</i>
Heavy drinkers	17.4	9.7	+7.7
(N = 50)	(7.1)	(6.1)	(8.7)
Family members	12.8	8.3	+4.5
(N = 50)	(6.4)	(7.2)	(9.3)
<i>t</i> (related)	3.86	1.10	2.36
	p<0.001 n.s. p<0.05		

Significant correlations between variables in the perceived benefits/drawbacks, coping and readiness to change domains were consistent with the idea of a spectrum of family members ranging from those who perceived no or few drawbacks, did little coping, and were precontemplative for their relatives, to those who perceived relatively many drawbacks, did more

coping, and wished their relatives to change their drinking. On the whole there was little support for the idea that family members' positions on this spectrum could be predicted from a knowledge of the extent of their relatives' or their own drinking. A measure of relatives' drinking quantity correlated negatively with family members' benefits-drawbacks balance, and a measure of relatives' drinking volume correlated with family members' 'readiness to change', but neither correlation was more than moderate in size. Of interest is the finding that total coping score correlated, not with measures of relatives' drinking but only, negatively, with a measure of family members' own drinking volume. The latter correlation was, however, small in size and only marginally significant. This set of findings indicates that there is unlikely to be a simple relationship between the extent of a person's heavy drinking and the position towards that drinking adopted by close family members.

Some insight into this complexity is offered by the qualitative analysis. This showed that some family members reach a position where they recognise that the benefits/drawbacks balance of a relative's drinking has tipped towards the drawbacks, there is a clearly stated wish for the relative to moderate drinking, and coping efforts towards that end are adopted. However, the qualitative analysis also drew attention to factors which may moderate the relationship between heavy-drinking related harm, and the adoption of a clear position advocating drinking change on the part of an affected family member. These moderating factors, which might be thought of as elements of family members' experiences which stand in the way of a clear recognition of the need for change, include (i) mitigating factors (i.e. 'my family member's drinking is not a problem because ...'), (ii) recognition that there are important others who support their relatives' continued heavy drinking, (iii) the wish not to be unreasonably intolerant, (iv) a recognition of the considerable benefits which relatives are thought to derive from their drinking, and (v) sometimes the family member's own drinking which may itself be heavy.

We attempted to follow up those family members again at wave two and for a third time at wave three. Maintaining contact with family members was even more difficult than keeping contact with drinking participants. Attrition occurred for a number of reasons:

- loss of contact with the heavy drinking participant (in which case no attempt was made to re-interview the family member);
- divorce or separation or otherwise loss of contact between the heavy drinker and family member;
- family members declining to take part at either wave two or 3;
- the death of the family member (2 cases).

Nevertheless, the reduced sample of 25 family members interviewed on three separate occasions at two-yearly intervals provided a rare opportunity to understand heavy drinking from family members' perspectives.

In summary the findings of the family member follow-ups were as follows.

#### **PART EIGHT: SUMMARY**

A wide range of positions towards their relatives' heavy drinking continued to be evident over time. Whilst sample attrition over time means that these findings need to be treated with some caution, they do appear to offer some potentially valuable insights into the experiences of family members of heavy drinkers.

The downsides to relatives' drinking were widely recognised and a minority continued to see the drinking as very problematic. The benefits of relatives' heavy drinking were also widely recognised. A minority consistently saw their relatives' heavy drinking as benign, and a number of others came to see drinking positively as it reduced over time. The largest group continued to be ambivalent.

Family members as a group became more positive about the drinking over time than did their heavy drinking relatives, and became less inclined than their relatives to desire change. Acceptance that drinking was already less than it once was, and sometimes family members' own heavy drinking, were amongst the factors operating to allow family members to preserve a positive view.

Close family members are often caught in a complex set of dilemmas about what position to take in relation to their relatives' heavy drinking. For a number of understandable reasons, they take a more or less benign view of their relatives' heavy drinking.

## CONCLUSIONS

The Birmingham Untreated Heavy Drinkers research project has provided a rare opportunity to follow a relatively large group of heavy drinkers over an extended time period, and to analyse the degree of continuity and change in drinking, related behaviours, and life circumstances amongst this group. Over this ten-year period, concerns over the individual and social effects of heavy drinking have also increased in the UK. These have been the impetus behind a range of policy developments, most notably the development of the Alcohol Harm Reduction Strategy for England (Cabinet Office, 2004). In this light, it is hoped that this research project will provide a rich and detailed source of information for those wanting to further consider the motivations, circumstances and needs of the many chronic heavy drinkers who do not reach the attention of alcohol treatment services.

The findings should be interpreted with some caution, for sampling-related reasons. As discussed in the introductory sections of this report, one of the real challenges when carrying out longitudinal research is to retain as many of the original sample as possible. This is particularly important given that those who are more likely to be ‘lost’ over time are also those most likely to be leading the least stable lives, or to have the most health problems. Despite strenuous efforts by the research team, 48% of the original sample did not take part in the final interview in 2007. Whilst the research team is proud to have retained over 50% of the sample, any discussion of the findings needs to take into account the fact that those who did complete the study differed on certain variables from those who did not take part in the final interview. In particular, analysis shows that this latter group tended to drink more heavily and to score more highly on a range of measures of drinking-related ‘social harms’ than the final retained sample. It is also extremely likely that some of those who cannot be traced by the research team will have died over the intervening years. Thus, as with many longitudinal studies, the findings need to be considered to represent a particular subsection of the population of heavy drinkers – those who have sufficiently steady lives and motivation to take part in interviews at two-yearly intervals over the course of ten years.

Levels and patterns of drinking over time have been very diverse in this sample. Amongst the more optimistic results are the finding that some people who have been drinking at hazardous or harmful levels over an extended period of their lives are able to reduce their drinking and maintain this reduction over time. They often made changes in their drinking in response to changes in circumstances and relationships. The qualitative ‘narratives’ told by participants at the end of the research project also suggest that participants view the main reasons for changing their drinking as being related to their intimate and caring relationships, to moving to a different life stage, or to maturing and taking on responsibilities. Many of those who reduced their drinking did so without

professional help and support. This was particularly the case for older participants, who were in professional occupations and in relationships. The minority of participants who did receive professional treatment tended to be in the younger age group, to have been drinking at particularly high levels at the start of the study, and to have been more alcohol dependent than other sample members.

Nonetheless, despite the evidence that some people are able to make significant changes in their drinking over time, 44% of men and 42% of women were still drinking heavily at ten-year follow up. Sample members have also continued, on average, to have relatively high rates of smoking, illicit drug use, and relatively poor physical and mental health. Furthermore, there was a significant decline in the general and physical health of the sample over the ten years. This could be due to alcohol-related harm, and if so, could have implications for interventions. This finding needs to be interpreted with a degree of caution, since some decline in general and physical health over time is to be expected in the general population. Nonetheless, we do know that, compared to the general population, the sample has poorer self-reported physical health for all age groups, and poorer mental health for those in early to middle adulthood.

Participants also reported a number of incidents of behaviours likely to be harmful to themselves or to others. Violent incidents after drinking are known to be associated with age and drinking pattern, with young binge drinkers (aged 18-24 years old) particularly likely to engage in crime or violent acts after drinking (Matthews and Richardson, 2005). The BUHD sample, being aged 25-55 at the start of the study, might be expected not to have such high rates of aggressive or violent behaviour as young people, and indeed, involvement in acts of aggression or violence decreased over time amongst the BUHD sample. Nonetheless, even at the end of the study, when the sample was aged 35-65, almost a quarter of the sample reported being inappropriately aggressive after drinking during the past year, whilst 1 in 9 had been involved in at least one violent argument or fight. Whilst it is not possible to state with any certainty how this compares to the level of such incidents amongst the non-heavy drinking population, the frequency of violent arguments and fights appears to be relatively high, given the age of the sample, and is likely to be linked to hospital attendance.

Of most concern is a sub-group of participants - 28% of men and 23% of women - who continued to drink at harmful levels at *every interview stage* throughout the ten year period. These chronic heavy drinkers are most likely to drink at home, often alone. However, drinking is also often an important aspect of the social fabric, structure and pleasure of their daily lives, and the perceived benefits of drinking may therefore be considered by this group to outweigh the drawbacks. This group may also be particularly resistant to professional intervention. Since use of hospital services

is much higher than amongst the general population, this may indicate one potential point of intervention for this group.

There are also a number of findings relating to use of health services and to treatment for alcohol-related problems. In particular, the study has found that few participants entered treatment services for alcohol-related problems. This seems to support evidence of the Alcohol Needs Assessment Research Project (ANARP, 2005), that few heavy drinkers access treatment. The BUHD sample members do, however, experience relatively poor health, but visit their GP at around the same rate as the general population. Amongst those heavy drinkers who do see their GP, less than a third discuss their drinking. GPs were more likely to make a comment about drinking to those sample members who were amongst the heavier drinkers. This also appears to support the findings of the ANARP study (2005), which found 'extremely low levels of formal identification, treatment and referral of patients with alcohol use disorders by GPs' (p.3). Of the small group of BUHD participants who did discuss their drinking with their GP, less than a quarter are offered treatment. The authors of the ANARP study also refer to qualitative research which suggests two main reasons for non-referral: difficulties in access; and patient preference not to be referred. From the BUHD study, it is not possible to comment directly on the first reason given by the ANARP authors, since the focus here was on the patients rather than GPs experiences and views. However, our data suggest that access to formal treatment services may be (understandably) easier for the more extreme heavy drinkers, since a correlation was found in the BUHD study between level of alcohol consumption and being offered treatment. On the second factor, there is some evidence of people declining the offer of a referral, with around half of those offered a treatment referral declining the offer (see Table 10). However, many heavy drinkers in the BUHD sample were not offered treatment.

Another potential point of intervention is secondary health care settings. This is particularly worth highlighting since the BUHD sample use both inpatient and Accident & Emergency services at much higher rates than the general population. Only a small minority had discussed their drinking with hospital staff, and this may suggest a need for screening and brief intervention work in hospital departments. Recent research by Crawford and colleagues (2004) found that screening and referral by A&E staff reduced future A&E attendances by heavy drinkers, so more brief interventions centred in A&E, in addition to primary care, may also be indicated.

This report has presented a summary of some of the main findings from the project. However, it can only provide an overview of the main findings. Interested readers are directed to previous project reports and to academic papers to supplement this overview. Furthermore, as indicated in section 2, this work is ongoing and further work will be carried out using: statistical modelling;

examination of clusters of participants; and qualitative analysis of participants' narratives. Nonetheless, it is hoped that the report has been successful in indicating some of the main trends seen in the Birmingham sample, and particularly in highlighting the importance of the social context and life events in both maintaining and creating the possibilities for change in heavy drinking.

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## **APPENDIX A: DETAILS OF RECRUITMENT PROCEDURES**

Census data (OPCS 1991) were used to identify percentages of males and females in the West Midlands population according to age group (25-34; 35-44 and 45-54), ethnic origin (white; black; Asian and other) and current main activity (employed; unemployed and inactive). In recognition of the greater number of heavy drinking males in the population, the original research proposal set a desired ratio of 3:1 males to females for the composition of the sample. Consequently, percentages derived from the census data were applied to total figures of 375 males and 125 females to compute targets by age and current main activity.

Composition percentages for ethnic groups derived from the census data were combined with data on numbers of men in the West Midlands drinking more than twice a week in each ethnic group as reported by Cochrane and Bal (1990) and Cochrane and Howell (1995). Data were not available on the drinking patterns of women of different ethnic groups, so the targets were set at the 3:1 ratio, with an expectation that lower levels of female participants from minority ethnic groups would be recruited.

Exact targets were not set for socio-economic groups, but were approximated on the basis of a relatively even spread across groups I, II, III non-manual, III manual, IV and V and also some representation from the remaining groups: armed forces, government scheme, retired and other inactive. Recruitment activity was also directed to include as wide a geographical spread of the West Midlands area as possible, in order to minimise bias of potential participants. The pre-set target figures and the composition of the final sample of 500 participants are displayed in Table A1.

**Table A1: Proportions of men and women by age group, employment status and ethnic group**

		<b>Men</b> (n = 372, target = 375)		<b>Women</b> (n = 128, target = 125)		<b>Total</b> (n = 500)	
		<b>N</b>	<b>%</b>	<b>n</b>	<b>%</b>	<b>n</b>	<b>%</b>
<b>Age group at entry to study</b>							
<b>25-34</b>	<b>Recruited</b>	<b>157</b>	<b>42.2</b>	<b>62</b>	<b>48.4</b>	<b>219</b>	<b>43.8</b>
	Target	159	42.4	55	44.0	218	43.6
<b>35-44</b>	<b>Recruited</b>	<b>120</b>	<b>32.3</b>	<b>34</b>	<b>26.6</b>	<b>154</b>	<b>30.8</b>
	Target	126	33.6	55	44.0	174	24.8
<b>45-55</b>	<b>Recruited</b>	<b>95</b>	<b>25.5</b>	<b>32</b>	<b>25.0</b>	<b>127</b>	<b>25.4</b>
	Target	90	24.0	15	12.0	108	21.6
<b>Employment status</b>							
<b>Employed</b>							
	<b>Recruited</b>	<b>214</b>	<b>57.5</b>	<b>73</b>	<b>57.0</b>	<b>287</b>	<b>57.4</b>
	Target	290	77.4	97	77.6	387	77.4
<b>Unemployed</b>							
	<b>Recruited</b>	<b>117</b>	<b>31.5</b>	<b>25</b>	<b>19.5</b>	<b>142</b>	<b>28.4</b>
	Target	38	10.1	13	10.4	51	10.2
<b>Inactive</b>							
	<b>Recruited</b>	<b>41</b>	<b>11.0</b>	<b>30</b>	<b>23.5</b>	<b>71</b>	<b>14.2</b>
	Target	47	12.5	15	12.0	62	12.4
<b>Ethnic group</b>							
<b>White</b>							
	<b>Recruited</b>	<b>342</b>	<b>91.9</b>	<b>112</b>	<b>87.5</b>	<b>454</b>	<b>91.0</b>
	Target	334	89.1	111	88.8	445	89.0
<b>Black</b>							
	<b>Recruited</b>	<b>8</b>	<b>2.2</b>	<b>12</b>	<b>9.4</b>	<b>20</b>	<b>4.0</b>
	Target	8	2.1	3	2.4	11	2.2
<b>Asian</b>							
	<b>Recruited</b>	<b>18</b>	<b>4.8</b>	<b>1</b>	<b>0.8</b>	<b>19</b>	<b>4.0</b>
	Target	29	7.7	10	8.0	39	7.8
<b>Other</b>							
	<b>Recruited</b>	<b>4</b>	<b>1.1</b>	<b>3</b>	<b>2.3</b>	<b>7</b>	<b>1.0</b>
	Target	4	1.1	1	0.8	5	1.0

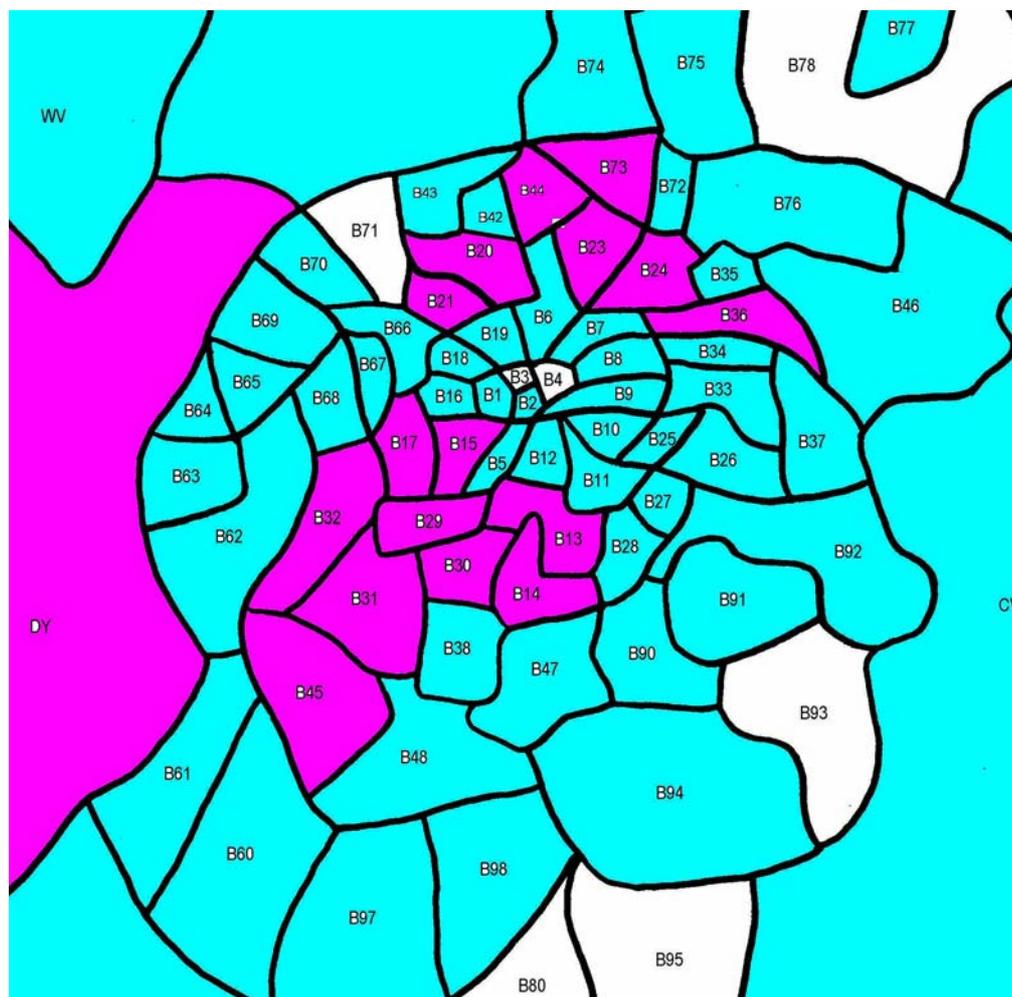
**Table A2: Proportions of participants recruited by each strategy type**

Strategy	Males (372)		Females (128)		Total (500)	
	n	%	n	%	n	%
Newspapers (local newspapers & newspaper supplements)	37	10	15	12	52	10
Advertisements (placed in newsagents, off licences & village stores)	55	15	14	11	69	14
Bus advertisements ('Drink Like a Fish' advert placed on the back of buses)	63	17	27	21	90	18
Leaflets (handed out in city centre, pubs, fairs, markets, car boot sales)	24	6	5	4	29	6
Letters, mainly delivered door to door	43	12	12	9	55	11
Posters (displayed in pubs, shops, dental surgeries, work sites etc.)	7	2	2	2	9	2
Snowballing (word of mouth)	80	21	32	25	112	22
Postcards (Freepost cards for easy completion and return, distributed to outlets)	35	10	14	10	49	10
Business cards (small advert affixed to back of card, distributed during recruitment)	5	1	1	1	6	1
Other means (e.g. early newspaper articles)	23	6	6	5	29	6

**Geographical distribution**

Figure A1 shows the distribution of participants recruited from the postal code areas throughout the West Midlands Metropolitan County Area. This information was used in order to achieve a balance of participants from deprived and affluent areas and to avoid potential bias. Figure A1 shows that participants were recruited from areas throughout the region, with the vast majority of postal code districts represented.

**Figure A1: Geographical distribution of participants by postal code district**



Key	
	No participants
	10+ participants
	<10 participants

**Notes**

1. WV (Wolverhampton); WS (Walsall); CV (Coventry); DY (Dudley); WR (Worcestershire) indicate numbers of participants for the whole area.
2. Areas B are within Birmingham city and surrounding areas, including: Solihull; Sutton Coldfield; Smethwick; West Bromwich; Alvechurch; Bromsgrove and Redditch, which have varying levels of deprivation and density of population.

**Table A3: Demographic characteristics of participants recruited at Wave One**

<i>Variable</i>	<i>Frequency</i>
<i>Gender</i>	
Male	23
Female	10
<i>Age group at wave one</i>	
25-34	14
35-44	12
45-54	07
<i>Socio-economic group at wave one</i>	
Professional	2
Intermediate	7
Skilled non-manual	4
Skilled manual	2
Semi-skilled	12
Unskilled	5
Not coded	1
<i>Relationship status at wave one</i>	
Single	8
Relationship - living apart	4
Co-habiting/married	10
Separated	10
Widowed	1
<i>Unit consumption at wave one</i>	
Abstinent	1
Heavy	14
Very heavy	18

**APPENDIX B: ADDITIONAL FIGURES AND TABLES**

**Table B1: Unit consumption for the seven days prior to interview 1997-2007**

	1997			1999			2001			2003			2005			2007		
	M	F	All															
<b>Number</b>	184	75	259	184	75	259	184	75	259	184	75	259	184	75	259	184	75	259
<b>Mean</b>	88.5	59.0	80.0	77.9	52.2	70.5	77.6	47.1	68.8	73.7	43.7	65.0	68.8	42.8	61.3	56.1	36.3	50.4
<b>SD</b>	49.2	42.1	49.1	63.3	46.9	60.1	66.1	32.8	60.0	65.7	35.0	60.0	62.4	38.0	57.6	53.5	38.9	50.4
<b>Minimum</b>	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Maximum</b>	328	319	328	338	308	338	360	173	360	415	156	415	408	189	408	301	228	301

**Table B2: Frequency (percentage) of participants allocated to drinking volume groups, based on units consumed in week before interview 1997-2007**

n =	1997			1999			2001			2003			2005			2007		
	M 184	F 75	All 259	M 184	F 75	All 259	M 184	F 75	All 259	M 184	F 75	All 259	M 184	F 75	All 259	M 184	F 75	All 259
<b>Abstinent</b> (0)	2 (1%)	0	2 (1%)	12 (7%)	2 (3%)	14 (5%)	15 (8%)	3 (4%)	18 (7%)	16 (9%)	7 (9%)	23 (9%)	16 (9%)	4 (5%)	20 (8%)	20 (11%)	8 (11%)	28 (11%)
<b>Sensible</b> (1 to 14/21)	3 (2%)	0	3 (1%)	16 (9%)	8 (11%)	24 (9%)	13 (7%)	10 (13%)	23 (9%)	14 (8%)	7 (9%)	21 (8%)	17 (9%)	18 (24%)	35 (14%)	32 (17%)	12 (16%)	44 (17%)
<b>Hazardous</b> 15/22 - 34/49	22 (12%)	12 (16%)	34 (13%)	36 (20%)	21 (28%)	57 (22%)	42 (23%)	13 (44%)	55 (21%)	46 (25%)	20 (27%)	66 (26%)	46 (25%)	14 (19%)	60 (23%)	51 (28%)	23 (31%)	74 (29%)
<b>Heavy</b> 35/50 – 69/99	100 (54%)	49 (65%)	149 (58%)	73 (40%)	29 (39%)	102 (39%)	68 (37%)	33 (44%)	101 (39%)	65 (35%)	29 (39%)	94 (36%)	66 (36%)	24 (32%)	90 (35%)	54 (29%)	28 (37%)	82 (32%)
<b>Very heavy</b> 70/100+	57 (31%)	14 (19%)	71 (27%)	47 (26%)	15 (20%)	62 (24%)	46 (25%)	16 (21%)	62 (24%)	43 (23%)	12 (16%)	55 (21%)	39 (21%)	15 (20%)	54 (20%)	27 (15%)	4 (5%)	31 (12%)

**Table B3: Number of days drinking alcohol at or above 7 units for women and 10 units for men in previous 7 days 1997-2007**

	1997			1999			2001			2003			2005			2007		
	M	F	All															
<b>Number</b>	184	75	259	184	75	259	184	75	259	184	75	259	184	75	259	184	75	259
<b>Mean</b>	3.8	2.4	3.7	3.2	2.7	3.1	3.3	2.7	3.1	3.0	2.7	2.9	2.9	2.5	2.8	2.5	1.9	2.3
<b>SD</b>	2.0	1.9	2.0	2.3	2.2	2.3	2.5	2.2	2.5	2.4	2.4	2.4	2.4	2.5	2.4	2.4	2.1	2.4
<b>Minimum</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Maximum</b>	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7

**Table B4: Number of days drinking alcohol at or above 14 units for women and 20 units for men in previous 7 days 1997-2007**

	1997			1999			2001			2003			2005			2007		
	M	F	All															
<b>Number</b>	184	75	259	184	75	259	184	75	259	184	75	259	184	75	259	184	75	259
<b>Mean</b>	1.5	1.1	1.4	1.4	1.1	1.3	1.4	1.0	1.3	1.2	0.9	1.1	1.0	1.0	1.0	0.8	1.7	0.7
<b>SD</b>	1.8	1.5	1.7	1.8	1.7	1.8	2.0	1.6	1.9	1.9	1.6	1.8	1.8	1.7	1.8	1.7	1.5	1
<b>Minimum</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Maximum</b>	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7

**Table B5: Number of days drinking alcohol at or above 7 units for women and 10 units for men in previous year 1997-2007**

	1997			1999			2001			2003			2005			2007		
	M	F	All															
<b>Number</b>	184	75	259	184	75	259	184	75	259	184	75	259	184	75	259	184	75	259
<b>Mean</b>	194.7	180.7	190.7	166.4	147.8	161.0	175.3	154.4	169.2	153.4	143.6	150.6	146.6	140.2	144.8	134.1	117.7	129.3
<b>SD</b>	104.8	99.4	103.3	118.6	126.8	121.1	124.8	117.4	122.9	121.1	119.6	120.5	124.0	133.8	126.7	126.4	128.7	127.0
<b>Minimum</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Maximum</b>	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365

**Table B6: Number of days drinking alcohol at or above 14 units for women and 20 units for men in previous year 1997-2007**

	1997			1999			2001			2003			2005			2007		
	M	F	All	M	F	All	M	F	All	M	F	All	M	F	All	M	F	All
<b>Number</b>	184	75	259	184	75	259	184	75	259	184	75	259	184	75	259	184	75	259
<b>Mean</b>	82.3	78.0	81.0	73.3	68.5	71.9	78.4	64.0	74.2	64.1	49.3	59.8	55.4	58.2	56.2	55.3	50.0	53.7
<b>SD</b>	95.3	79.2	90.8	95.0	97.1	95.4	103.3	83.5	98.1	94.2	86.0	92.0	89.8	92.3	90.4	92.4	92.0	92.1
<b>Minimum</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Maximum</b>	365	360	365	365	365	365	365	358	365	365	365	365	365	365	365	365	361	365

**Table B7: Frequency (and percentage) of ‘heavy’ and ‘very heavy’ drinking days in *week* prior to interview 1997-2007 (n = 259)**

Number of days	1997 Frequency (%)		1999 Frequency (%)		2001 Frequency (%)		2003 Frequency (%)		2005 Frequency (%)		2007 Frequency (%)	
	‘Heavy’ days	‘Very heavy’ days										
<b>0</b>	14 (5.4)	100 (38.6)	47 (18.1)	132 (51.0)	44 (17.0)	132 (51.0)	48 (18.5)	145 (56.0)	58 (22.4)	155 (59.8)	79 (30.5)	179 (69.1)
<b>1</b>	20 (7.7)	63 (24.3)	32 (12.4)	44 (17.0)	40 (15.4)	55 (21.2)	46 (17.8)	48 (18.5)	42 (16.2)	48 (18.5)	51 (19.7)	43 (16.6)
<b>2</b>	45 (17.4)	50 (19.3)	41 (15.8)	34 (13.1)	41 (15.8)	30 (11.6)	42 (16.2)	27 (10.4)	37 (14.3)	23 (8.9)	33 (12.7)	15 (5.8)
<b>3</b>	53 (20.5)	16 (6.2)	33 (12.7)	16 (6.2)	30 (11.6)	10 (3.9)	31 (12.0)	12 (4.6)	37 (14.3)	9 (3.5)	27 (10.4)	7 (2.7)
<b>4</b>	45 (17.4)	13 (5.0)	31 (12.0)	15 (5.8)	25 (9.7)	7 (2.7)	20 (7.7)	6 (2.3)	20 (7.7)	6 (2.3)	21 (8.1)	1 (0.4)
<b>5</b>	22 (8.5)	5 (1.9)	30 (11.6)	6 (2.3)	18 (6.9)	8 (3.1)	20 (7.7)	5 (1.9)	14 (5.4)	4 (1.5)	9 (3.5)	1 (0.4)
<b>6</b>	26 (10.0)	5 (1.9)	10(3.9)	3 (1.2)	16 (6.2)	5 (1.9)	14 (5.4)	6 (2.3)	12 (4.6)	4 (1.5)	9 (3.5)	2 (0.8)
<b>7</b>	34 (13.1)	7 (2.7)	35 (13.5)	9 (3.5)	45 (17.4)	12 (4.6)	38 (14.7)	10 (3.9)	39 (15.1)	10 (3.9)	30 (11.6)	11 (4.2)

**Table B8: Frequency (and percentage) of ‘heavy’ and ‘very heavy’ drinking days in year prior to interview 1997-2007 (n = 259)**

Number of days	1997 Frequency (%)		1999 Frequency (%)		2001 Frequency (%)		2003 Frequency (%)		2005 Frequency (%)		2007 Frequency (%)	
	‘Heavy’ days	‘Very heavy’ days										
<b>0</b>	14 (5.4)	100 (38.6)	47 (18.1)	132 (51.0)	44 (17.0)	132 (51.0)	48 (18.5)	145 (56.0)	58 (22.4)	155 (59.8)	79 (30.5)	179 (69.1)
<b>1</b>	20 (7.7)	63 (24.3)	32 (12.4)	44 (17.0)	40 (15.4)	55 (21.2)	46 (17.8)	48 (18.5)	42 (16.2)	48 (18.5)	51 (19.7)	43 (16.6)
<b>2</b>	45 (17.4)	50 (19.3)	41 (15.8)	34 (13.1)	41 (15.8)	30 (11.6)	42 (16.2)	27 (10.4)	37 (14.3)	23 (8.9)	33 (12.7)	15 (5.8)
<b>3</b>	53 (20.5)	16 (6.2)	33 (12.7)	16 (6.2)	30 (11.6)	10 (3.9)	31 (12.0)	12 (4.6)	37 (14.3)	9 (3.5)	27 (10.4)	7 (2.7)
<b>4</b>	45 (17.4)	13 (5.0)	31 (12.0)	15 (5.8)	25 (9.7)	7 (2.7)	20 (7.7)	6 (2.3)	20 (7.7)	6 (2.3)	21 (8.1)	1 (0.4)
<b>5</b>	22 (8.5)	5 (1.9)	30 (11.6)	6 (2.3)	18 (6.9)	8 (3.1)	20 (7.7)	5 (1.9)	14 (5.4)	4 (1.5)	9 (3.5)	1 (0.4)
<b>6</b>	26 (10.0)	5 (1.9)	10(3.9)	3 (1.2)	16 (6.2)	5 (1.9)	14 (5.4)	6 (2.3)	12 (4.6)	4 (1.5)	9 (3.5)	2 (0.8)
<b>7</b>	34 (13.1)	7 (2.7)	35 (13.5)	9 (3.5)	45 (17.4)	12 (4.6)	38 (14.7)	10 (3.9)	39 (15.1)	10 (3.9)	30 (11.6)	11 (4.2)

**Table B9: Leeds Dependence Questionnaire Scores 1997-2007**

	1997			1999			2001			2003			2005			2007		
	M	F	All															
<b>Number</b>	184	75	259	184	75	259	184	75	259	184	75	259	184	75	259	184	75	259
<b>Mean</b>	7.8	6.5	7.4	6.8	6.0	6.9	6.5	5.2	6.2	5.4	4.2	5.0	5.7	4.2	5.3	4.9	3.9	4.6
<b>SD</b>	5.7	4.9	5.5	5.6	4.8	5.5	5.8	4.7	5.6	4.8	3.7	4.8	5.2	3.9	4.9	5.0	3.6	4.7
<b>Minimum</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Maximum</b>	26	23	26	27	19	27	30	22	30	22	14	22	27	17	27	26	17	26

**Table B10: Leeds Dependency Questionnaire – sub-group comparisons 2007 (n = 259)**

<i>Variable</i>	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>Statistics</i>
<i>Age</i>				
<b>25-34</b>	105	4.7	3.9	No significant difference
<b>35-44</b>	80	4.7	4.8	
<b>45-55</b>	74	4.2	5.5	
<i>In a relationship?</i>				
<b>No</b>	96	5.9	5.33	t = 3.53
<b>Yes</b>	163	3.8	4.09	p < 0.001
<i>Social Economic Group</i>				
<b>Professional</b>	13	3.00	2.83	F = 4.66 p < 0.001
<b>Intermediate</b>	84	3.49	3.42	
<b>Skilled non-manual</b>	46	3.41	3.28	
<b>Skilled manual</b>	59	5.31	5.79	
<b>Semi-skilled</b>	23	5.48	5.53	
<b>Unskilled</b>	32	7.75	5.44	
<b>Not coded</b>	2	4.50	4.95	
<i>Gender</i>				
<b>Male</b>	184	4.86	5.05	t = 1.557
<b>Female</b>	75	3.87	3.60	Not significant

**Table B11: Sample allocation to readiness to change stage 1997-2007**

Stage of change	1997	1999	2001	2003	2005	2007
<b>n =</b>	259	259	259	259	259	259
<b>Pre-contemplation</b>	76 (29%)	48 (19%)	60 (23%)	55 (21%)	61 (24%)	63 (24%)
<b>Contemplation</b>	157 (61%)	148 (57%)	137 (53%)	128 (49%)	125 (48%)	109 (42%)
<b>Action</b>	26 (10%)	63 (24%)	62 (24%)	76 (29%)	73 (28%)	87 (34%)

**Table B12: Readiness to Change - sub-group comparisons 2007 (n = 233)**

<i>Variable</i>	<i>n</i>	<i>Pre-contemplation Frequency (% within age group)</i>	<i>Contemplation Frequency (% within age group)</i>	<i>Action Frequency (% within age group)</i>
<i>Age at entry</i>				
<b>25-34</b>	105	26 (25%)	46 (44%)	33 (31%)
<b>35-44</b>	80	12 (15%)	36 (45%)	32 (40%)
<b>45-55</b>	74	25 (34%)	27 (30%)	22 (36%)
<i>In a relationship?</i>		<i>Frequency (%)</i>	<i>Frequency (%)</i>	<i>Frequency (%)</i>
<b>No</b>	87	23 (26%)	44 (51%)	20 (23%)
<b>Yes</b>	146	33 (23%)	64 (44%)	49 (34%)
<i>Social Economic Group</i>		<i>Frequency (%)</i>	<i>Frequency (%)</i>	<i>Frequency (%)</i>
<b>Professional</b>	12	4 (33%)	2 (17%)	6 (50%)
<b>Intermediate</b>	76	17 (22%)	37 (49%)	22 (29%)
<b>Skilled non-manual</b>	40	7 (18%)	18 (45%)	15 (38%)
<b>Skilled manual</b>	56	12 (21%)	26 (46%)	18 (32%)
<b>Semi-skilled</b>	21	7 (33%)	10 (48%)	4 (19%)
<b>Unskilled</b>	26	8 (31%)	14 (54%)	4 (15%)
<b>Not coded</b>	2	1 (50%)	1 (50%)	0
<i>Gender</i>		<i>(% within gender)</i>	<i>(% within gender)</i>	<i>(% within gender)</i>
<b>Male</b>	166	39 (24%)	81 (49%)	46 (28%)
<b>Female</b>	67	17 (25%)	27 (40%)	23 (34%)

**Table B13: Strength of alcoholic drink predominantly consumed**

	<i>0.1 – 4.5%</i>	<i>4.6 – 6.0%</i>	<i>6.1 – 10%</i>	<i>10.1 – 13%</i>	<i>13.1 – 20%</i>	<i>20.1 – 40%</i>	<i>40.1% +</i>
<b>Wave one:</b>							
Sensible	2 (67%)	1 (33%)	0	0	0	0	0
Hazardous	13 (38%)	7 (21%)	2 (6%)	6 (18%)	1 (3%)	5 (15%)	0
Heavy	78 (52%)	17 (11%)	15 (10%)	23 (15%)	3 (2%)	11 (7%)	1 (1%)
Very heavy	26 (37%)	11 (16%)	19 (27%)	5 (7%)	1 (1%)	9 (13%)	0
<b>Wave six:</b>							
Sensible	19 (43%)	4 (9%)	0	14 (32%)	0	7 (16%)	0
Hazardous	29 (39%)	7 (10%)	6 (8%)	22 (30%)	2 (3%)	8 (11%)	0
Heavy	33 (40%)	21 (26%)	5 (6%)	16 (20%)	2 (2%)	5 (6%)	0
Very heavy	5 (16%)	12 (39%)	8 (26%)	3 (10%)	1 (3%)	2 (7%)	0

**Table B14: Mean number of cigars or cigarettes smoked amongst sample – sub-group comparisons 2007 (n = 259)**

<i>Variable</i>	<i>n</i>	<i>Mean</i>	<i>SD</i>
<i>Age</i>			
<b>25-34</b>	105	6.8	10.4
<b>35-44</b>	80	7.3	12.2
<b>45-55</b>	74	6.4	11.1
<i>In a relationship?</i>			
<b>No</b>	96	9.6	12.4
<b>Yes</b>	163	5.3	10.0
<i>Social Economic Group</i>			
<b>Professional</b>	13	1.5	5.5
<b>Intermediate</b>	84	3.1	6.9
<b>Skilled non-manual</b>	46	6.7	10.6
<b>Skilled manual</b>	59	12.1	15.3
<b>Semi-skilled</b>	23	6.8	10.0
<b>Unskilled</b>	32	10.2	10.1
<b>Not coded</b>	2	0	
<i>Gender</i>			
<b>Male</b>	184	6.6	11.2
<b>Female</b>	75	7.6	11.0

**Table B15: Frequency and percentage - relationship status at interview 1997 – 2007 (n = 259)**

<i>Relationship status</i>	<i>Wave one</i>	<i>Wave two</i>	<i>Wave three</i>	<i>Wave four</i>	<i>Wave five</i>	<i>Wave six</i>
	<i>Frequency (%)</i>					
<b>Married/cohabiting</b>	93 (36%)	102 (39%)	121 (47%)	119 (46%)	115 (44%)	129 (50%)
<b>In a non-cohabiting relationship:</b>						
- <b>Single</b>	56 (22%)	61 (24%)	37 (14%)	41 (16%)	39 (15%)	34 (13%)
- <b>Separated/divorced</b>	34 (13%)	19 (7%)	24 (9%)	17 (7%)	16 (6%)	10 (4%)
- <b>Widowed</b>	0	1 (<1%)	2 (1%)	0	1 (<1%)	0
<b>Not in a relationship:</b>						
- <b>Single</b>	48 (19%)	53 (21%)	53 (21%)	63 (24%)	61 (24%)	68 (26%)
- <b>Separated/divorced</b>	27 (10%)	23 (9%)	22 (9%)	19 (7%)	27 (10%)	16 (6%)
- <b>Widowed</b>	1 (<1%)	0	0	0	0	2 (1%)

**Table B16: Mean unit consumption in the week before interview by relationship status 1997 – 2007 (n = 259)**

<i>Relationship status</i>	<i>Wave one</i>	<i>Wave two</i>	<i>Wave three</i>	<i>Wave four</i>	<i>Wave five</i>	<i>Wave six</i>
	<i>Mean units (SD)</i>					
<b>Married/cohabiting</b>	75.7 (45.8)	66.0 (59.4)	62.1 (52.1)	57.4 (54.1)	48.7 (41.6)	41.0 (36.3)
<b>In a non-cohabiting relationship:</b>						
- <b>Single</b>	68.2 (37.0)	69.0 (60.3)	76.6 (78.2)	75.3 (77.8)	77.2 (69.6)	48.4 (39.7)
- <b>Separated/divorced</b>	77.2 (56.8)	64.2 (62.1)	75.4 (64.2)	62.4 (38.6)	55.6 (23.5)	61.4 (79.4)
- <b>Widowed</b>	no data	0.0 (n/a)	83.0 (100.4)	no data	1.0 (n/a)	no data
<b>Not in a relationship:</b>						
- <b>Single</b>	102.0 (61.1)	81.3 (60.3)	75.0 (65.1)	73.4 (64.2)	74.6 (76.4)	68.1 (67.1)
- <b>Separated/divorced</b>	84.5 (38.0)	72.5 (40.8)	68.7 (47.1)	64.7 (50.5)	67.4 (52.5)	47.5 (54.1)
- <b>Widowed</b>	59.5 (n/a)	no data	no data	no data	no data	51.0 (4.2)

**Table B17: Total number of other people living in participants' household 1997 – 2007 (n = 259)**

<i>Total number of other people in household</i>	<i>Wave one</i>	<i>Wave two</i>	<i>Wave three</i>	<i>Wave four</i>	<i>Wave five</i>	<i>Wave six</i>
	<i>Frequency (%)</i>					
<b>0</b>	85 (33%)	86 (33%)	75 (29%)	82 (32%)	80 (31%)	83 (32%)
<b>1</b>	67 (26%)	60 (23%)	86 (33%)	81 (31%)	80 (31%)	86 (33%)
<b>2</b>	47 (18%)	49 (19%)	45 (17%)	45 (17%)	48 (19%)	37 (14%)
<b>3</b>	39 (15%)	39 (15%)	31 (12%)	30 (12%)	34 (13%)	36 (14%)
<b>4</b>	16 (6%)	17 (7%)	15 (6%)	16 (6%)	14 (5%)	13 (5%)
<b>5</b>	2 (1%)	7 (3%)	3 (1%)	1 (<1%)	2 (1%)	3 (1%)
<b>6</b>	1 (<1%)		3 (1%)	3 (1%)		
<b>7</b>	2 (1%)		1 (<1%)	1 (<1%)	1 (<1%)	
<b>8</b>		1 (<1%)				1 (<1%)

**Table B18: Number of other adults and children living in participants' household 1999 – 2007 (n = 259)**

<b><i>Number of others in household</i></b>	<b><i>Wave two</i></b>		<b><i>Wave three</i></b>		<b><i>Wave four</i></b>		<b><i>Wave five</i></b>		<b><i>Wave six</i></b>	
	<i>Frequency (%) Adults/children</i>		<i>Frequency (%) Adults/children</i>		<i>Frequency (%) Adults/children</i>		<i>Frequency (%) Adults/children</i>		<i>Frequency (%) Adults/children</i>	
<b>0</b>	92 (36)	185 (71)	87 (34)	183 (71)	93 (36)	183 (71)	92 (26)	189 (73)	93 (36)	196 (56)
<b>1</b>	111 (43)	35 (14)	134 (52)	37 (14)	131 (51)	37 (14)	118 (46)	36 (14)	125 (48)	25 (10)
<b>2</b>	35 (14)	22 (9)	28 (11)	19 (7)	25 (10)	22 (9)	35 (14)	24 (9)	27 (10)	27 (10)
<b>3</b>	15 (6)	12 (5)	7 (3)	12 (5)	7 (3)	11 (4)	11 (4)	9 (4)	9 (4)	10 (4)
<b>4</b>	5 (2)	4 (2)	3 (1)	5 (2)	3 (1)	4 (2)	3 (1)		4 (2)	
<b>5</b>	1 (<1)			3 (1)		1 (<1)			1 (<1)	
<b>6</b>		1 (<1)				1 (<1)		1 (<1)		
<b>7</b>										1 (<1)

**Table B19: Household types**

Household type	1999		2001		2003		2005		2007	
	Freq. (%)	Mean units (SD)								
<b>1 adult, single</b>	51 (20)	79.3 (59.1)	45 (17)	69.4 (65.4)	51 (20)	77.0 (64.0)	52 (20)	69.9 (57.9)	56 (22)	75.4 (74.0)
<b>1 adult, in relationship</b>	33 (13)	75.7 (74.2)	26 (10)	105.0 (96.0)	30 (12)	71.2 (63.9)	28 (11)	76.5 (71.4)	25 (10)	57.9 (63.9)
<b>2 adults, no children</b>	58 (22)	79.4 (68.0)	83 (32)	67.0 (58.6)	76 (29)	65.5 (69.7)	74 (29)	60.9 (59.0)	85 (33)	40.7 (34.6)
<b>2 adults, plus children</b>	52 (20)	62.9 (52.5)	57 (22)	61.3 (45.8)	55 (21)	54.1 (43.7)	45 (17)	44.3 (41.4)	43 (17)	39.2 (32.9)
<b>3+ adults, no children</b>	42 (16)	51.3 (37.7)	27 (10)	60.0 (34.5)	26 (10)	69.7 (60.3)	35 (14)	69.8 (68.8)	30 (12)	49.4 (38.1)
<b>3+ adults, plus children</b>	15 (6)	72.8 (50.4)	9 (4)	47.2 (48.9)	10 (4)	50.0 (45.4)	14 (5)	50.6 (37.2)	10 (4)	42.4 (36.1)
<b>Single parent</b>	8 (3)	58.3 (26.3)	12 (5)	71.3 (39.4)	11 (4)	46.6 (27.3)	11 (4)	39.9 (22.7)	10 (4)	32.0 (20.2)

**Table B20: Frequencies and percentages of participants living with and without children**

Household type	1999		2001		2003		2005		2007	
	Freq. (%)	Mean units (SD)								
Living without children	184	72.3 (61.7)	181	72.0 (65.2)	183	70.2 (65.6)	189	67.3 (62.3)	196	54.1 (54.7)
Living with children	75	64.4 (49.6)	78	61.2 (45.1)	76	52.5 (41.6)	70	44.8 (37.9)	63	38.6 (31.5)

**Table B21: Type of accommodation**

<i>Type of accommodation</i>	<i>Wave two Frequency (%)</i>	<i>Wave three Frequency (%)</i>	<i>Wave four Frequency (%)</i>	<i>Wave five Frequency (%)</i>	<i>Wave six Frequency (%)</i>	<i>General population*</i>
<b>House/bungalow</b>	183 (71%)	182 (70%)	189 (73%)	194 (75%)	194 (75%)	84%
<b>Flat</b>	67 (26%)	73 (28%)	67 (26%)	61 (24%)	54 (21%)	14%
<b>Bed-sit</b>	2 (1%)	2 (1%)	1 (<1%)	0	2 (1%)	Not specified
<b>Room in house (not parents/partner)</b>	7 (3%)	2 (1%)	2 (1%)	2 (1%)	2 (1%)	(<1%)
<b>Temporary</b>	0	0	0	2 (1%)	4 (2%)	Not specified
<b>Other (e.g. boat)</b>	0	0	0	0	3 (1%)	(<1%)

\* General Household Survey (2006)

**Table B22: Type of housing**

<i>Housing tenure</i>	<i>Wave two Frequency (%)</i>	<i>Wave three Frequency (%)</i>	<i>Wave four Frequency (%)</i>	<i>Wave five Frequency (%)</i>	<i>Wave six Frequency (%)</i>	<i>General population*</i>
<b>Owned outright</b>	41 (16%)	44 (17%)	48 (19%)	49 (19%)	55 (21%)	33%
<b>Owned with mortgage</b>	119 (46%)	117 (45%)	115 (44%)	114 (44%)	112 (43%)	39%
<b>Rented from council or housing association</b>	67 (26%)	69 (27%)	67 (26%)	63 (24%)	56 (22%)	17%
<b>Rented privately</b>	30 (12%)	29 (11%)	29 (11%)	31 (12%)	32 (12%)	8%
<b>Temporary accommodation</b>	2 (1%)			2 (1%)	4 (2%)	Not specified

\* General Household Survey (2006)

**Table B23: Number of bedrooms in accommodation**

<i>Number of bedrooms</i>	<i>Wave two Frequency (%)</i>	<i>Wave three Frequency (%)</i>	<i>Wave four Frequency (%)</i>	<i>Wave five Frequency (%)</i>	<i>Wave six Frequency (%)</i>
<b>0</b>	2 (1%)	3 (1%)	5 (2%)	3 (1%)	2 (1%)
<b>1</b>	37 (14%)	37 (14%)	41 (16%)	38 (15%)	40 (15%)
<b>2</b>	75 (29%)	71 (27%)	62 (24%)	62 (24%)	58 (22%)
<b>3</b>	105 (41%)	111 (43%)	115 (44%)	114 (44%)	110 (43%)
<b>4</b>	25 (10%)	24 (9%)	23 (9%)	24 (9%)	35 (14%)
<b>5</b>	9 (4%)	7 (3%)	8 (3%)	12 (5%)	10 (4%)
<b>6</b>	5 (2%)	4 (2%)	2 (1%)	3 (1%)	2 (1%)
<b>7</b>		1 (<1%)	2 (1%)	2 (1%)	1 (<1%)
<b>9</b>	1 (<1%)	1 (<1%)	1 (<1%)	1 (<1%)	1 (<1%)

**Table B24: Sample SF-36 factor mean scores, 1997 – 2007 by age in 1997 (general health and function) and general population means\***

<i>SF Factor</i>	<i>Age in 1997</i>	<i>n</i>	<i>1997 mean (SD)</i>	<i>1999 mean (SD)</i>	<i>2001 mean (SD)</i>	<i>2003 mean (SD)</i>	<i>2005 mean (SD)</i>	<i>2007 mean (SD)</i>	<i>General Population mean*</i>
<b>General health</b>	<b>25-34</b>	105	62.9 (20.3)	62.7 (20.9)	71.8 (82.9)	63.5 (21.7)	62.4 (21.3)	59.8 (22.5)	79.4
	<b>35-44</b>	80	66.0 (22.1)	66.0 (22.8)	62.0 (23.0)	61. (23.3)	62.6 (24.9)	60.8 (23.4)	75.5
	<b>45-55</b>	74	66.6 (23.8)	62.3 (24.6)	63.1 (25.4)	62.5 (23.5)	59.2 (25.1)	60.8 (25.1)	71.3
<b>Physical function</b>	<b>25-34</b>	105	92.9 (12.0)	89.8 (12.4)	91.4 (13.0)	89.9 (13.9)	87.9 (18.6)	88.2 (18.7)	94.5
	<b>35-44</b>	80	89.3 (15.4)	87.0 (18.2)	85.2 (19.6)	85.1 (20.4)	85.4 (19.7)	84.3 (21.3)	93.3
	<b>45-55</b>	74	88.6 (15.7)	83.7 (19.9)	84.5 (20.4)	84.2 (21.5)	80.9 (22.4)	75.3 (27.8)	87.2
<b>Mental function</b>	<b>25-34</b>	105	65.0 (17.7)	66.6 (17.7)	69.7 (17.3)	68.7 (19.3)	67.8 (18.8)	69.4 (19.0)	77.2
	<b>35-44</b>	80	62.9 (23.3)	63.1 (22.8)	66.4 (22.8)	67.7 (21.2)	68.1 (21.2)	70.4 (22.4)	76.0
	<b>45-55</b>	74	68.3 (22.4)	66.1 (20.0)	67.5 (20.5)	71.4 (19.9)	68.9 (22.2)	74.2 (21.2)	75.6
<b>Social function</b>	<b>25-34</b>	105	82.2 (22.83)	82.8 (22.1)	85.7 (20.6)	82.6 (23.8)	79.9 (25.1)	81.1 (25.1)	91.1
	<b>35-44</b>	80	83.9 (24.3)	80.9 (24.7)	80.4 (27.6)	83.7 (24.9)	81.3 (24.9)	81.5 (28.0)	90.5
	<b>45-55</b>	74	85.0 (23.8)	80.3 (27.1)	82.4 (25.3)	82.0 (25.8)	76.5 (27.6)	84.4 (21.2)	87.7

\* Omnibus Survey (Bowling *et al.* 1999)

**Table B25: Sample SF-36 factor mean scores, 1997 - 2007 by age in 1997 (roles, pain and energy) and general population means\***

<i>SF Factor</i>	<i>Age in 1997</i>	<i>n</i>	<i>1997 mean (SD)</i>	<i>1999 mean (SD)</i>	<i>2001 mean (SD)</i>	<i>2003 mean (SD)</i>	<i>2005 mean (SD)</i>	<i>2007 mean (SD)</i>	<i>General Population mean*</i>
<b>Physical role</b>	<b>25-34</b>	105	80.5 (33.6)	77.6 (34.3)	81.5 (31.1)	77.3 (36.1)	78.9 (34.7)	77.1 (36.0)	87.5
	<b>35-44</b>	80	70.0 (40.4)	75.6 (38.1)	74.8 (38.7)	75.3 (38.1)	81.9 (32.7)	73.1 (42.4)	88.2
	<b>45-55</b>	74	80.1 (33.4)	74.3 (37.2)	75.7 (38.1)	75.2 (37.3)	71.8 (38.2)	68.2 (41.0)	83.5
<b>Emotional role</b>	<b>25-34</b>	105	63.8 (40.3)	72.4 (38.8)	73.8 (38.3)	74.4 (37.9)	72.4 (39.1)	74.3 (35.9)	90.3
	<b>35-44</b>	80	64.6 (42.9)	66.9 (43.8)	72.9 (40.4)	70.8 (42.0)	71.5 (40.0)	78.8 (36.8)	88.2
	<b>45-55</b>	74	77.0 (34.9)	69.8 (40.2)	74.1 (39.3)	77.7 (37.2)	70.0 (40.4)	75.2 (37.8)	88.4
<b>Pain</b>	<b>25-34</b>	105	77.7 (24.2)	74.1 (25.7)	76.5 (25.5)	72.9 (27.5)	76.2 (26.7)	73.2 (27.3)	76.0
	<b>35-44</b>	80	68.6 (28.6)	75.7 (27.2)	73.7 (28.2)	74.7 (25.8)	73.8 (26.1)	71.4 (25.9)	74.0
	<b>45-55</b>	74	80.5 (26.8)	75.7 (24.7)	76.2 (25.5)	72.8 (24.9)	73.4 (26.0)	72.2 (28.4)	75.0
<b>Energy &amp; vitality</b>	<b>25-34</b>	105	54.6 (18.8)	54.5 (19.3)	57.3 (19.3)	55.6 (19.3)	55.3 (19.8)	53.5 (21.2)	66.8
	<b>35-44</b>	80	55.1 (20.6)	53.8 (20.8)	54.2 (21.7)	54.7 (20.4)	54.1 (23.2)	54.6 (23.9)	64.9
	<b>45-55</b>	74	57.1 (22.6)	55.0 (23.6)	55.4 (21.8)	57.1 (21.7)	53.2 (23.1)	55.5 (24.2)	63.0

- Omnibus Survey (Bowling *et al.* 1999)

**Table B26: SF-36 Total scores – sub-group comparisons 2007 (n = 259)**

<i>Variable</i>	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>Statistics</i>
<i>Age at entry</i>				
<b>25-34</b>	105	577	157.0	No significant differences
<b>35-44</b>	80	575	172.1	
<b>45-54</b>	74	566	183.8	
<i>In a relationship?</i>				
<b>No</b>	96	505	190.7	t = -4.80
<b>Yes</b>	163	613	141.0	p < 0.001
<i>Social Economic Group</i>				
<b>Professional</b>	13	619	113.4	F = 4.389 p < 0.001
<b>Intermediate</b>	84	616	151.8	
<b>Skilled non-manual</b>	46	619	133.7	
<b>Skilled manual</b>	59	528	184.7	
<b>Semi-skilled</b>	23	542	151.0	
<b>Unskilled</b>	32	489	202.4	
<b>Not coded</b>	2	417	233.4	
<i>Gender</i>				
<b>Male</b>	184	573	168.2	No significant differences
<b>Female</b>	75	574	172.3	

**Table B27: Total mean SF-36 scores by age group in 1997. Waves one to six.**

<i>Age in 1997</i>	<i>25-34 mean (SD)</i>	<i>35-44 mean (SD)</i>	<i>45-55 mean (SD)</i>	<i>Total mean (SD)</i>
n	105	80	74	259
<b>Wave one</b>	580 (117)	560 (164)	603 (158)	580 (145)
<b>Wave two</b>	580 (134)	569 (158)	567 (164)	573 (150)
<b>Wave three</b>	608 (150)	570 (184)	579 (152)	588 (162)
<b>Wave four</b>	585 (146)	573 (169)	583 (158)	581 (157)
<b>Wave five</b>	581 (146)	579 (167)	554 (167)	572 (159)
<b>Wave six</b>	577 (157)	575 (172)	566 (184)	573 (169)

**Table B28 Frequency (and percentage) of time spent talking about drinking with GP, amongst those that discussed the subject (2003-2007)**

<b>Number of minutes discussed drinking with GP</b>	<b>2003 <i>Frequency (%)</i> (n=51)</b>	<b>2005 <i>Frequency (%)</i> (n=58)</b>	<b>2007 <i>Frequency (%)</i> (n=55)</b>
<b>Range of minutes</b>	1-30	1-25	1-30
<b>1-5</b>	39 (76%)	45 (78%)	42 (76%)
<b>6-10</b>	6 (12%)	10 (17%)	6 (11%)
<b>10+</b>	6 (12%)	3 (5%)	7 (13%)

**Table B29: Frequency (and percentage) reporting different depths of discussion about their weekly consumption with their GP, amongst those that discussed the subject (2003-2007)**

<b>Depth of discussion about alcohol with GP</b>	<b>2003 <i>Frequency (%)</i> (n=51)</b>	<b>2005 <i>Frequency (%)</i> (n=58)</b>	<b>2007 <i>Frequency (%)</i> (n=55)</b>
No description of weekly drinking	15 (29%)	15 (26%)	19 (35%)
Very brief summary of weekly consumption	25 (49%)	34 (59%)	22 (40%)
Detailed summary of weekly consumption	11 (22%)	9 (15%)	14 (25%)

**Table B30: Numbers seeking help to address their drinking and mean number of times services accessed by help seekers 1999 - 2007**

<i>Type of help sought</i>	<i>Wave two</i>		<i>Wave three</i>		<i>Wave four</i>		<i>Wave five</i>		<i>Wave six</i>	
	<i>Freq</i>	<i>mean</i>	<i>Freq</i>	<i>mean</i>	<i>Freq</i>	<i>mean</i>	<i>Freq</i>	<i>mean</i>	<i>Freq</i>	<i>mean</i>
<b>Non-residential alcohol agency</b>	6	7.2	8	24.9	6	12.8	6	37.8	9	8.2
<b>Residential rehab</b>	1	1.0	0	n/a	1	1.0	3	101.6	1	2.0
<b>Nights in hospital</b>	2	2.5	0	n/a	3	2.3	0	n/a	0	n/a
<b>Primary care counsellor or nurse</b>	3	2.0	2	6.5	0	n/a	0	n/a	3	3.7
<b>Self help group</b>	7	14.7	4	13.0	2	13.0	2	54.0	4	20.3
<b>Other</b>	5	6.4	3	84.0	3	52.7	1	730.0	0	n/a
<b>Total</b>	<b>24</b>		<b>17</b>		<b>15</b>		<b>12</b>		<b>17</b>	

**Table B31: Number of waves at which services had been accessed in the previous two years, amongst those participants who had accessed services (n=33)**

<i>Number of waves</i>	<i>Frequency</i>
<b>One wave</b>	16
<b>Two waves</b>	11
<b>Three waves</b>	4
<b>Four waves</b>	0
<b>Five waves</b>	2
<b>Total</b>	33

**Table B32: Frequency (and percentage) of sample using different numbers of drugs in the year before interview 1997-2007 (n=259)**

	Wave one	Wave two	Wave three	Wave four	Wave five	Wave six
0 drugs	119 (46)	143 (55)	154 (60)	169 (65)	168 (65)	192 (74)
1 drug	54 (21)	54 (21)	64 (25)	58 (22)	53 (21)	42 (16)
2 drugs	22 (9)	32 (12)	14 (5)	10 (4)	16 (6)	11 (4)
3 drugs	20 (8)	11 (4)	10 (4)	9 (4)	10 (4)	10 (4)
4 drugs	12 (5)	11 (4)	7 (3)	7 (3)	5 (2)	1 (0.5)
5 drugs	14 (5)	4 (2)	6 (2)	4 (2)	6 (2)	1 (0.5)
6 drugs	11 (4)	4 (2)	4 (2)	1 (0.5)	0	2 (1)
7 drugs	4 (2)	0	0	1 (0.5)	1 (0.5)	0
8 drugs	3 (1)	0	0	0	0	0

**Table B33: Percentage of drug use for the sample (n = 259) in waves two to six, compared to the general population in 2006/2007**

	<i>Wave two</i>	<i>Wave three</i>	<i>Wave four</i>	<i>Wave five</i>	<i>Wave six</i>	<i>Gen pop. 06/07*</i>
<i>Missing cases:</i>	<i>6</i>	<i>13</i>	<i>12</i>	<i>15</i>	<i>0</i>	<i>n/a</i>
Cannabis	39%	37%	32%	29%	22%	8.2%
Nitrites	8%	6%	4%	5%	2%	1.4%
Magic Mushrooms	13%	3%	2%	2%	0%	0.6%
Amphetamines	15%	7%	5%	6%	3%	1.3%
Ecstasy	8%	9%	6%	7%	4%	1.8%
LSD	2%	2%	<1%	1%	<1%	0.2%
Cocaine	9%	13%	9%	9%	8%	2.6%
Crack Cocaine	**	2%	4%	3%	3%	0.2%
Heroin/other opiates	<1%	1%	1%	2%	2%	0.2%
Other illegal drug	5%	<1%	<1%	1%	0%	-

\* Based on British Crime Survey figures 2006/2007, which uses a sample aged 16-59 years old.

\*\*At wave two, participants were only asked if they had taken Cocaine and/or Crack Cocaine (these were not separate questions), so their responses have been included under Cocaine.

**Table B34: Frequency and percentage of sample reporting intoxicated behaviours on at least one occasion in the year before interview by gender 1997-2007 (n=259)**

<i>Type of behaviour when intoxicated</i>	<i>1997</i>			<i>1999</i>			<i>2001</i>			<i>2003</i>			<i>2005</i>			<i>2007</i>		
	<i>Frequency (%)</i>			<i>Frequency (%)</i>			<i>Frequency (%)</i>			<i>Frequency (%)</i>			<i>Frequency (%)</i>			<i>Frequency (%)</i>		
	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>
<b>Aggressive</b>	64 (35)	32 (43)	96 (37)	74 (40)	27 (36)	101 (39)	60 (33)	22 (30)	82 (32)	52 (28)	18 (24)	70 (27)	57 (31)	21 (28)	78 (30)	38 (21)	21 (28)	59 (23)
<b>In a fight</b>	42 (23)	18 (24)	60 (23)	41 (22)	18 (24)	59 (23)	31 (17)	12 (16)	43 (17)	25 (14)	8 (11)	33 (13)	25 (14)	7 (9)	32 (12)	21 (11)	9 (12)	30 (12)
<b>Damage property</b>	23 (13)	8 (11)	31 (12)	16 (9)	3 (4)	19 (7)	13 (7)	2 (3)	15 (6)	16 (9)	1 (1)	17 (7)	12 (7)	3 (4)	15 (6)	2 (1)	0	2 (1)
<b>Neglect child</b>	2 (1)	1 (1)	3 (1)	1 (1)	0	1 (<1)	1 (<1)	0	1 (<1)	0	0	0	0	0	0	0	0	0
<b>Ejected from pub</b>	28 (15)	8 (11)	36 (14)	19 (10)	3 (4)	22 (9)	21 (11)	5 (7)	26 (10)	18 (10)	7 (9)	25 (10)	22 (12)	3 (4)	25 (10)	10 (5)	3 (4)	13 (5)
<b>Other regret</b>	81 (44)	31 (41)	112 (43)	63 (34)	20 (27)	83 (32)	49 (27)	20 (27)	69 (27)	50 (27)	21 (28)	71 (27)	50 (27)	18 (24)	68 (26)	32 (17)	10 (13)	42 (16)

**TableB35: Frequency and percentage of sample engaging in different numbers of intoxicated behaviour types on at least one occasion in the year before interview 1997-2007 (n=259)**

<i>Number of different intoxicated behaviours</i>	<i>1997 Frequency (%)</i>	<i>1999 Frequency (%)</i>	<i>2001 Frequency (%)</i>	<i>2003 Frequency (%)</i>	<i>2005 Frequency (%)</i>	<i>2007 Frequency (%)</i>
<b>0</b>	93 (36)	109 (42)	124 (48)	134 (52)	140 (54)	167 (65)
<b>1</b>	69 (27)	67 (26)	73 (28)	68 (26)	56 (22)	55 (21)
<b>2</b>	46 (18)	49 (19)	34 (13)	33 (13)	41 (16)	23 (9)
<b>3</b>	30 (12)	18 (7)	18 (7)	15 (6)	10 (4)	11 (4)
<b>4</b>	18 (7)	14 (5)	9 (4)	8 (3)	10 (4)	3 (1)
<b>5</b>	3 (1)	2 (1)	1 (<1)	1 (<1)	2 (1)	0

**Table B36: Frequency, range and mean number of times behaviour reported amongst those reporting intoxicated behaviours in the year before interview 1999-2007**

<i>Type of behaviour when intoxicated</i>	<i>1999</i>			<i>2001</i>			<i>2003</i>			<i>2005</i>			<i>2007</i>		
	<i>n</i>	<i>Range</i>	<i>Mean times (SD)</i>												
<b>Aggressive</b>	101	1-50	4.67 (6.52)	82	1-60	6.37 (10.48)	70	1-100	6.20 (13.47)	78	1-52	4.19 (8.46)	59	1-20	3.44 (3.95)
<b>In a fight</b>	59	1-19	2.25 (2.72)	43	1-19	2.81 (3.34)	33	1-50	5.58 (11.41)	32	1-75	5.88 (15.49)	30	1-12	2.97 (3.20)
<b>Damage property</b>	19	1-10	2.68 (2.50)	15	1-15	3.40 (4.32)	17	1-25	3.53 (6.02)	15	1-30	3.47 (7.40)	2	1-2	1.50 (0.71)
<b>Neglect child</b>	1	200	200.0 (n/a)	1	50	50.0 (n/a)	0			0			0		
<b>Ejected from pub</b>	22	1-6	1.91 (1.54)	26	1-12	2.38 (2.95)	25	1-20	2.80 (4.10)	25	1-5	1.44 (0.92)	13	1-2	1.15 (0.38)
<b>Other regret</b>	83	1-50	5.07 (6.65)	69	1-20	4.10 (4.29)	71	1-40	4.18 (6.73)	68	1-50	4.57 (7.54)	42	1-100	8.29 (22.14)

**Table B37: Mean number of times intoxicated behaviour reported amongst sample in the year before interview 1999-2007**

	<i>1999 Mean times (SD)</i>	<i>2001 Mean times (SD)</i>	<i>2003 Mean times (SD)</i>	<i>2005 Mean times (SD)</i>	<i>2007 Mean times (SD)</i>
<b>Aggressive</b>	1.82 (4.66)	2.02 (6.58)	1.68 (7.49)	1.26 (5.01)	0.78 (2.36)
<b>In a fight</b>	0.51 (1.60)	0.47 (1.71)	0.71 (4.43)	0.73 (5.71)	0.34 (1.44)
<b>Damage property</b>	0.20 (0.96)	0.20 (1.28)	0.23 (1.74)	0.20 (1.90)	0.01 (0.14)
<b>Neglect child</b>	0.77 (12.43)	0.19 (3.11)			
<b>Ejected from pub</b>	0.16 (0.69)	0.24 (1.17)	0.27 (1.50)	0.14 (0.51)	0.06 (0.27)
<b>Other regret</b>	1.63 (4.44)	1.09 (2.85)	1.15 (3.98)	1.20 (4.34)	1.34 (9.34)

**Table B38: Mean weekly unit consumption amongst those reporting at least one intoxicated behaviour and those reporting no intoxicated behaviour (n = 259)**

	<i>Wave one</i>		<i>Wave two</i>		<i>Wave three</i>		<i>Wave four</i>		<i>Wave five</i>		<i>Wave six</i>	
	n	<i>Mean units (SD)</i>	n	<i>Mean units (SD)</i>	n	<i>Mean units (SD)</i>	n	<i>Mean units (SD)</i>	n	<i>Mean units (SD)</i>	n	<i>Mean units (SD)</i>
<b>Reported at least one intoxicated behaviour</b>	166	82.7 (54.9)	150	75.4 (62.7)	135	75.9 (61.7)	125	76.2 (61.1)	119	70.6 (57.6)	62	65.0 (64.5)
<b>No reported intoxicated behaviours</b>	93	75.1 (36.1)	109	62.7 (51.5)	124	61.0 (57.3)	134	54.6 (57.2)	140	53.3 (56.6)	167	42.3 (38.6)

**Table B39: Frequency (and percentage within variable group) who have engaged in different intoxicated behaviours in the last year – sub-group comparisons 2007 (n = 259)**

<i>Variable</i>	<b>n</b>	<i>Aggressive Frequency (%)</i>	<i>In a fight Frequency (%)</i>	<i>Damaged property Frequency (%)</i>	<i>Neglected child Frequency (%)</i>	<i>Ejected from pub Frequency (%)</i>	<i>Other regrets Frequency (%)</i>
<i>Age</i>							
<b>25-34</b>	105	30 (29)	12 (11)	1 (1)	0	7 (7)	20 (19)
<b>35-44</b>	80	19 (24)	12 (15)	0	0	4 (5)	15 (19)
<b>45-54</b>	74	10 (14)	6 (8)	1 (1)	0	2 (3)	7 (10)
<i>In a relationship?</i>							
<b>No</b>	96	26 (27)	18 (19)	1 (1)	0	5 (5)	16 (17)
<b>Yes</b>	163	33 (20)	12 (7)	1 (1)	0	8 (5)	26 (16)
<i>Social Economic Group</i>							
<b>Professional</b>	13	4 (31)	0	0	0	0	6 (46)
<b>Intermediate</b>	84	16 (19)	7 (8)	0	0	3 (4)	15 (18)
<b>Skilled non-manual</b>	46	11 (24)	3 (7)	1 (2)	0	1 (2)	8 (17)
<b>Skilled manual</b>	59	14 (24)	14 (24)	0	0	5 (9)	9 (15)
<b>Semi-skilled</b>	23	6 (26)	4 (17)	1 (4)	0	0	1 (4)
<b>Unskilled</b>	32	7 (22)	2 (6)	0	0	4 (13)	3 (9)
<b>Not coded</b>	2	1 (50)	0	0	0	0	0

**Table B40: Mean unit consumption of perpetrators and victims of violence/aggression and those that did not mention this issue in their final interview 1997-2007**

	<i>1997</i>	<i>1999</i>	<i>2001</i>	<i>2003</i>	<i>2005</i>	<i>2007</i>
<b>No mention of violence &amp; aggression</b>	77.6 (45.3)	67.0 (51.0)	66.4 (56.0)	63.5 (57.5)	59.8 (55.1)	49.5 (47.1)
<b>Perpetrator of violence or aggression</b>	103.4 (70.8)	90.5 (92.7)	110.6 (104.3)	117.6 (96.1)	101.6 (93.4)	63.7 (78.1)
<b>Victim of violence, aggression or harassment</b>	89.2 (68.9)	78.7 (76.5)	74.8 (59.5)	55.5 (46.8)	50.5 (44.4)	53.6 (65.4)

**Table B41: Mean 'heavy' drinking days of perpetrators and victims of violence/aggression and those that did not mention this issue in their final interview 1997-2007**

	<i>1997</i>	<i>1999</i>	<i>2001</i>	<i>2003</i>	<i>2005</i>	<i>2007</i>
<b>No mention of violence &amp; aggression</b>	186.4 (102.1)	154.0 (119.3)	166.9 (122.2)	147.3 (121.5)	138.6 (126.9)	124.9 (125.4)
<b>Perpetrator of violence or aggression</b>	236.9 (112.1)	212.4 (117.8)	220.4 (115.1)	191.8 (111.1)	216.5 (119.2)	177.6 (131.7)
<b>Victim of violence, aggression or harassment</b>	188.2 (106.2)	181.6 (135.5)	167.8 (140.1)	163.6 (119.8)	164.8 (130.3)	147.5 (144.7)

**Table B42: Mean ‘very heavy’ drinking days of perpetrators and victims of violence/aggression and those that did not mention this issue in their final interview 1997-2007**

	<i>1997</i>	<i>1999</i>	<i>2001</i>	<i>2003</i>	<i>2005</i>	<i>2007</i>
<b>No mention of violence &amp; aggression</b>	78.3 (86.6)	63.9 (85.9)	70.0 (94.6)	53.5 (87.6)	49.1 (83.4)	46.7 (83.2)
<b>Perpetrator of violence or aggression</b>	121.3 (128.2)	149.1 (142.1)	147.6 (125.1)	133.4 (110.1)	165.7 (128.2)	101.1 (127.6)
<b>Victim of violence, aggression or harassment</b>	96.3 (103.8)	94.6 (114.7)	76.6 (101.7)	79.2 (108.6)	67.6 (96.9)	92.5 (130.9)

**Table B43: Frequency (and percentage) of sample that have appeared in court in the year before interview and reasons for court appearance 1997-2007 (n=259) and mean weekly unit consumption amongst those that appeared in court**

<i>Type of court</i>	<i>1997 Frequency ( of % of sample)</i>	<i>1999 Frequency (%)</i>	<i>2001 Frequency (%)</i>	<i>2003 Frequency (%)</i>	<i>2005 Frequency (%)</i>	<i>2007 Frequency (%)</i>
<b>Magistrates</b>	14 (5)	17 (7)	6 (2)	6 (2)	8 (3)	10 (4)
<b>County</b>	4 (2)	4 (2)	2 (2)	0	4 (2)	4 (2)
<b>Crown</b>	0	1 (<1)	3 (1)	1 (<1)	0	0
<b>High</b>	1 (<1)	1 (<1)	0	0	0	0
<i>Reason for court appearance</i>	<i>1997 Frequency (%)</i>	<i>1999 Frequency (%)</i>	<i>2001 Frequency (%)</i>	<i>2003 Frequency (%)</i>	<i>2005 Frequency (%)</i>	<i>2007 Frequency (%)</i>
<b>Family/matrimonial</b>	8 (3)	5 (2)	1 (<1)	0	5 (2)	1 (<1)
<b>Civil</b>	5 (2)	6 (2)	2 (1)	1 (<1)	0	3 (1)
<b>Criminal non-violent</b>	5 (2)	4 (2)	4 (2)	1 (<1)	1 (<1)	4 (2)
<b>Criminal violent</b>	1 (<1)	2 (1)	2 (1)	3 (1)	3 (1)	2 (1)
<b>Driving offence</b>	3 (1)	7 (3)	2 (1)	2 (1)	3 (1)	4 (2)
<i>Mean unit consumption in week before interview amongst those that appeared in court</i>	<b>71.5</b>	<b>63.4</b>	<b>92.6</b>	<b>52.2</b>	<b>93.0</b>	<b>72.7</b>

**Table B44: Frequency of sample in contact with the probation service and frequency that have appeared in court on at least one occasion in the year before interview 1997-2007 (n=259)**

	<b>Number in contact with probation</b>	<b>Number appeared in court at least once in last year</b>
<b>1997</b>	9 (3%)	22 (8.5%)
<b>1999</b>	8 (3%)	21 (8.1%)
<b>2001</b>	3 (1%)	12 (4.6%)
<b>2003</b>	1 (<1%)	8 (3.1%)
<b>2005</b>	1 (<1%)	11 (4.2%)
<b>2007</b>	2 (<1%)	13 (5.0%)

**Table B45: Frequency of men and women who reported being a victim of different crimes in the year before interview 1997-2007 (n=259)**

<i>Type of crime</i>	<i>1997 Frequency (% of gender)</i>		<i>1999 Frequency (%of gender)</i>		<i>2001 Frequency (%of gender)</i>		<i>2003 Frequency (%of gender)</i>		<i>2005 Frequency (%of gender)</i>		<i>2007 Frequency (%of gender)</i>	
	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>
<b>Vandalism</b>	4 (2)	2 (3)	4 (2)	0	3 (2)	3 (4)	4 (2)	3 (4)	2 (1)	0	5 (3)	1 (1)
<b>Theft/burglary</b>	28 (15)	14 (19)	30 (16)	8 (11)	27 (15)	7 (9)	22 (12)	8 (11)	11 (6)	7 (9)	13 (7)	5 (7)
<b>Assault</b>	12 (7)	4 (5)	15 (8)	4 (5)	9 (5)	6 (8)	8 (4)	5 (7)	5 (3)	3 (4)	11 (6)	2 (3)
<b>Car accident</b>	2 (1)	1 (1)	1 (1)	0	2 (1)	0	1 (1)	1 (1)				
<b>Other</b>	4 (2)	1 (1)			3 (2)	1 (1)	4 (2)	1 (1)	1 (1)	1 (1)	1 (1)	2 (3)
<b>Total number of victims of crime (% of sample)</b>	<b>50 (27%)</b>	<b>22 (29%)</b>	<b>40 (22%)</b>	<b>12 (16%)</b>	<b>44 (24%)</b>	<b>17 (23%)</b>	<b>39 (21%)</b>	<b>18 (24%)</b>	<b>18 (10%)</b>	<b>11 (15%)</b>	<b>30 (16%)</b>	<b>10 (13%)</b>
<b>General pop*</b>	<b>35%</b>		<b>31%</b>		<b>28%</b>		<b>27%</b>		<b>24%</b>		<b>22%</b>	

**Table B46: Mean number of contacts with a GP at the surgery and at home. Comparison of sample (n=259) to general population\* 1999-2007**

	<i>Surgery Visits Mean (SD)</i>	<i>Home visits Mean (SD)</i>	<b>General pop* Mean visits per year</b>
<b>Wave two:</b>			
Male	3.22 (3.81)	0.07 (0.31)	3.5
Female	4.56 (6.66)	0.23 (1.16)	5.5
All	3.61 (4.83)	0.12 (0.68)	4.5
<b>Wave three:</b>			
Male	3.01 (4.08)	0.11 (0.57)	4
Female	5.45 (7.53)	0.24 (1.04)	5
All	3.72 (5.41)	0.15 (0.74)	4.5
<b>Wave four:</b>			
Male	3.70 (5.44)	0.04 (0.27)	4
Female	4.65 (6.47)	0.04 (0.26)	5.5
All	3.97 (5.76)	0.04 (0.27)	4.5
<b>Wave five:</b>			
Male	3.95 (8.68)	0.02 (0.13)	3.5
Female	4.39 (4.65)	0.07 (0.48)	5.5
All	4.07 (7.73)	0.03 (0.28)	4.5
<b>Wave six:</b>			
Male	3.58 (5.90)	0.03 (0.21)	3
Female	5.16 (7.02)	0.04 (0.35)	5
All	4.04 (6.27)	0.03 (0.25)	4.5

\* GHS 2006

**Table B47: Total number of GP contacts, at the surgery, at home and for pregnancy or contraception 1999-2007 (n=259)**

	<i>Total Contacts with GP</i>	<i>Number of surgery visits (% of total contacts)</i>	<i>Number of home visits (% of total contacts)</i>	<i>Number of contacts relating to contraception or pregnancy (% of total contacts)</i>
<b>Wave two:</b>	<b>965</b>	935 (97%)	30 (3%)	22 (2%)
<b>Wave three:</b>	<b>1001</b>	963 (96%)	38 (4%)	45 (4%)
<b>Wave four:</b>	<b>1040</b>	1029 (99%)	11 (1%)	23 (2%)
<b>Wave five:</b>	<b>1063</b>	1055 (99%)	8 (1%)	23 (2%)
<b>Wave six:</b>	<b>1055</b>	1046 (99%)	9 (1%)	9 (1%)

**Table B48 Frequency (and percentage) of contacts with GP at the surgery in the year before interview waves two to six (n=259)**

<i>Number of contacts with GP in last year</i>	<i>1999 Frequency (%)</i>			<i>2001 Frequency (%)</i>			<i>2003 Frequency (%)</i>			<i>2005 Frequency (%)</i>			<i>2007 Frequency (%)</i>		
	<i>M</i>	<i>F</i>	<i>All</i>												
None	46 (25)	9 (12)	55 (21)	43 (23)	7 (9)	50 (19)	52 (28)	8 (11)	60 (23)	40 (22)	11 (15)	51 (20)	48 (26)	8 (11)	56 (22)
1 – 3	80 (44)	38 (51)	118 (46)	93 (51)	39 (52)	132 (51)	79 (43)	38 (51)	117 (45)	82 (47)	29 (39)	111 (43)	82 (45)	33 (44)	115 (44)
4 – 12	54 (29)	24 (32)	78 (30)	44 (24)	23 (31)	67 (26)	41 (22)	26 (35)	67 (26)	55 (30)	32 (43)	87 (34)	46 (25)	32 (43)	78 (30)
13+	4 (2)	4 (5)	8 (3)	4 (2)	6 (8)	10 (4)	12 (6)	3 (4)	15 (6)	7 (4)	3 (4)	10 (4)	8 (4)	2 (3)	10 (4)

**Table B49: Frequency (and percentage) of comment type from the GP in the year before interview waves two to six (n=259)**

<i>Comment type</i>	<i>1999 Frequency (%)</i>			<i>2001 Frequency (%)</i>			<i>2003 Frequency (%)</i>			<i>2005 Frequency (%)</i>			<i>2007 Frequency (%)</i>		
	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>
To reduce drinking	36 (20)	10 (13)	46 (18)	33 (18)	10 (13)	43 (17)	38 (21)	9 (12)	47 (18)	39 (21)	6 (8)	45 (17)	38 (21)	8 (11)	46 (18)
No need to change	6 (3)	1 (1)	7 (3)	0	3 (4)	3 (1)	2 (1)	1 (1)	3 (1)	5 (3)	1 (1)	6 (2)	0	1 (1)	1 (<1)
To promote drinking							1 (1)	0	1 (<1)						
Other comment				6 (3)	2 (3)	8 (3)				5 (3)	2 (3)	7 (3)	6 (3)	3 (4)	9 (4)

**Table B50: Frequency (and percentage) of different reasons for last contact with GP when drinking was discussed. Waves 3 to 6 (n=259)**

<i>Reason for GP contact</i>	<i>2001</i>			<i>2003</i>			<i>2005</i>			<i>2007</i>		
	<i>Frequency (%)</i>			<i>Frequency (%)</i>			<i>Frequency (%)</i>			<i>Frequency (%)</i>		
	<i>M</i>	<i>F</i>	<i>All</i>									
Drinking not discussed with GP	49 (27)	9 (12)	58 (22)	143 (78)	65 (87)	208 (80)	135 (73)	66 (88)	201 (78)	142 (77)	63 (84)	205 (79)
New chronic condition	43 (23)	19 (25)	62 (24)	4 (2)	0	4 (2)	2 (1)	0	2 (1)	3 (2)	0	3 (1)
Ongoing chronic condition	16 (9)	4 (5)	20 (8)	18 (9)	4 (5)	22 (9)	19 (10)	1 (1)	20 (8)	18 (10)	6 (8)	24 (9)
Acute condition	7 (4)	3 (4)	10 (4)	7 (4)	2 (3)	9 (4)	4 (2)	3 (4)	7 (3)	2 (1)	1 (1)	3 (1)
Injury	0	0	0	3 (2)	1 (1)	4 (2)	1 (1)	1 (1)	2 (1)	1 (1)	1 (1)	2 (1)
Minor illness	0	2 (3)	2 (1)	0	0	0	3 (2)	1 (1)	4 (2)	4 (2)	0	4 (2)
Repeat prescription	69 (38)	38 (51)	107 (41)	6 (3)	0	6 (2)	5 (3)	1 (1)	6 (2)	8 (4)	2 (3)	10 (4)
Check-up/medical	0	0	0	2 (1)	2 (3)	4 (2)	14 (8)	2 (3)	16 (6)	6 (3)	2 (3)	8 (3)
New patient	0	0	0	1 (1)	1 (1)	2 (1)	1 (1)	0	1 (<1)	0	0	0

**Table B51: Frequency (amongst those that discussed drinking with their GP) that reported attending for different bodily system problems 2003-2007**

<b>Which bodily system problem triggered GP visit when alcohol discussed?</b>	<b>2003 Frequency (%) (n=51)</b>	<b>2005 Frequency (%) (n=58)</b>	<b>2007 Frequency (%) (n=55)</b>
Digestive	12 (24%)	10(17%)	9 (16%)
Cardiovascular	4 (8%)	9 (16%)	10 (18%)
Respiratory	1 (2%)	2 (3%)	1 (2%)
Skeletal/muscular	10 (20%)	8 (14%)	3 (5%)
Urinary	0	1 (2%)	1 (2%)
Mental/psychological	11 (22%)	9 (16%)	9 (16%)
Gynaecological/genital	0	1 (2%)	2 (4%)
Endocrine	0	1 (2%)	2 (4%)
Dermatological	1 (2%)	1 (2%)	2 (4%)
ENT	0	2 (4%)	1 (2%)
Liver	0	0	7 (13%)
Other	12 (24%)	0	8 (15%)

**Table B52: Frequency (and percentage) of sample that accessed inpatient, A&E and outpatient services in the year before interview 1997-2007 (n=259)**

	<i>1997 Frequency (%)</i>			<i>1999 Frequency (%)</i>			<i>2001 Frequency (%)</i>			<i>2003 Frequency (%)</i>			<i>2005 Frequency (%)</i>			<i>2007 Frequency (%)</i>		
	<i>M</i>	<i>F</i>	<i>All</i>															
Inpatient visits	30 (16)	16 (21)	46 (18)	19 (10)	18 (24)	37 (14)	22 (12)	12 (16)	34 (13)	18 (10)	13 (17)	31 (12)	30 (16)	9 (12)	39 (15)	25 (14)	11 (15)	36 (14)
A & E visits	45 (25)	14 (19)	59 (23)	45 (25)	16 (21)	61 (24)	37 (20)	14 (19)	51 (20)	32 (17)	9 (12)	41 (16)	32 (17)	15 (20)	47 (18)	37 (20)	12 (16)	49 (19)
Outpatient visits	No data available			No data available			61 (33)	35 (47)	96 (37)	63 (34)	36 (48)	99 (38)	56 (30)	28 (37)	84 (32)	66 (36)	26 (35)	92 (36)

**Table B53: Mean unit consumption comparison between those that used inpatient, A&E and outpatient services and those that did not 1997-2007**

	<i>1997 Mean unit consumption (SD)</i>		<i>1999 Mean unit consumption (SD)</i>		<i>2001 Mean unit consumption (SD)</i>		<i>2003 Mean unit consumption (SD)</i>		<i>2005 Mean unit consumption (SD)</i>		<i>2007 Mean unit consumption (SD)</i>	
	<i>Yes</i>	<i>No</i>										
Inpatient visits	79.6 (55.5)	80.1 (47.7)	45.3 (47.6)	74.1 (4.0)	62.6 (57.6)	69.7 (60.4)	75.6 (86.7)	63.6 (55.5)	80.9 (67.3)	57.8 (55.1)	41.9 (49.3)	51.7 (50.6)
A & E visits	92.9 (61.7)	76.2 (44.1)	64.2 (55.3)	71.8 (59.5)	57.6 (46.3)	71.5 (62.7)	78.8 (77.2)	62.4 (56.1)	65.2 (64.1)	60.4 (56.1)	62.7 (68.0)	47.5 (45.1)
Outpatient visits	No data available		No data available		61.4 (51.6)	73.1 (64.2)	66.0 (56.2)	64.4 (62.4)	62.5 (59.6)	60.6 (56.7)	57.4 (63.8)	46.5 (41.0)

**Table B54: Frequency (and percentage) of sample that accessed inpatient, A&E and outpatient services in the year before interview 1997-2007, age comparison (n=259)**

<i>Department type and age group</i>	<i>n</i>	<i>1997 Frequency (%)</i>	<i>1999 Frequency (%)</i>	<i>2001 Frequency (%)</i>	<i>2003 Frequency (%)</i>	<i>2005 Frequency (%)</i>	<i>2007 Frequency (%)</i>
<b>Inpatients</b>							
25-34	105	21 (20)	13 (12)	13 (12)	10 (10)	8 (8)	14 (13)
35-44	80	14 (18)	14 (18)	11 (14)	9 (11)	11 (14)	8 (10)
45-55	74	11 (15)	10 (14)	10 (14)	12 (16)	20 (27)	14 (19)
<b>A &amp; E</b>							
25-34	105	28 (27)	32 (31)	20 (19)	19 (18)	17 (16)	21 (20)
35-44	80	20 (25)	20 (25)	16 (20)	14 (18)	17 (21)	14 (18)
45-55	74	11 (15)	9 (12)	15 (20)	8 (11)	13 (18)	14 (19)
<b>Outpatients</b>							
25-34	105			36 (34)	30 (29)	27 (26)	30 (29)
35-44	80			34 (43)	32 (40)	25 (31)	22 (28)
45-55	74			26 (35)	37 (50)	32 (43)	40 (54)

**Table B55: Frequency (and percentage) of sample that accessed A&E and/or outpatient services in the twelve months before interview and mean number of contacts 1997-2007 (n=259)**

	<i>Frequency (% of sample)</i>			<i>Sample mean visits (SD)</i>
	<i>M</i>	<i>F</i>	<i>All</i>	
<b>Wave 3</b>	77 (42%)	41 (55%)	118 (46%)	1.61 (4.07)
<b>Wave 4</b>	79 (43%)	37 (49%)	116 (45%)	1.36 (2.46)
<b>Wave 5</b>	74 (40%)	34 (45%)	108 (42%)	1.30 (3.33)
<b>Wave 6</b>	83 (45%)	31 (41%)	114 (44%)	1.56 (3.54)

**Table B56: Frequency (and percentage) of contacts with primary care services 1997-2007 (n=259)**

	<i>1997</i>			<i>1999</i>			<i>2001</i>			<i>2003</i>			<i>2005</i>			<i>2007</i>		
	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>
<b>Practice nurse</b>	7 (4)	12 (16)	19 (7)	39 (21)	33 (44)	72 (28)	68 (37)	42 (56)	110 (43)	64 (35)	38 (51)	102 (39)	83 (45)	44 (59)	127 (49)	85 (46)	41 (55)	126 (49)
<b>Practice counsellor</b>	0	4 (5)	4 (2)	1 (1)	4 (5)	5 (2)	6 (3)	3 (4)	9 (4)	6 (3)	1 (1)	7 (3)	5 (3)	4 (5)	9 (4)	6 (3)	3 (4)	9 (4)
<b>Other counsellor</b>	3 (2)	3 (4)	6 (2)	7 (4)	5 (7)	12 (5)	2 (1)	1 (1)	3 (1)	2 (1)	1 (1)	3 (1)	3 (2)	1 (1)	4 (2)	2 (1)	0	2 (1)
<b>Health Visitor</b>				1 (1)	2 (3)	3 (1)	1 (1)	2 (3)	3 (1)	1 (1)	2 (3)	3 (1)	1 (1)	2 (3)	3 (1)	1 (1)	2 (3)	3 (1)
<b>CPN</b>				2 (1)	3 (4)	5 (2)	6 (3)	1 (1)	7 (3)	6 (3)	2 (3)	8 (3)	4 (2)	0	4 (2)	8 (4)	0	8 (3)
<b>Alternative medicine practitioner</b>				15 (8)	11 (15)	26 (10)	5 (3)	3 (4)	8 (3)	7 (4)	3 (4)	10 (4)	2 (1)	4 (5)	6 (2)	2 (1)	1 (1)	3 (1)
<b>Other health professional</b>				31 (17)	23 (31)	54 (21)	6 (3)	6 (8)	12 (5)	11 (6)	6 (8)	17 (7)	5 (3)	5 (7)	10 (4)	5 (3)	3 (4)	8 (3)

**Table B57: Mean number of contacts with a practice nurse amongst the whole BUHD sample and amongst those that reported at least one contact (n=259) 1999-2007, comparison to general population figures**

	<i>1999</i>			<i>2001</i>			<i>2003</i>			<i>2005</i>			<i>2007</i>		
	<i>Mean number of contacts (SD)</i>			<i>Mean number of contacts (SD)</i>			<i>Mean number of contacts (SD)</i>			<i>Mean number of contacts (SD)</i>			<i>Mean number of contacts (SD)</i>		
	<i>M</i>	<i>F</i>	<i>All</i>												
<b>BUHD sample (n=259)</b>	0.5 (1.4)	0.9 (1.7)	0.6 (1.5)	0.8 (1.6)	1.2 (1.9)	0.9 (1.7)	0.9 (2.1)	1.3 (2.6)	1.0 (2.3)	1.0 (1.8)	1.4 (1.7)	1.1 (1.7)	1.4 (3.9)	1.5 (2.5)	1.4 (3.6)
<b>Participants that had contact with practice nurse at least once</b>	2.3 (2.4)	2.1 (2.1)	2.2 (2.3)	2.1 (2.1)	2.1 (2.2)	2.1 (2.1)	2.5 (2.9)	2.5 (3.2)	2.5 (3.0)	2.1 (2.1)	2.3 (1.6)	2.2 (1.9)	3.0 (5.4)	2.8 (2.9)	2.9 (4.7)
<b>General population</b>	1.0	1.5	1.5	1.5	1.5	1.5	1.5	2.0	1.5	1.5	2.0	1.5	1.5	2.0	1.5

**Table B58: Mean number of contacts with other primary care services amongst those that reported at least one contact 1999-2007**

	<i>1999</i>			<i>2001</i>			<i>2003</i>			<i>2005</i>			<i>2007</i>		
	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>
<b>Practice counsellor</b>	4.0 (n/a)	2.0 (0.1)	2.4 (1.1)	2.0 (2.0)	2.7 (2.9)	2.2 (2.2)	4.2 (4.7)	2.0 (n/a)	3.9 (4.4)	1.6 (0.5)	3.3 (1.7)	2.3 (1.4)	6.3 (5.3)	2.0 (1.7)	4.9 (4.8)
<b>Other counsellor</b>	6.4 (9.0)	11.8 (22.5)	8.7 (15.4)	14.0 (15.6)	110.0 (n/a)	46.0 (56.5)	1.0 (0)	1.0 (n/a)	1.0 (0)	5.3 (5.9)	1.0 (n/a)	4.3 (5.3)	6.0 (5.7)	0	6.0 (5.7)
<b>Health Visitor</b>	1.0 (n/a)	3.5 (3.5)	2.7 (2.9)	5.0 (n/a)	4.0 (2.8)	4.3 (2.1)	4.0 (n/a)	7.0 (4.2)	6.0 (3.5)	1.0 (n/a)	110 (1.4)	7.7 (5.9)	3.0 (n/a)	2.5 (2.1)	2.7 (1.5)
<b>CPN</b>	12.0 (n/a)	4.3 (4.9)	6.3 (5.6)	3.7 (4.4)	3.0 (n/a)	3.6 (4.0)	1.5 (0.8)	13.5 (17.7)	4.5 (8.7)	7.5 (12.3)	0	7.5 (12.3)	20.4 (34.8)	0	20.4 (34.8)
<b>Alternative medicine practitioner</b>	6.1 (10.5)	6.1 (4.6)	6.1 (8.4)	3.8 (2.0)	2.0 (1.7)	3.1 (2.0)	6.7 (8.0)	13.0 (12.5)	8.6 (9.3)	1.5 (0.7)	2.8 (2.4)	2.3 (2.0)	6.0 (5.7)	3.0 (n/a)	5.0 (4.4)
<b>Other health professional</b>	2.3 (1.5)	2.3 (1.6)	2.3 (1.5)	2.0 (1.3)	5.3 (3.7)	3.7 (3.1)	2.6 (2.3)	5.7 (5.2)	3.7 (3.8)	3.2 (1.8)	3.0 (1.9)	3.1 (1.7)	2.6 (2.1)	7.3 (7.1)	4.4 (4.8)

**Table B59: Mean weekly unit consumption amongst those that reported at least one contact with each primary care service 1999-2007**

	<i>1999</i>			<i>2001</i>			<i>2003</i>			<i>2005</i>			<i>2007</i>		
	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>
<b>Practice nurse</b>	75.1 (56.9)	56.0 (58.3)	66.4 (58.0)	89.3 (75.0)	42.7 (28.9)	71.5 (65.5)	80.7 (78.5)	45.3 (36.6)	67.5 (68.1)	78.5 (71.9)	44.6 (37.9)	66.7 (64.2)	56.0 (56.6)	43.7 (46.4)	52.0 (53.6)
<b>Practice counsellor</b>	112.0 (n/a)	61.5 (38.6)	71.6 (40.3)	70.5 (73.4)	57.8 (13.8)	66.3 (58.8)	107.3 (120.6)	68.0 (n/a)	101.7 (111.1)	69.6 (82.0)	55.6 (12.3)	63.4 (58.9)	80.3 (53.4)	56.7 (63.7)	72.4 (54.2)
<b>Other counsellor</b>	70.4 (24.4)	43.6 (12.3)	59.3 (23.9)	108.8 (143.2)	39.0 (n/a)	85.5 (109.0)	82.0 (39.6)	40.5 (n/a)	68.2 (36.9)	85.0 (40.2)	6.0 (N/A)	65.3 (51.4)	141.0 (81.3)	0	141.0 (81.3)
<b>Health Visitor</b>	64.0 (n/a)	102.5 (109.6)	89.7 (80.6)	62.0 (n/a)	71.0 (45.3)	68.0 (32.4)	43.0 (n/a)	19.0 (8.5)	27.0 (15.1)	240.0 (N/A)	7.0 (1.4)	84.7 (134.5)	0	9.5 (7.8)	6.3 (7.8)
<b>CPN</b>	88.0 (n/a)	41.3 (52.9)	53.0 (49.1)	87.7 (79.0)	42.0 (n/a)	81.1 (74.1)	43.2 (41.2)	12.5 (17.7)	35.5 (38.2)	64.3 (74.8)	0	64.3 (74.8)	61.3 (85.9)	0	61.3 (85.9)
<b>Alternative medicine practitioner</b>	52.0 (40.2)	44.1 (49.4)	48.7 (43.6)	85.6 (68.2)	60.2 (47.3)	76.1 (58.9)	51.8 (36.1)	23.2 (26.5)	43.2 (34.9)	15.0 (21.2)	15.4 (16.8)	15.3 (16.1)	40.3 (12.4)	22.0 (n/a)	34.2 (13.7)
<b>Other health professional</b>	66.8 (43.0)	52.6 (41.5)	60.8 (42.5)	98.3 (67.8)	65.5 (54.9)	81.9 (61.2)	74.6 (61.5)	14.8 (15.8)	53.5 (57.5)	82.1 (67.8)	25.1 (21.8)	53.6 (56.2)	71.6 (35.6)	32.7 (20.8)	57.0 (35.4)

**Table B60: Frequency (and percentage) of estimates of recommended sensible drinking levels by gender 2003-2007 (n=259)**

	<i>2003 Frequency (%)</i>			<i>2005 Frequency (%)</i>			<i>2007 Frequency (%)</i>		
	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>	<i>M</i>	<i>F</i>	<i>All</i>
<b>Daily unit for men</b>									
Not known	90 (49)	41 (55)	131 (51)	73 (40)	38 (51)	111 (43)	34 (19)	26 (35)	60 (23)
Under estimate	14 (8)	1 (1)	15 (6)	11 (6)	2 (3)	13 (5)	22 (12)	3 (4)	25 (10)
Correct estimate	60 (33)	20 (27)	80 (31)	83 (45)	21 (28)	104 (40)	89 (48)	33 (44)	122 (47)
Over estimate	20 (11)	13 (17)	33 (13)	17 (9)	14 (19)	31 (12)	39 (21)	13 (17)	52 (20)
<b>Daily units for women</b>									
Not known	100 (54)	39 (52)	139 (54)	79 (43)	37 (49)	116 (45)	38 (21)	25 (33)	63 (24)
Under estimate	2 (1)	1 (1)	3 (1)	12 (7)	1 (1)	13 (5)	13 (7)	2 (3)	15 (6)
Correct estimate	63 (34)	25 (33)	88 (34)	80 (44)	27 (36)	107 (41)	100 (54)	38 (51)	138 (53)
Over estimate	19 (10)	10 (13)	29 (11)	13 (7)	10 (13)	23 (9)	33 (18)	10 (13)	43 (17)
<b>Weekly units for men</b>									
Not known	66 (36)	31 (41)	97 (38)	56 (30)	32 (43)	88 (34)	28 (15)	18 (24)	46 (18)
Under estimate	36 (20)	8 (11)	44 (17)	30 (16)	6 (8)	36 (14)	41 (22)	6 (8)	47 (18)
Correct estimate	36 (20)	21 (28)	57 (22)	38 (21)	22 (29)	60 (23)	42 (23)	30 (40)	72 (28)
Over estimate	46 (25)	15 (20)	61 (24)	60 (33)	15 (20)	75 (29)	73 (40)	21 (28)	94 (36)
<b>Weekly units for women</b>									
Not known	74 (40)	25 (33)	99 (38)	62 (34)	29 (39)	91 (35)	31 (17)	18 (24)	49 (19)
Under estimate	25 (14)	9 (12)	34 (13)	30 (16)	7 (9)	37 (14)	35 (19)	8 (11)	43 (17)
Correct estimate	37 (20)	31 (41)	68 (26)	42 (23)	28 (37)	70 (27)	53 (29)	33 (44)	86 (33)
Over estimate	48 (26)	10 (13)	58 (22)	50 (27)	11 (15)	61 (24)	65 (35)	16 (21)	81 (31)

## **APPENDIX C: INTERVIEW CONTENT**

Interviews were carried out at each interview wave by three psychology graduates, trained in both quantitative and qualitative interview skills. Interviewers were supervised by the project manager.

Interviews lasted around two hours, and were composed of the following three elements:

1. Structured, computer-administered questionnaire
2. Paper and pencil exercises (e.g. Changes chart, Timeline Follow Back)
3. Qualitative interview

**Table C1: Areas covered in each interview**

	W1	W2	W3	W4	W5	W6
Age, gender, DOB	*	*	*	*	*	*
Educational qualifications	*	*	*	*	*	*
Employment	*	*	*	*	*	*
Socio-economic status	*	*	*	*	*	*
Language, ethnicity, religious practice	*					
Use of primary care services	*	*	*	*	*	*
Gambling				*		*
Eating and drinking				*		
Exercise				*		
Smoking	*	*	*	*	*	*
Health (SF-36), medication	*	*	*	*	*	*
Use of hospital services	*	*	*	*	*	*
Use of social care services	(*)	*	*	*	*	*
Help seeking		*	*	*	*	*
GP visits and comments on drinking	*	*	*	*	*	*
Self esteem	*	*	*			
Relationship status and changes	*	*	*	*	*	*
Household status	*	*	*	*	*	*
Weight and height	*	*	*	*	*	*
Drinking (volume, place and company) last week (TLFB)	*	*	*	*	*	*
No. of heavy drinking days last year	*	*	*	*	*	*
Changes chart	(*)	*	*	*	*	*
Brief Important People Interview					*	
Important Activities Interview						*
Impact of last interview		*	*	*	*	*
Impact of change in smoking & licensing laws						*
Leeds Dependence Questionnaire	*	*	*	*	*	*
Readiness to Change Questionnaire	*	*	*	*	*	*
Work and alcohol (employed Ps only)	*	*	*	*	*	*
Drug use	*	*	*	*	*	*
Risky & intoxicated behaviours	*	*	*	*	*	*
Aggression and violence		*	*	*	(*)	*
Criminal justice system contact	(*)	*	*	*	*	*
Estimation of population average drinking				*	*	
Benefits and drawbacks	(*)	*	*	*	*	*
Family member interviews	*	*	*			
Qualitative interview (range of topics)	*	*	*	*	*	*

## **FURTHER DETAILS OF STANDARD MEASURES**

Three standard measures were used to collect data during the drinking participant interviews: the SF-36, LDQ and RTCQ.

### **1. Short Form 36 general health questionnaire (SF-36), Ware and Sherbourne (1992)**

A 36 item questionnaire developed by Ware and Sherbourne in 1992 as a measure of general health suitable for use with non-clinical samples. The measure provides factor scores for eight different aspects of health (general health perception; social functioning; mental health; emotional role limitations; physical function; physical role limitations; bodily pain; energy and vitality).

#### *Interpretation of scores*

- Higher scores represent better health (0 = poor health through to 100 for good health)
- General population data used in this report was taken from the Omnibus Survey (Bowling et al. 1999).

### **2. Leeds Dependence Questionnaire (LDQ), Raistrick et al. (1994)**

A 12 item measure of alcohol dependence, reported by the developers to be 'sensitive through the range from mild to severe dependence'. Also, the measure was designed to be sensitive to change over time.

#### *Interpretation of scores*

Each of the 12 items are scored on a range of 0 to 3, resulting in a total score between 0 and 36. Higher scores represent greater dependence on alcohol.

Data available for comparison (Raistrick *et al*, 1994).

Clinical sample (drinker referrals to Leeds addiction Unit, n = 47)	mean 16.3 (SD 8.9)
Students (consumed alcohol in previous week, n = 64)	mean 7.0 (SD 4.4)
General Practice (random selection of patients, drunk alcohol in previous week, n = 14)	mean 3.1 (SD 3.2)

### **3. Readiness to Change questionnaire (RTCQ), Heather and Rollnick (1993)**

A ten item questionnaire based upon the 'transtheoretical' or 'stages of change' model of Prochaska and Diclemente (1983). The measure is intended to assess via the item responses the respondents current stage of change position, which may be either precontemplative, contemplative or action.

### *Interpretation of scores*

- The ten items are scored on a scale of -2 through to +2. Specific item scores are summed to provide a score for each stage of change, the stage with the greatest score is assessed as the stage at which the participant is currently positioned.
  
- Stages are interpreted as:-
  - precontemplation           - stage at which individuals lack awareness of any need to change
  - contemplation               - stage at which individuals are considering a need for change and experiencing the associated conflict and dissonance.
  
  - Action                       - Individuals have already made a commitment to change and taken some action to change their addictive behaviour

### **Content of the family member interviews**

There were three standard questionnaires:

- 1) the perceived benefits and drawbacks of heavy drinking: the questions were exactly the same as those asked of participants, except that family members were asked, from their own perspectives, to rate benefits and drawbacks accruing to the heavy drinking relative from the latter's heavy drinking (it was made clear that we were not interested in the benefits and drawbacks accruing to the family member her/himself, nor the latter's opinion about the heavy drinker's likely perceptions, but rather the family member's perceptions of what the benefits and drawbacks were for the heavy drinkers);
- 2) readiness to change drinking: again, items are identical to those used in the participant version of the RTCQ, except that item wording was modified slightly in order to obtain the family member's perception of the desirability of change e.g. the item, 'I don't think I drink too much' was modified for family members to read, 'I don't think he[or she] drinks too much';
- 3) the coping with a relative's drinking questionnaire: this is a thirty-item questionnaire designed to assess the ways in which family members have recently been trying to cope with a close relative's excessive drinking (Orford et al 2005) from which a total score and 3 sub-scale scores (engaged, tolerant and withdrawal coping, respectively) can be derived. In the semi-structured interview the family member was asked: to describe the nature and history of the relationship with the heavy drinker he or she was related to, and to describe the history and nature of the heavy drinker's drinking, including the family member's views on the causes of the heavy drinking; to describe the effects of their relative's heavy drinking on the interviewee; how the latter had been reacting to the heavy drinking in the last 12 months; and his or her views on the desirability or undesirability of the heavy drinker changing his or her drinking.

## **BUHD Participants qualitative Interview Topics**

### **Wave One (n = 500)**

General* (stage 1)	49
Career and Family (stage 1)	5
Benefits and Drawbacks of drinking	50
Readiness to Change	49
Support and Opposition	48
Family	37
Career	62
Health Education (stage 2)	49
Dependency	46
Norms	47
Gender	49
No qualitative interview	9
Total	500

### **Wave Two (n = 403)**

Mixed	32
Health care utilization	73
Aggression and alcohol	52
Work and alcohol	50
Social Inclusion/exclusion	50
Health Promotion	37
Current Family	44
Changes (in life and drinking)	50
Domestic Violence (as aggression stage 3)	7
No interview	8
Total	403

### **Wave Three (n = 350)**

Unemployment and drinking	19
Change in drinking and help seeking	30
P's perception of the effects on family	22
Relationships	18
Responses to health consultations	21
Binge drinking	21
Drugs and alcohol	26
Women's drinking	23
Masculinity	11
Not available for employment and drinking	23
Drinking places	
Most least admired women drinkers	15
Most least admired men drinkers	27
Maintaining change	13
Evaluating help	2
Changes in women's drinking over time	22
Description of a binge	3

Negotiations of change in relationships	12
No qualitative interview	42
Total	350

(\*including discussion some or all of the following:- Benefits and Drawbacks, readiness to change, support and opposition, norms)

**Wave Four (n = 321)**

Community	84
Economics	9
Help	59
Hospital	38
Life changes	37
Participant	23
Responsibility	16
Risk – male	8
Risk – female	9
Story	7
No qualitative interview	16
Total	321

**Wave Five (n = 280)**

Identity	248
Abstinence / low drinking	29
No qualitative interview	3
Total	280

**Wave Six (all interviews)**

End of Project Review	259
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## **Wave Six Qualitative Interview guide**

Explain to the participant that you would like them to reflect on how things have been over the past decade, both in their life and in their participation in the study. The questions about the last decade of their life will be used as a starting point for wider reflection on the past decade within the broader context of their life as a whole.

### ***Part 1: Review of the decade and life***

The aim of this section is to encourage the participant to think about how things have stayed the same and changed over the time they have been in the study. The purpose of this is partly to find out about people's motivations for taking part (and particularly if they were already thinking of cutting down), and also to get them to tell their stories of what has changed over this time.

#### *Guide questions:*

- Thinking back to when you first joined the study ten years ago, can you remember what was happening in your life around that time?
- Can you remember what led you to take part in the study?
- In what ways is your life today different from how it was ten years ago? In what ways has your life stayed the same? (Link this with the wider context of their life – e.g. Through asking questions such as: ‘has it always been like that?’ Was it like that when you were younger / before you were married / before you were a parent?’)
- In what ways are *you* different from how you were ten years ago? In what ways have you stayed the same? (example of probe for wider context: ‘have you always been like that throughout your adult life?’)
- What have been some of the main things that have happened over the past decade? (highs and lows) Have these things affected your drinking at all? If so, how? (example of probe for wider context: are there other really significant things that have happened in your life that have impacted on you or on your drinking?)
- How do you see the next ten years? What do you expect to happen? What do you expect to happen with your drinking?

#### *Further contextual questions*

- Thinking about your drinking over time, how would you summarise the part that drinking has played in your life?
- How has this changed over time?
- What is your overall perception of how big a part drinking has played in your life? (Dominant / ‘take it or leave it’ / better off without it?)

### ***Part 2: Review of the study***

The main aim of this section is to discuss the participant's thoughts and feelings about the study, and particularly about how drinking has been talked about. It is hoped that this will both allow the collection of data about the experience of participating in the study, and also enable the interviewer to construct a good ending to the final interview, through reflecting on this experience.

#### *Guide questions:*

- What's it been like taking part in the study?
- What's it been like talking about drinking? Is this something you do in other contexts (if so, who with)? Or is this the only place you talk about drinking?

- Has the project changed the way you think about things at all? If so, how?
- Has it changed the way you think about drinking at all?
- Has it changed how you talk about drinking at all? If so, how?
- What's been the most significant thing that's been talked about? Is there anything that has stayed with you?
- What haven't you had an opportunity to talk about? Are there other things you wish you'd been asked?

# Time Line Follow Back Exercise

Participant no. \_\_\_\_\_

Date	Drinks (amount & type)	Strength	Where	Who	Units

Total  
Units

Time of earliest drink(24 hr clock)	
% of early drinking (before 11 am.)	
Number of days drinking continuously	

% of solitary drinking	
% of alone drinking	
% of only drinker	

Typical week? (more/less)	
Units in a typical week	
Interview - day of week	

## Changes Chart - 2007 Wave Six

Participant No \_\_\_\_\_

Very High ( )	
High ( )	
Moderate ( )	
Low ( )	
Very Low ( )	
Abstinent	
Age & Date (month)	
Events & Changes	
<p><b>NB</b>            Work status W            Smoking S            Religion R            Help seeking HS            Life events L</p>	

