

**Who Seeks Treatment for Alcohol  
Dependence?**

Findings from the Australian National Survey of  
Mental Health & Wellbeing

Heather Proudfoot and Maree Teesson

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*National Drug and Alcohol Research Centre  
Sydney, AUSTRALIA*

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## **EXECUTIVE SUMMARY**

The present study examined patterns of alcohol dependence and treatment seeking in Australia. Multivariate analyses were conducted to examine whether any observed associations remained after controlling for other factors including demographic variables and comorbid mental disorders.

The prevalence of DSM-IV alcohol dependence in the general Australian population was estimated at 4.1% and was three times more common in males than females, as well as being most common in the younger age groups.

Alcohol dependence was most common among single males 18 to 34 years of age. Those with comorbid anxiety, depression or other drug disorders were also more likely to be alcohol dependent.

Just under 30% of those with alcohol dependence sought help for a mental health problem in the past 12 months. Thus most people with these problems do not seek help. Treatment seeking was more common among females, the middle aged (35 to 54 years), the more highly educated, those with any affective, anxiety or other drug disorder, and those with moderate to severe mental or physical disability. The only variables to predict treatment seeking for those with alcohol dependence were sex (females) and having a comorbid affective disorder. However when males and females were analysed separately a trend was apparent for males with affective disorder to seek treatment and for females with an anxiety disorder to be more likely to seek treatment. There was only a (non-significant) trend for disability to predict treatment seeking in this group. This fits with the finding that disability did not relate to an alcohol misuse diagnosis i.e. these individuals do not regard themselves as disabled overall. Because of low numbers, no trends of significance were found when comorbid groups were analysed separately.

In the past 12 months, GPs were the most frequently consulted professionals by those with alcohol dependence (22%). Only 12% sought specialist mental health care and 10% sought other professional care. The most common treatments received were medicines (18% of those seeking help) and psychological/counseling interventions (18%), with 9% obtaining information and 8% receiving help with self-improvement and practical issues. Most satisfaction was expressed for amount of medicines received compared with psychosocial and information interventions.

Amongst those with dependence who did not seek help, only 23% wanted any help which supports the notion that most people with alcohol dependence do not seek help because they do not see a need for help. Of those who wanted help, they most commonly wanted psychological/counseling types of treatment and least commonly wanted medical interventions. This, along with the greater satisfaction expressed for the amount of medical interventions received, suggests that medical needs are much better met than psychological and counseling needs. Specific barriers to treatment

seeking were also investigated. The main reason for not getting help when a need was seen for it was 'preferring to manage oneself'.

The findings from this survey suggest there is a need to increase public awareness of the risks involved in excessive alcohol use as many people do not perceive these problems. They also need to be convinced that there are effective treatment services available which may be more effective than trying to manage one's own illness. Also the survey identified a demand for greater access to psychological and counseling services for problems associated with alcohol misuse. Given that alcohol problems develop and are maintained in a social and psychological context, it is important to address these basic psychosocial factors if sustained change is to occur. Medicines may be of assistance in this sense but alone they may be seen to be treating the symptoms and not the underlying causes of the problems.

## **1. INTRODUCTION**

Alcohol is one of the most commonly used substances and contributes more than 10% to the total health burden in established market economies (Murray & Lopez, 1996). It is widely documented that alcohol abuse in its various forms costs society dearly and large-scale surveys provide evidence that alcohol is the source of many significant social and health problems for the individual.

In 1997, for the first time in Australia, data on alcohol use disorders were collected as part of the National Survey of Mental Health and Wellbeing (NSMHWB) (Henderson, Andrews, & Hall, 2000). The NSMHWB surveyed a stratified multi-stage probability sample of Australians aged 18 years and over. In total, 10,641 individuals were surveyed representing a 78% response rate. Trained interviewers administered a modified version of the Composite International Diagnostic Interview (CIDI) (World Health Organization, 1997) which provided, amongst other measures, diagnoses of mental disorders including substance use.

Treatments for alcohol problems are available and can be effective. The use of brief interventions in primary care, through both regular check-ups by GPs and accident trauma units in hospitals can be effective and are likely to be cost-effective, especially for those less disabled by their alcohol misuse (Proudfoot & Teesson, 2000). The use of pharmacotherapies conjointly with effective psychotherapies has obtained positive findings and may prove more useful for those for whom brief interventions do not suffice and who are more treatment-resistant. Individual cognitive behavioural therapy (CBT) to assist with coping/resistance, social skills, relapse prevention and comorbid depression has been found to be effective. One large study (Project MATCH Research Team, 1997) found that manualised treatments using CBT, motivational enhancement and twelve step facilitation were equally effective, and family therapy in the form of the community reinforcement approach has some support from the research and may prove helpful in actually getting problem drinkers to treatment.

However, research to date has found that few people with alcohol use disorders seek help for their problems. The national comorbidity survey in the US found that only 13.5% of those diagnosed with alcohol dependence in the past 12 months had sought help (Kessler et al., 1999) while the Netherlands-based NEMESIS study found that 17.5% of those with alcohol use disorders sought any professional help (Bijl & Ravelli, 2000), and when comorbid conditions and sex and age were controlled, alcohol use disorders did not predict usage of care at all.

Considering the physical, psychological, interpersonal and public damage that alcohol dependence can cause, it is important to understand why people with such problems do not seek treatment. This paper aims to answer the following questions:

1. What are the correlates of alcohol dependence?
2. What are the correlates of treatment seeking in general and for alcohol dependence?



3. Do males and females differ in treatment seeking for alcohol dependence?
4. Where do they seek help?

A number of models have been investigated to guide this research.

## 1.1 MODELS OF TREATMENT SEEKING BEHAVIOUR

The reasons that individuals, who acknowledge that they have significant health problems, do not seek treatment for these problems have been the subject of much research and various models have been proposed to describe treatment seeking behaviour.

### **1.1.1 Aday and Andersen's Framework of Access to Health Care:**

Aday and Andersen (1974) proposed one of the first comprehensive frameworks of access to health care (Appendix 1A). Their model encompasses both structural and personal variables which are categorised as manipulable or not vulnerable to change (immutable). Further, in this framework, health policy is seen as operating through characteristics of the health delivery system and the population at risk to influence the outcome variables: health service utilization and consumer satisfaction. However, within the population at risk there are some variables which are immutable. Predisposing variables such as age, sex, marital status, previous health behaviour, education, ethnicity, family structure and enabling factors such as residential mobility and urban-rural status are examples. Need in this model refers to illness level, both as seen by the individual and measured professionally (diagnosis).

In contrast, values regarding health and illness are predisposing variables which are manipulable, either directly, or indirectly through changes to the characteristics of the system. These include such factors as general health care beliefs, attitudes, health knowledge and concern about health. Similarly, income, usual source of care, ease of getting care and insurance cover are enabling variables which are manipulable.

Many of these characteristics of the population are influenced directly by characteristics of the system. In particular ease of obtaining care can be influenced by how resources are spread within the system between, for example, general practice and specialist, inpatient and outpatient or urban and rural services.

Thus, utilization of health services in a general sense is viewed by the Aday and Andersen model as being the outcome of interactions between variables within the health care system, characteristics of the individual and satisfaction with prior experience (which would include experiences of others that they know who have used services.)

### **1.1.2 Becker et al's Health Beliefs Models:**

The Health Beliefs Model (HBM) was firstly proposed to explain and assist research on population responses to the need for immunization or preventative care (Appendix A2). It attempts to explain behaviour based on a value-expectancy model where positive health behaviours are related to an individual's assessment of perceived susceptibility, severity of the illness threat, benefits seen in taking action and where costs and barriers are not deemed prohibitive (Hays, 1985). Becker et al (1977) reviewed the various psychosocial models of health-related behaviours and incorporated them into an expanded HBM which they broadened to include any illness-related behaviour (Appendix A3). Cues to action are not given the prominence they were in the model for preventive action, but would be subsumed under enabling factors and illness symptoms in the revised model. The revised model also specifically includes the concept of motivation. This model proposes that positive compliant responses to health risk situations result from personal readiness variables (motivations, assessment of risk of illness and assessment of safety and value of treatment) interacting with modifying and enabling variables such as demographics, actual treatment effects and requirements, satisfaction with prior experiences, commitment required, relationships with service staff and social or professional pressure/advice.

### **1.1.3 Goldberg & Huxley's Model of Pathways to Care:**

In contrast to the comprehensive models proposed above, Goldberg & Huxley's Pathways to care model (1980) focuses on system variables which affect help-seeking and describes the levels of care and filters to these levels within the health system (Appendix A4). It sees the individual proceeding through a series of filters which can lead ultimately to inpatient care. It provides a context for exploring structural barriers to care at various levels within the system. Thus according to this model, no progress to care can occur if there is no recognition of a problem (filter 1) and no referral to specialist services can occur if the case is not recognised at the primary care level (filter 2), and so on.

### **1.1.4 Summary and Commentary**

Weisner and Schmidt (1995) provide a comprehensive summary and review of access to alcohol treatment services in the US. They invoke both the Health Beliefs Model and Aday and Andersen's framework, which they summarise as providing three levels of explanation for treatment seeking: individual (illness, beliefs, social), organisational (structural or 'gatekeeping') and socio-cultural (public norms and cultural change). In addition they discuss the need for multiple entries to care, recognising that many people with alcohol problems also have comorbid psychiatric disorders which means they may come to treatment through mental health services. They emphasise the accessibility of primary care and the role it could play in attracting people to services who may otherwise be reluctant. In particular, women have tended to underutilize specialist services, so that outpatient screening and treatment may be more attractive to them.

The review by Weisner and Schmidt also points to the differing effects found in the literature for social networks. Some studies have found that social networks encourage treatment seeking, while others have found that they discourage it by protecting the individual from the consequences of problem drinking. As discussed below, social networks may also operate differentially for males and females. Such interactional effects mean that an examination of simple relationships between treatment seeking and the individual factors hypothesised to influence treatment seeking may not be very revealing. They may also explain some of the inconsistencies found in the research reviewed in the next section.

Overall the Health Beliefs Model tends to emphasise the personal cognitive rather than structural variables which promote and enable appropriate health-seeking behaviours. Aday and Andersen's model attempts to identify and categorize variables which are structurally-based or individually-based, as well as identifying those factors which are amenable to manipulation through a broad-based health policy. The models are compatible with each other and similar predictions would be generated by each. Differences exist only in their emphases on structural versus personal/functional variables.

As it concentrates on structural variables, Goldberg and Huxley's Pathways to Care model would fit within the category 'Characteristics of Health Delivery System' in the broad model proposed by Aday and Andersen. However, the first filter – the decision to consult – is what the whole Health Beliefs Model attempts to explain.

The pathways to care model is based on the British health care system which is similar to that in Australia but it is likely that, in other countries (such as the US and Canada), progress through the system may be quite different. In particular referral from GPs to specialist services may not be as common in the US and Canada. This is reflected in the type of research reported from the US and summarised in the next section, where researchers are concerned with the sorts of variables (both personal and structural) which encourage or discourage people to seek specialist treatment for their alcohol problems. Multiple entries to care as discussed by Weisner and Schmidt has implications for Goldberg and Huxley's pathways to care model in that people may enter directly from the community through the first filter or they may enter via other filters through, for example, the mental health services. They may also proceed directly to specialist care rather than via primary care.

The research to date has been very much centred on the United States which has quite a different health system structure from that of Australia. For example, Beckman and Kocel suggest that individuals will seek help for their alcohol-related problems provided they perceive the problem and are aware of and willing to use appropriate services. In Australia, where 80% of adults see their primary care physician (General Practitioner (GP) at least once a year, there are considerable opportunities for the GP to screen for and identify alcohol use disorders, where a patient may not have been aware of the presence of such a disorder. Furthermore, the accessibility of outpatient treatment including brief interventions as alternatives

to inpatient treatment, changes the direction that research on access to care could take – at least within the Australian context.

This does not mean that variables which are proposed by the models are not applicable to Australia at this time. It may simply mean that with different points of access to health care, research will find relatively different levels of importance for the variables in the model.

Research which relates to these models is summarised below (Section 1.2.2). Generally the Health Beliefs and Goldberg and Huxley's Pathways to Care models are referenced as they specify in greater detail variables which would also be subsumed under the broader descriptors used in the Aday and Andersen model.

## 1.2 SUMMARY OF PRIOR RESEARCH

### **1.2.1 Prevalence and Correlates of Alcohol Dependence**

Recent data on DSM-IV dependence come from the 1992 National Longitudinal Alcohol Epidemiologic Study (NLAES, Grant, (1997)) in the United States. This study surveyed a representative sample of the United States population aged 18 years and older and provides estimates of both lifetime and 12 month dependence and correlates of alcohol use and dependence in that country. Nearly 43,000 respondents were interviewed using the structured diagnostic interview AUDADIS (Grant, Harford, Dawson, Chou, & Pickering, 1995). This represented a response rate of 91.9% from the general population of the United States.

Prevalence of 12-month dependence was found to be 4.4% in this sample, with males significantly more likely to be dependent than females (6.3% vs 2.6%). Also the youngest age group (18-24 years) was significantly more likely to be dependent on alcohol than the four older age groups (25-34, 35-44, 45-54, 55+ years). Logistic regression revealed that those on higher incomes, those who were married and those who were better educated were less likely to be dependent on alcohol in the past 12 months. The only demographic variable found not to correlate with dependence was urbanicity.

### **1.2.2 Prevalence and Correlates of Treatment Seeking Behaviour**

#### *1.2.2.1 Clinical Populations*

Research in clinical populations which directly assesses models of help-seeking behaviour for alcohol-related problems (outlined in Section 1.1) is quite scarce and generally poorly specified in reports of studies. Studies in the area have tended to not use standardised measures of alcohol problems or diagnosis, frequently do not present a full account of all variables under consideration and do not attempt to present data on individual variables whilst controlling for others. This research is presented in this section.

Beckman and Kocel (1982) studied aspects of the treatment delivery system as they relate to women entering all 53 alcohol treatment agencies in two counties in California. They recorded structural variables of the agencies and the proportion of their clientele who were women over a 12 month period. However, they did not specify all the variables considered nor attempt to control for the presence of other variables when considering the effects of individual variables, nor control for different numbers of clients within the agencies. They found that women tended to choose agencies that had higher proportions of professional staff and female staff, had fewer minority group participants and had more services for treating and caring for children. They also found that the attitude of treatment providers did not differ according to gender of clients and that services with higher proportions of women tended to get their clients from sources other than professionals. They concluded that the structure and attitudes of treatment agencies have an important role in shaping community attitudes and response to alcohol problems. They also proposed an adaptation of the HBM to alcohol treatment behaviours, arguing that structural variables may be easier to manipulate in order to indirectly influence the personal beliefs that lead to initiation and maintenance of treatment.

Rees and Farmer (1985) came to the same conclusion regarding the importance of structural variables from their study of the effects of receiving a message designed to influence health beliefs based on HBM and designed to increase participants' concern about the physical and social consequences of heavy drinking. There were 120 subjects in the study (60 each in treatment and control groups) who were obtained from consecutive referrals to a treatment program in the UK. They found no difference in attendance between the two groups. The only factor predicting attendance was length of wait – the shorter the wait the more likely were participants to attend. This had been found in other research as well and suggests again that it may be easier to change system variables rather than personal variables in order to influence treatment seeking behaviour. However this study cannot be considered a very stringent test of HBM. There is no information about whether people actually read the message, nor about whether the beliefs themselves had changed.

While structural variables play an important role in treatment seeking, recent studies also highlight the importance of individual variables. Thom (1986; 1987) reported a study which focused on sex differences in treatment seeking for alcohol problems in a sample of 25 men and 25 women entering treatment and selected on a relatively random basis. They were asked what prevented them from seeking help previously when they knew they had a problem, and it was found that the major barrier to treatment was a failure to recognize the problem (reported by 60% of the sample). This finding is common throughout the literature. Although providing useful qualitative data, this study did not provide good quantitative evidence of the relative importance of the identified variables. Thom found that the women in the study were less likely than men to see alcohol as their main problem, even though they were equally dependent. Women tended to see alcohol abuse as a coping response to other life problems. Furthermore their spouses appeared to support this notion that drinking was not their main problem, whilst this was not the case for men. Men had more difficulties asking for help, possibly due to 'masculinity threats'. Women regarded the 'alcoholic' or 'having drinking problems' label as more stigmatizing or

embarrassing and were reluctant to mention it to their primary care physicians. There were no significant differences in terms of access, but this notion is difficult to assess in a sample that has shown it will access treatment.

Bardsley and Beckman (1988) compared health beliefs of problem drinkers in treatment (204 men matched to 203 women) with those not in treatment (101 women and 102 men) as a direct test of the HBM. They found that only perceived severity and cues to action (aware of 'hitting bottom' emotionally, conflicts with friends and family, and physical symptoms of drinking) differentiated the two groups. The samples appear to have been selected in an unbiased manner and all in the study had to meet either DSM-III criteria for dependence or abuse, or evidenced clear impairment in social or occupational functioning. The variables measured were perceived severity, perceived susceptibility, perceived treatment effectiveness, cues to action, background variables and symptom severity. However, measurement of these variables (apart from the last two) depended on single or few questions whose reliability and validity had not been assessed.

In an attempt to determine whether barriers to treatment are the same for those who have never sought treatment and those who have, Cunningham et al (1993) studied 3 groups of alcohol abusers: self-change alcohol abusers (n=92); untreated, unresolved alcohol abusers (n=62); and alcohol and drug abusers currently in treatment (n=192). They tested 5 reasons (individual and structural) for delaying or not seeking treatment: embarrassment/pride; inability to share problems; stigma; negative attitudes towards treatment; and monetary costs. They also asked for any other reasons. Each reason was rated on a 5-point scale on how much influence it had in preventing treatment seeking.

Amongst the 3 alcohol abuse groups they found the following differences:

- the self-change group was older than the other 2 groups;
- the in-treatment group was more educated and had a shorter history of problems;
- the self-change and untreated groups endorsed 'no problem/need for help' more often than outpatients;
- the self-change and untreated groups endorsed 'wanted to handle problem on own' more;
- outpatient and untreated groups endorsed costs more than did self-changers;
- outpatients endorsed 'stigma' more than self-changers (even though they were the ones who attended treatment);
- untreated patients endorsed ignorance of treatment availability more than outpatients; and
- there were no differences in the number of categories endorsed by any of the groups.

The authors conclude that there is a need to increase alcohol abusers' awareness of the dangers of heavy alcohol use, in an effort to change this individual factor's influence on treatment seeking. The desire to handle the problem on their own could reflect a lack of faith in treatments or the importance of self-determination to these individuals. Overall it appears that current treatment is stigmatising and alcohol

abusers believe that it will reflect negatively on them. Thus there is a need to change structural variables such as public perceptions of alcohol abuse and ease of access to treatment by providing a wider range of services (i.e. not only inpatient) which would be more acceptable to those with alcohol abuse problems. They suggest that prospective studies are needed to determine whether attitudes to treatment are a product of experience in treatment or not.

In a later study Cunningham and co-workers (1994) looked at the effects of 'cognitive appraisal' which involves evaluating the pros and cons of heavy alcohol/drug abuse and how this affects treatment seeking. Subjects were assessed for level of dependence and asked to indicate which of 10 reasons influenced their treatment seeking and how much they influenced this. The 10 reasons were:

- evaluating pros and cons of heavy abuse;
- warning from spouse/other;
- hitting rock bottom;
- experience of a traumatic event;
- part of a major lifestyle change;
- saw someone drunk/high;
- physician warning;
- knew someone who quit/reduced;
- health problems; and
- religious experience.

One-way analyses of variance were used to ascertain how important each reason was in their decision to do something about their drug or alcohol problem. Overall, 'weighing the pros and cons', 'hitting rock bottom' and experiencing a major lifestyle change (negative) were predictive of entry and completion of treatment. Again this study suffers from repeated hypothesis-testing and use of statistical procedures which are not particularly informative. The authors argue that they were restricted in the statistics they could use by the nature of the data they had to study. However, regression analyses could also have been applied to the data which would have removed the need for multiple testing as well as giving an accurate measure of the contributions of each of the variables considered. They conclude that reasons for seeking treatment could be useful in the process of treatment matching.

Table 1 summarises findings from the clinical studies.

Variable	Measured by:	Study
<b>PREDISPOSING</b>		
<b>sex</b>	women compared with men	Thom, 1986, 1987 (+ for primary; - for specialist)
<b>attitudes/general health care beliefs</b>	length of wait until treatment	Rees 1985 (-)
	embarrassment/stigma	Cunningham 1993 (+); Thom, 1986, 1987 (- more for women);
	can solve on own	Cunningham 1993 (-)
	negative attitudes towards treatment	Bardsley 1988 (=)
	beliefs about risks of heavy drinking	Rees 1985 (=); Cunningham 1994 (+)
	beliefs about personal illness susceptibility	Bardsley 1988 (=)
<b>education</b>	symptom severity	Bardsley 1988 (+)
	level of formal schooling reached	Cunningham 1993 (+)
<b>ENABLING</b>		
<b>social pressure</b>	influence of family and friends	Thom 1986, 1987 (- for women) Bardsley 1988 (+)
	knowledge of treatment availability	Cunningham 1993 (+)
	cost	Cunningham 1993 (=)
<b>NEED</b>		
<b>perceived illness level</b>	recognition of having a problem	Thom 1986, 1987 (+); Cunningham 1993 (+)
	failure to recognise alcohol as <u>main</u> problem	Thom 1986, 1987 (- more for women)
	perceived severity of alcohol problems (includes notion of 'hitting bottom' emotionally)	Bardsley 1988 (+); Cunningham 1994 (+)
	time with problem	Cunningham 1993 (-)

*Table 1: Factors influencing treatment seeking: Summary of research findings from clinical studies*

(+) increase in variable is associated with an increase in treatment seeking; (=) no difference found  
 (-) increase in the variable means a decline in treatment seeking.

### 1.2.2.2 Studies Using Data from Small Community Surveys

As can be seen clinical research in this area has been fraught with problems. Studies tend to suffer from non-random subject selection as well as making multiple comparisons without correcting for Type I error. Many could also be criticised because they did not use sophisticated statistics to determine the true relationships of variables to treatment seeking.

Research using randomly selected community samples provides much better opportunities for studying the relative importance of the variables proposed to influence help seeking. In such studies conclusions can legitimately be drawn about the population from which the sample has been drawn which allow more accurate assessment of important variables without the restrictions of highly selective sampling as arises in clinical studies. A summary of such research is provided in this section. The first two studies reported here (Bannenberg, Raat, & Plomp, 1992; Weisner, 1993) compare results from community surveys with clinical populations, while the last two present data from surveys designed specifically to assess treatment seeking behaviours for alcohol problems in a general community setting (Commander, Sashidharan, Odell, & Surtees, 1997; Hingson, Mangione, Meyers, & Scotch, 1982).

Bannenberg and co-workers (1992) compared problem drinkers applying for treatment (n=146) with those identified in a general population survey not in



treatment (n=153) to determine which variables predicted entry to treatment. The variables considered were age, sex, marital status, employment status, alcohol consumption, alcohol problems, other drug use and health status. They measured odds ratios but did not use logistic regression to control for other variables when assessing the effect of each variable. They found that all variables apart from gender predicted treatment entry. The largest odds ratio was found for number of problems. In an attempt to control for level of drinking they analysed a sub-group separately - the very excessive drinking group – which showed significant odds ratios for age, sex, marital and employment status. They then concluded that irrespective of alcohol consumption, number of problems is the most important variable - problems appear to mount over time until the individual reaches 'rock bottom' when help is sought. They hypothesize that reaching 'rock bottom' reflects a loss of support from family and employers and conclude that alcohol treatment should therefore concentrate on problems and not just consumption levels. This study loses some credibility because of the quality of the statistics used. It would have been more appropriate to use logistic regression to properly control for variables in the equation.

A further study using treatment intakes is reported by Weisner (1993). She compared problem drinkers who were consecutive intakes to treatment (n=316), with those not in treatment who had been identified in a household sample survey (n=202) in the same area in the United States. Number of problems was used as a measure of "diagnosis" and predisposing, enabling and need variables identified by Aday & Anderson's model (see Section 1.1.1.) were considered. She identified those variables in the literature which predispose to treatment seeking such as number of problems, age (older), marital status (unattached) and unemployment. Social relationships can have an influence but it can be in either direction ie some social groups encourage treatment seeking whilst others prefer to look after their own. This study examined the relationships amongst variables and compared men and women.

Weisner found that lifetime general treatment history, ethnicity and employment were major contributors to the model for women; while for men the most important variables were social consequences, treatment history and employment. Individual predisposing variables provided a unique contribution to the model for women, while the individual predisposing, need and enabling domains all contributed to the model for men.

In another community-based survey, Hingson et al (1982) followed up 271 people from a probability sample of the Boston Standard Metropolitan Statistical Area interviewed in 1977 and re-interviewed in 1979. The 271 participants consisted of 226 from the original sample who said that they had 'ever had a drinking problem' in 1977 (ie 39%) and another 45 who had not reported this in 1977 but did so in 1979. Thus the respondents decided if they had a drinking problem – no definition was provided. The purpose of the study was to test the HBM. Factors assessed included feelings of susceptibility to illness, severity of illness in terms of health and lifestyle if contracted, perceived effectiveness of health interventions and diagnoses, barriers/negatives of treatment and cues to action such as mass media campaigns, peer pressure and the influence of health care providers.

When they compared variables which distinguished those who did and did not seek help they found that help-seeking was predicted by perceived severity of alcohol problems, experience of health problems, problems at work or with friends and family due to drinking, number of life areas affected and belief that one was an 'alcoholic' (just significant). On the other hand variables which did not predict help-seeking in this study included demographic variables, frequency and amount of drinking, feelings of loss of control over drinking, beliefs about efficacy of treatment, belief that overcoming the problem would improve one's life, believing that problems would get worse without treatment, belief in being able to overcome problems on own, and believing that it would improve one's marriage (which didn't fit with the finding that those who seek help are those who believe drinking problems have negative effects on relationships).

Very few believed that going to treatment is stigmatizing, that staff don't treat you well or that treatment is difficult to find and these did not differentiate treatment seekers. Beliefs that the individual has little control over drinking were associated with greater help-seeking; yet belief in alcoholism as a physical disease did not predict treatment seeking

From discriminant analyses, by far the most predictive variable in help-seeking was number of life problems. This was followed by belief in whether people can control their drinking.

They found that GPs tended to ignore alcohol problems. Only 45% of those who had ever had a problem had been asked by their GPs about their drinking and 25% encouraged to cut down or advised of health hazards of drinking. Questioning by GPs was not related to seriousness of problem. The only variable predictive of GP counselling was whether the person felt they had health problems as a consequence of their drinking.

This study suffers from the problems of poor definition of alcohol problem and a very low follow-up rate and its findings are generally at odds with those of other studies reported here especially with regard to the importance of demographic variables in help-seeking. Most other studies reviewed found significant effects of age, sex, marital and employment status, yet this study found no effects for these variables (e.g. Bannenberg, 1992; Bland, 1997; Weisner, 1993).

In another study which used general community data, Commander et al (1999) looked at access to care in a poor district in England with reference to Goldberg & Huxley's Pathways to care model. They were interested to ascertain whether there was differential access to services for different demographic sub-groups.

There were three sources of information for this study. The first involved a community survey of alcohol use disorders from a randomly generated sample, using CAGE to identify disorder (Mayfield, McLeod, & Hall, 1974) and asking about demographic details. They had to pay 10 pound to each participant to improve the response rate achieved in their pilot study. The second stage took a representative sample of primary care patients in a designated week who were also given the same screen, as

well as their GPs completing (blindly) a WHO questionnaire which assessed problems and diagnoses in the same patients. Finally, all patients in treatment for alcohol use disorder in specialist addiction or psychiatric services on a particular day and over the following 6 months were assessed for morbidity using ICD-10 diagnoses as well as obtaining demographic and clinical data.

They found that only half of those with alcohol use disorders in the community ever consulted a primary care physician and only half of those with an alcohol use disorder who consulted a GP were identified as such. They also concluded that men and women were equally likely to consult the GP and be referred to specialist services for any disorder, but women were less likely to have their alcohol problem recognized by the GP. They also found that young people were least likely to consult, have problems detected and to be referred to specialists. Similarly ethnic minorities were overlooked in identification and referral processes in primary care. They commented that they got similar findings to Edwards et al (1973) 20 years earlier who found only 10-20% of those with alcohol use disorders were in contact with appropriate services and that GPs, whilst being the main filter to reaching specialist services, continued to have comparable low referral rates after two decades.

<b>Variable</b>	<b>Measured by:</b>	<b>Study</b>
<b>PREDISPOSING</b>		
<b>age</b>	age	Commander 1999 (+)
<b>sex</b>	women compared with men	Bannenberg 1992 (=); Hingson 1982 (=); Commander 1999 (=);
<b>marital status/family structure</b>	more frequently divorced	Bannenberg 1992 (+)
	currently living with someone	Hingson 1982 (=)
<b>employment status</b>	unemployed or disabled	Bannenberg 1992 (+); Hingson 1982 (=); Weisner 1993 (+)
<b>ethnicity</b>	ethnic/not	Weisner 1993 (+ for women); Commander 1993 (-)
<b>attitudes/general health care beliefs</b>	embarrassment/stigma	Hingson 1982 (=)
	can solve on own	Hingson (=)
	belief in loss of control over drinking	Hingson 1982(=)
	belief that overcoming will improve one's life	Hingson 1982 (=)
	beliefs about efficacy of treatment	Hingson 1982 (=)
	belief that one cannot control drinking (but not belief in disease model)	Hingson 1982 (+)
<b>previous health behaviour</b>	number of previous treatment episodes	Weisner 1993 (+)
<b>ENABLING</b>		
<b>social pressure</b>	influence of family and friends	Weisner 1993 (+ for men)
<b>recognition of problem by GP</b>	report of such recognition	Commander 1999 (- for women)
<b>NEED</b>		
<b>perceived illness level</b>	recognition of having a problem	Hingson 1982 (+)
	perceived severity of alcohol problems (includes notion of 'hitting bottom' emotionally)	Bannenberg 1992 (+) Hingson 1982 (+)
	number of social/life problems	Hingson 1982 (+); Bannenberg 1992 (+)
	alcohol consumption	Hingson 1982 (=); Bannenberg 1992 (+)
	number of life areas affected	Hingson 1982 (+)
	other drug use	Bannenberg 1992 (+)
	health problems	Bannenberg 1992 (+); Hingson 1982 (+)

*Table 2: Factors influencing treatment seeking: Summary of research findings from community surveys*

(+) increase in variable is associated with an increase in treatment seeking; (=) no difference found  
 (-) increase in the variable means a decline in treatment seeking.

The authors suggest that possible confounding factors would be low numbers in some groups and that CAGE may not be a good screen. This study could also be criticised because of the very basic statistical analyses used. They did not control for other variables when looking at the effects of specific variables and thus failed to determine best estimates of their true contributions to treatment seeking behaviour.

Table 2 summarises findings from these community surveys.

### *1.2.2.3 Evidence from Recent Epidemiological Surveys*

The remaining four studies present results from general population surveys assessing mental health prevalence and service usage in national samples and include some results already extracted from the Australian NSMHWB. Epidemiological surveys can provide a rich source of data on prevalence of illness and illness behaviours as they randomly sample the whole of the population and thus allow conclusions to be drawn about whole-population attitudes and behaviour. Recommendations from such surveys have considerable importance because large sample sizes and application of appropriate statistical techniques allow for greater confidence in the generalisability of the conclusions drawn.

A recent Canadian study (Bland, Newman, & Orn, 1997) examined the first filter in Goldberg & Huxley's filters to care model, which is the decision to consult, by analysing the demographic and clinical factors determining help-seeking in those with any psychiatric disorder. Thus they did not analyse alcohol disorders separately. They used a random sample of households in Edmonton, Alberta, Canada which was assessed for DSM-III diagnoses using DIS (Robins, Helzer, Croughan, Williams, & Spitzer, 1981). There were two stages in the study: in the first stage 3956 participants were administered the DIS; in the second stage, at an average of 2.8 years later, they were administered the DIS and their health service usage (HSU) was measured (n=1964, also random within the original sample). They used sophisticated statistical techniques which controlled for other variables under consideration and applied appropriate weightings to their sample. Amongst demographic variables they found only sex (females) and age (younger) and widowed/separated/divorced were predictive of HSU. They found that education and income level did not predict help-seeking and that over 1/3 of those seeking help had no diagnosis. Comorbidity was highly predictive of service usage.

Wu and co-workers (1999) analysed the data from the US National Comorbidity Survey (NCS) which surveyed a stratified random sample of adults aged 18-54 (n=5393) The NCS used a modified CIDI to establish DSM-III-R diagnoses. Past-year and life-time diagnoses and past-year service use were measured. The objective of this study was to compare the treatment seeking behaviour of individuals with comorbid psychiatric disorders (including substance abuse) with those with a single or 'pure' disorder.

They found overall that there was low service usage with 14.5% of those with a pure alcohol disorder, 32.2% with comorbid alcohol and mental disorders, 27.3% with

psychiatric disorders only (single and multiple diagnosis), 11% with lifetime disorders only and 7% of those with no psychiatric disorder seeking help for mental health or substance abuse problems in the past year. These groups were found to differ on demographic variables which were then controlled for in logistic regression analyses to isolate effects due to membership of each of the four sub-samples examined (they excluded lifetime problems group from these diagnoses).

They further found that those with comorbid disorders were more likely to use services than those with single alcohol or single psychiatric disorders. There was no significant difference in service use between the pure alcohol disorder group and those in the other psychiatric disorders group with only one disorder. Nor was there a difference in service usage between those with comorbid alcohol and mental disorders and those with two or more other comorbid mental disorders. Thus those with alcohol use disorders behave in a similar way regarding treatment seeking to those with other psychiatric disorders.

For the pure alcohol group only a history of self-medication predicted service. In the comorbid alcohol and mental disorders group being aged 36-44, being separated, widowed or divorced, having legal problems, being in middle and lower income groups, and having at least three dependence symptoms predicted service use.

They concluded that the low service usage found in this survey implies that greater efforts are needed to reduce barriers to treatment for all psychiatric disorders. Thus they considered that system variables had an impact on service usage.

This study highlights the significance of comorbidity as a variable in treatment seeking. As depicted in the Health Beliefs Model, number of perceived problems as expressed by comorbidity in this survey, impacts on the "perceived threat" of alcoholism.

Bijl and Ravelli (2000) analysed data from a national survey sample in the Netherlands to ascertain the probability of people with different psychiatric disabilities seeking professional help, and to ascertain whether needs were met. They surveyed a multistage, stratified random sample of 18-64 year olds and had a response rate of 69.7% (7147 persons). They used CIDI-Auto (Peters & Andrews, 1995) to determine DSM-III-R diagnoses for the past 12 months and SCID (Spitzer, Williams, Gibbon, & First, 1990) to confirm psychotic illness. Participants were also asked about any care they sought and whether they felt they needed care.

They found 23.5% had one or more disorders in the past 12 months and 8.2% had an alcohol use disorder. Amongst the 23.5% with any disorder 34% sought professional care, whilst 17.5% of those with alcohol use disorders sought care. Primary care was sought most frequently for all disorders apart from schizophrenia. Women with alcohol use disorders tended to seek care more than men but this was true only for primary care and outpatient mental health care (percentages not provided). They used logistic regression to ascertain odds of those with particular disorders seeking care controlling for sex, age and comorbidity. Alcohol and drug-

related problems did not predict usage of any form of care. Comorbidity sharply increased probability of care seeking (55% sought care).

They also carried out multivariate logistic regressions to ascertain the contribution made by demographic characteristics to care seeking, controlling for sex, age and diagnosis. Odds ratios were relatively low. They found that age was not a predictor of mental health care use which is contrary to results from Commander et al (1999), which found older people sought more help for alcohol problems. However the Commander et al study did not use regression analyses to control for effects of other variables under consideration. Also, Bland (1997) found that younger people were more prone to seek help, but this was for all mental health problems.

Bijl and Ravelli also found that women were more likely to use primary care for any disorder (95% CI for OR=1.32-1.91) but not specialist care; that those with an education beyond 11 years were more likely to seek specialist care for any disorder, but not primary care; and that living in an urban compared with a rural setting predicted more primary care, but not mental health care. Overall, the highest predictors for mental health service usage were living alone and having more than 16 years education. Single parents, unemployed and disabled and those living alone were most likely to seek any service help.

Seventeen per cent expressed an unmet need for psychiatric help. Women, those with mood disorders and those with comorbid conditions expressed highest levels of unmet need in that they said that they wanted treatment but were unable to obtain it.

They found that some 40% of those who sought mental health care did not meet criteria for a mental disorder and suggested some possible explanations: (1) overmet need - too many with mild disorders using mental health services when they could go to primary care; (2) exclusion of Axis II disorders which constitute a significant proportion of the mentally disabled; and/or (3) DSM diagnoses do not take sufficient account of functioning which the authors consider to be an important link between diagnosis and need. This notion has some support from a recent report which analysed data from the Australian NSMHWB (Korten & Henderson, 2000) and found that around half the disability days lost due to mental health problems were accounted for by those with symptoms but no diagnosis of disorder. These individuals may well account for the 40% with no diagnosis who sought mental health care. Furthermore, as summarized below, Meadows et al (Meadows, Burgess, Fossey, & Harvey, 2000) argue cogently that service use may serve a preventive and relapse-prevention function for those who are currently considered well.

Although they did not specifically address these variables, the authors suggested that reasons for not seeking care when meeting diagnoses (with special reference to alcohol use disorders) were: (1) stigma; (2) severity of functional limitations may not be great especially for non-chronic conditions with good social support; (3) DSM diagnoses for alcohol problems may be invalid as they do not predict pathology; (4) excessive use of alcohol is widely tolerated and problems are denied past the point of pathology; and (4) treatments for depressive and anxiety disorders are more

'sophisticated' than those for substance abuse, especially for those with comorbid substance use and other psychiatric conditions.

In Australia the first national survey of mental health was completed in 1997 (NSMHWB) and Meadows et al (2000) analysed the data with particular reference to perceived need for mental health services from the consumer perspective. The NSMHWB addressed five service type categories:

1. Information about mental illness, its treatments and available services
2. Medication – medicines or tablets
3. Counselling – any of psychotherapy, CBT, counselling to talk about problems,
4. Social interventions – help to sort out housing or money problems,
5. Skills training - help to improve ability to work, etc or to look after self or home

The study looked at patterns of service usage for those with disorders who used services, those without disorders and used services and those with a disorder but no service use. They found that of those with a CIDI diagnosis, the majority (2/3) did not seek help and a significant proportion (about 1/3) of those who used services had no current diagnosis.

Overall 13.8% expressed a need for mental health services and 7.4% with a diagnosis saw no need and did not seek help. Those who had a diagnosis and did not seek help had much lower perceived needs than those who sought help (whether with a diagnosis or not). Those without a diagnosis and sought help tended to have their needs met best. The odds of needs being met for any service type for the whole population were 0.69 (0.63-0.77 95% CI). They also found the anomaly that 0.4% of population met criteria and saw no need for service use but sought help. They suggested that this could have been mandated.

The authors comment that those who are apparently well and using services could be those in remission – that is, have no current symptoms but legitimately need continued care. Also preventive strategies may involve help seeking so that this again is a legitimate use of services for the currently well. Otherwise, they suggest, we subscribe to 'therapeutic nihilism'. Overall, service use tended to be associated with perceived need so behaviour and cognition are consonant.

They found that counseling was the most frequent unmet perceived need. The odds for need for medication being met were much higher than for counseling needs (4.06 compared with 1.06). Similarly, social and skills needs were not as well met as medication needs. These could reflect the funding structure of the Australian medical rebate (Medicare) system where medications tend to be reimbursed whilst counseling and social skills training may not be.

They concluded that we need to be aware that most people with a mental illness do not want help, so the approach to this group needs to be cautious. Similarly, services provided to the apparently well, may in fact be well justified. It should be emphasised that these data apply to the broad range of mental illnesses and not specifically to alcohol use disorders which will be the subject of this present paper.

#### 1.2.2.4 Summary of Research Findings on Treatment Seeking Behaviour

The research reviewed can be related to the models discussed in Section 1.1. In essence only studies which relate to "Characteristics of the Population at Risk" in Aday and Andersen's model have been subjected to scrutiny. It is difficult to carry out meaningful research on the other arm of their model, 'Characteristics of the Health Delivery System', as this currently would involve comparing health care systems in different countries or implementing different models of care in comparable community areas within one country. There is also some opportunity to study the effects of these variables when a country introduces change or diversity within the same system. For example where resources may be re-allocated to training and equipping primary care practitioners to identify and treat people with alcohol problems, it may be possible to determine if this influences the amount of treatment delivered and treatment seeking behaviours of the affected population.

Research on treatment seeking in population surveys has tended to concentrate on predisposing, enabling and need variables as described in the Health Beliefs model. Results of this research are summarised in Table 3.

Variable	Measured by:	Study
<b>PREDISPOSING</b>		
<b>age</b>	age	Bland 1997 (-)*; Wu 1999 (=); Bijl 2000 (=)*
<b>sex</b>	women compared with men	Bland 1997 (+)*; Wu 1999 (=); Bijl (+ for primary and outpatient specialist; = for inpatient)*
<b>marital status/family structure</b>	currently living with someone	Bland 1997 (-)*; Wu 1999 (-); Bijl 2000 (- for specialist)*
	single parent	Bijl 2000 (+)*
	student or living with parents	Bijl 2000 (- for primary)*
<b>employment status</b>	unemployed or disabled	Bijl 2000 (+)*
<b>education</b>	level of formal schooling reached	Bland 1997 (=)*; Bijl 2000 (+ for specialist, = for primary)*
<b>ENABLING</b>		
<b>ease of getting care</b>	referral by GP to specialist	Wu 1999 (- for women; - for younger)
<b>urban-rural status</b>	living in urban setting	Bijl 2000 (+ for primary; = for specialist)*
<b>economic</b>	higher income	Bland 1997 (=)*; Wu 1999 (-); Bijl 2000 (=)*
<b>NEED</b>		
<b>perceived illness level</b>	recognition of having a problem	Meadows 2000 (+)
<b>assessed level of illness</b>	diagnosis	Bijl 2000 (=)*
	number of dependence symptoms	Wu 1999 (+)
	presence of comorbid psychiatric conditions	Bland 1997 (+)*; Wu 1999 (+); Bijl 2000 (+)*

Table 3: Factors influencing treatment seeking: Summary of research findings from epidemiological studies

\* based on general psychiatric or health disorder rather than alcohol disorder population; (+) increase in variable is associated with an increase in treatment seeking; (=) no difference found  
(-) increase in the variable means a decline in treatment seeking.



### 1.3 THE PRESENT STUDY

Whilst overseas epidemiological studies have reported on treatment seeking for alcohol use disorders, this present study is the first to report on relevant Australian data.

The study reported here draws together data from the Australian NSMHWB regarding the prevalence and correlates of DSM-IV alcohol dependence and treatment seeking for dependence. This survey provides unique information on disability measures which Bijl and Ravelli (2000) suggested may have a greater bearing on treatment seeking than simply having a diagnosis of an alcohol use disorder. The relationship of disability to a diagnosis of dependence as well as to treatment seeking for this disorder will be examined with no prior hypothesis.

Firstly variables relating to the diagnosis of alcohol dependence are examined, then factors influencing treatment seeking. From the literature review presented above several hypotheses can be formulated regarding expected outcomes from the Australian NSMHWB data.

#### **1.3.1 Correlates of Alcohol Dependence**

Hypotheses from the United States data reported by Grant (Grant, 1997), which can be tested in the Australian sample are:

- respondents who are male, younger, never married/separated/divorced/widowed and who have less education will be more likely to be alcohol dependent; and
- urbanicity will not relate to alcohol dependence.

#### **1.3.2 Correlates of Treatment Seeking for Mental Health Problems**

Hypotheses from large-scale surveys reported by Bland (1997), Wu (1999) and Bijl and Ravelli (2000) regarding correlates of treatment seeking for any mental health problem include:

- younger people may be more likely to seek such care;
- women will seek more primary care but not more inpatient care;
- more highly educated may seek more specialist care;
- people in a married or de facto relationship are less likely to seek care;
- employed people are less likely to seek care;
- those with comorbid mental disorders will be more likely to seek care; and
- having an alcohol diagnosis will be unrelated to help-seeking.

### 1.3.3 Prevalence and Correlates of Treatment Seeking for Alcohol Dependence

The first hypotheses with regard to alcohol dependence in particular are derived from the epidemiological studies described in Section 1.2.2.3 above and relate to prevalence of treatment seeking and type of help received:

- those who seek help for their dependence will be significantly outnumbered by those who do not
- perceived need for medical help will be better met than needs for psychological and social interventions.

In addition to the epidemiological findings, research findings described in Section 1.2.2 above and summarised in Tables 2 and 3 suggest some further hypotheses which may be tested regarding treatment seeking using the Australian NSMHWB data. Some of these hypotheses are similar to those derived from epidemiological surveys listed in 1.2.2.3, while others contradict some of these. With regard to correlates of treatment seeking for alcohol problems, the following hypotheses have been formulated:

- number of alcohol-related or social problems perceived by the individual increases help-seeking;
- general health status as measured by the existence of other physical and psychiatric conditions will be associated with treatment seeking. This adds comorbid physical conditions to the hypothesis regarding comorbidity in 1.3.2 above;
- GPs will be the main source of help although men may be more likely than women to seek or be referred to specialist care;
- older people will seek help more than younger (which is the opposite to the hypothesis regarding age based on help seeking for any mental health problem listed in 1.3.2);
- women will seek help more than men;
- people who are not married or in a de facto relationship will seek treatment more (except for students or those living with parents)
- unemployed or disabled are more likely to seek help
- those living in urban locations will be no more likely to seek care for alcohol dependence than rural dwellers
- more highly educated individuals will be more likely to seek help for alcohol dependence than those less well educated

Amongst those who do not seek treatment, the following variables are likely to be selected (in frequency order) as reasons for not seeking treatment.

- unaware of having a problem/needing help
- belief that they can solve the problem on their own (especially for men)
- belief that nothing would help

Other suggested reasons such as 'didn't know where to get help' or 'couldn't afford it' are not expected to be selected as frequently as they have not been prominent in the literature.

## **2. METHOD**

### 2.1 SAMPLING AND MEASURES

The Australian NSMHWB surveyed a national stratified, multi-stage probability sample of persons aged 18 years and older in 1997. Methods and basic findings for this survey have been summarised by Henderson et al. (2000). In total 10,641 respondents (78%) were interviewed using a modified version of the Composite International Diagnostic Interview (CIDI, (World Health Organization, 1996)). Among the variables assessed by the modified CIDI were criteria for DSM-IV and ICD-10 diagnoses for alcohol and drug use and anxiety and mood disorders in the past 12 months. Other measures of relevance to the present study include the presence of physical illness, perceived physical and mental disability, days out of role due to illness in the past month, service use for a mental health problem in the past 12 months, as well as relevant demographic variables.

Alcohol Dependence in the past 12 months was assessed by firstly identifying alcohol users as those who drank 12 or more standard drinks in that period. This group was further questioned regarding amount and frequency of use as well as specific questions leading to an assessment of conformity with the criteria for dependence. Criteria for both DSM-IV and ICD-10 diagnoses were assessed in the interview but for this study DSM-IV criteria only were used. According to DSM-IV, individuals are dependent if they meet **any three** of the following::

- (1) Tolerance - the need for larger amounts of the drug in order to achieve the same effect.
- (2) Withdrawal; characteristic syndrome present upon cessation of the drug or the drug is taken to relieve withdrawal symptoms.
- (3) The substance is taken over a longer period of time than initially intended.
- (4) A persistent desire to decrease use, however attempts may be unsuccessful.
- (5) Social and personal interests are given up or decreased due to the substance use.
- (6) Considerable time spent acquiring the substance/using or recovering from use.
- (7) Continuation of substance use despite awareness of recurrent problems associated with use.

Treatment seeking was assessed in terms of type of service accessed and type of treatment received (or wanted). Firstly individuals were asked if they had any hospital admissions for mental health problems in the past 12 months. This included admission to a drug and alcohol unit in a hospital. They were then asked if they had seen any of the following for a mental health problem in the past 12 months: general practitioner (GP), radiologist, pathologist, physician/specialist, surgeon, psychiatrist, psychologist, social/welfare worker, drug and alcohol counselor, other counselor, nurse, mental health team, chemist, ambulance officer, or another professional.

Because numbers within many categories were low, these were collapsed into three categories:

- GP
- specialist alcohol/mental health (hospitalizations, psychiatrist, psychologist, social worker, drug counselor, mental health team)
- other

If they indicated that they received help, they were then asked which type of help they received from the following categories:

- Information about mental illness, its treatments, and available services
- Medicine or tablets
- Psychotherapy - discussion about causes that stem from your past
- Cognitive behaviour therapy - learning how to change your thoughts, behaviours and emotions
- Counseling - help to talk through your problems
- Help to sort out housing or money problems
- Help to improve your ability to work, or to use your time in other ways
- Help to improve your ability to look after yourself or your home
- Help to meet people for support and company
- Other (giving an example)

For the purposes of this report these were combined into five categories:

1. information;
2. medicines;
3. counselling including all psychotherapies;
4. practical Issues (housing, money); and
5. self-improvement (work, self-care, meeting people)

Those who did not seek help were asked if they wanted help for a mental health problem and, if so, what type of help they wanted. Types of help were listed as above. They were also asked, if they wanted help, why they did not get help.

## 2.2 DATA ANALYSIS

Prevalence estimates and logistic regressions were adjusted for sampling through the use of balanced repeated replications (BRR) weightings using SAS-callable SUDAAN (Shah, Barnwell, & Bieler, 1997). These weightings adjusted the data to conform to independent population estimates by state, part of state, age and sex. Logistic regression was used to identify those variables correlating with a diagnosis of alcohol dependence and with treatment seeking, when other variables are held constant. Odds ratios and 95% confidence limits were used to indicate the strength of relationships amongst variables. It should be noted that where sample sizes became small the logistic regression output carried a warning about the instability of

findings and was accompanied by large confidence intervals for the odds ratios. This applies to all logistic regressions from Sections 3.5 onwards and to the sub-group analyses in section 3.4.2.

Confidence limits of proportions and tests of differences of proportions were carried out using the methods recommended by Newcombe and Altman (2000).

## 2.3 STUDY FLOWCHART

Figure 4 provides a summary flowchart of the NSMHWB information that this study will present.

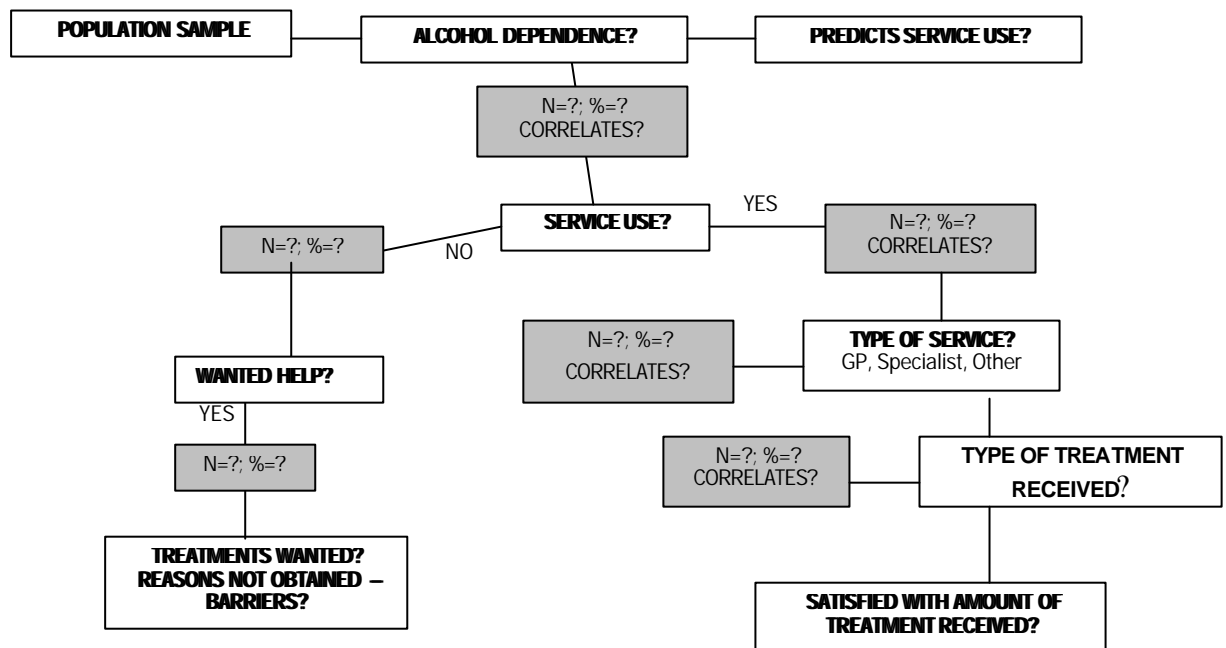


Figure 1: Flowchart of study design

### 3. RESULTS

#### 3.1 PREVALENCE OF ALCOHOL DEPENDENCE IN DEMOGRAPHIC, COMORBIDITY AND DISABILITY SUB-GROUPS

Variable	Sub-Group	Number in Sub-group (weighted %)	Number with Dependence in Sub-group (weighted %)	Weighted Percentage within dependence group (N=437)
<b>Sex</b>	Female	5936 (50.8%)	153 (2.3%)	28.4%
	Male	4705 (49.2%)	284 (6.0%)	71.6%
<b>Age</b>	18-34yr	3026 (33.2%)	232 (7.0%)	58.3%
	35-54yr	4146 (39.3%)	166 (3.6%)	34.3%
	55yr or more	3032 (27.5%)	39 (1.4%)	7.4%
<b>Highest Qualification</b>	Bachelor's Degree or more	1579 (14.9%)	56 (3.7%)	13.4%
	Less than Bachelor's Degree	9062 (85.1%)	381 (4.2%)	86.6%
<b>Marital Status</b>	Married, De Facto	6324 (65.2%)	159 (2.5%)	40.0%
	Single, Separated, Widowed, Divorced	4317 (34.8%)	278 (7.1%)	60.0%
<b>Employment Status</b>	Employed	6490 (63.5%)	293 (4.7%)	72.6%
	Short- or Long Term Unemployed	438 (4.1%)	49 (9.8%)	9.9%
	Not in Workforce	3713 (32.4%)	95 (2.2%)	17.5%
<b>Urban-Rural Status</b>	Urban	7137 (72.6%)	308 (4.2%)	75.0%
	Non-Urban	3504 (27.4%)	129 (3.8%)	25.0%
<b>Comorbidities</b>	Any Affective Disorder	824 (6.7%)	120 (14.9%)	24.6%
	Any Anxiety Disorder	676 (5.6%)	104 (14.5%)	19.7%
	Any Other Drug Disorder	297 (2.9%)	83 (27.9%)	19.4%
	Any Physical Disorder	4239 (38.5%)	178 (4.3%)	40.1%
<b>Disability</b>	SF-12 Mental (Moderate-Severe Disability)	1306 (11.7%)	136 (10.4%)	29.7%
	SF-12 Physical ((Moderate-Severe Disability)	1920 (17.3%)	79 (4.0%)	16.1%
	5 or More Days Out of Role	1125 (10.0%)	78 (6.2%)	15.0%
<b>TOTAL GROUP</b>		10641	437 (4.1%)	100%

Table 4: Prevalence of alcohol dependence

The overall prevalence of alcohol dependence was 4.1% (n=437) with a much higher proportion of males (6.1%) than females (2.3%) receiving the diagnosis. Males represented nearly  $\frac{3}{4}$  of the total alcohol dependent group. The prevalence decreased with age both in terms of the proportion in the age group with alcohol

dependence and the proportion represented in the alcohol dependence group. Nearly 60% of the dependent group came from the 18-34 year age-group, representing some 7% of this age group. Apart from age and sex, there was a higher prevalence of alcohol dependence amongst those:

- not living with a partner;
- who were short- or long-term unemployed;
- who had comorbid drug and anxiety or affective disorders;
- with moderate to severe mental disability;
- without a physical disability; and
- who have spent 5 or more days out of role in the past month.

There was no clear trend in relation to qualification level, urban-rural status, presence of a physical disorder or perceived physical disability.

Table 4 summarises data on prevalence of alcohol dependence in the various sub-groupings, adjusted for sampling.

### 3.2 CORRELATES OF ALCOHOL DEPENDENCE

Males were three times more likely to be dependent than females. Dependence decreases significantly with increased age (Table 5). Those in the youngest age group (18-34 years) were four times more likely to be dependent than those over 50 years, whilst those aged 35-49 years were over two and a half times more likely to be dependent. Having affective, anxiety or drug use disorders was significantly associated with alcohol dependence with those with comorbid drug disorders being at highest risk (OR=3.9). Those adults not living in a marital or de facto relationship also were significantly more likely to be dependent.

Separate regression analyses were carried out on males and females. Results were similar to those in Table 5 except:

- anxiety disorders are no longer significantly associated with alcohol dependence in either sex;
- having a comorbid drug disorder is not significantly associated with alcohol dependence in females, but remains so in males; and
- having any other physical disability is just significant for the male only group (OR=1.76;CI=1.00-3.09), but not for females.

Variables in the Equation	Odds Ratio (OR)	95.0% Confidence Interval for OR	
		Lower	Upper
Sex (male cf female)**	3.02	2.05	4.47
Age (cf 50yr+ group) 18-34yr**	4.09	2.60	6.44
35-54yr*	2.65	1.60	4.40
Less Than Bachelor Degree (cf those with a degree)	1.21	0.72	2.05
Not Married/De facto**	2.06	1.55	2.74
Part- or Full-time Unemployed (cf employed)	0.98	0.47	2.01
Not in Work Force	0.72	0.49	1.04
Urban Dwelling	1.03	0.66	1.61
Any Affective Disorder**	2.79	1.78	4.37
Any Anxiety Disorder*	1.97	1.16	3.35
Any Other drug disorder**	3.94	1.99	7.81
Any Physical Condition	1.59	.97	2.60
SF-12 Mental Disability (moderate-severe)	1.62	.89	2.97
SF-12 Physical Disability (moderate-severe)	0.94	.48	1.85
5 or More Days Out of Role	1.08	.65	1.80

\* p<.05; \*\*p<.01

Table 5: Correlates of Alcohol Dependence

### 3.3 CORRELATES OF TREATMENT SEEKING IN THE WHOLE SAMPLE

Overall 1321 (11.05%) individuals sought professional help for their mental health problems in the past 12 months. Correlates of treatment seeking for any mental disorder were identified using logistic regression. The influence of type of alcohol diagnosis and level of dependence on treatment seeking were also explored. Level of dependence was defined as high if the individual met 4 or more criteria for dependence. A further variable examined was whether any social, physical or psychological variables were affected by drinking. This was measured by identifying all those who met either criterion 6 for dependence (important social, occupational or recreational activities given up due to drinking) or criterion 7 (continued drinking despite known physical and psychological problems associated with drinking). These analyses used the variables listed in Table 4 plus either of alcohol abuse, alcohol dependence, any alcohol use disorder (i.e. abuse or dependence), level of



dependence or significant social, psychological or physical harm due to drinking. Table 6 lists these results using alcohol dependence.

Variables in the Equation	Odds Ratio	95.0% Confidence Interval for Odds Ratio	
		Lower	Upper
Sex (male cf female)**	0.55	0.41	0.73
Age (cf 55yr+ group)**			
18-34yr	1.47	1.09	1.99
35-54yr	2.18	1.66	2.87
Less than Bachelor Degree** (cf Bach degree)	0.58	0.42	0.79
Not married/de facto	1.19	0.91	1.56
Employment (cf employed)			
Part- or Full-time Unemployed	0.80	0.38	1.67
Not in Workforce	1.07	0.84	1.36
Urban Dwelling	0.82	0.56	1.19
Any Affective Disorder**	8.50	6.36	11.34
Any Anxiety Disorder**	5.83	3.28	10.35
Any Other drug disorder**	2.38	1.37	4.15
Any Physical Condition	1.20	0.95	1.52
SF-12 Mental Disability (moderate-severe)**	2.55	1.91	3.42
SF-12 Physical Disability (moderate-severe)*	1.38	1.04	1.84
5 or More Days Out of Role	1.27	0.97	1.66
Alcohol Dependence Diagnosis	1.73	0.78	3.80

\* p<.05; \*\* p<.01

Table 6: Correlates of Treatment Seeking for Any Mental Disorder

Males were about half as likely to seek any service for a mental disorder. Those aged between 18 and 54 were significantly more likely than the over 55 year group to use services for their mental health problems, with the 35 to 54 year age group being most likely to seek such help. Being a graduate meant an individual was more likely to seek such help when compared with those with lesser education. Having an affective, anxiety or any drug disorder meant higher service use; while having a comorbid physical disorder did not. Amongst the disability measures, moderate to severe SF12 mental and physical disorders each correlated significantly with service use whilst days out of role did not.

Having a diagnosis of alcohol dependence did not predict service use, and when alcohol abuse, any alcohol use disorder or level of dependence was substituted for dependence in the logistic regression, their odds of predicting treatment seeking did not differ significantly from 1 (Table 5). However, the measure of social, psychological and physical harms did significantly relate to treatment seeking.

Alcohol Use Variable	Odds of Predicting Treatment Seeking	95% Confidence Limits for Odds Ratios	
		Lower	Upper
Alcohol Abuse	1.03	.48	2.22
Any Alcohol Use Disorder	1.38	.67	2.84
Alcohol Dependence	1.73	.78	3.80
Level of Dependence (>3 criteria)	1.84	0.53	6.40
Any Known Social, Physical or Psychological Harm	2.36	1.45	3.84

Table 7: Alcohol use disorders, level of dependence and treatment seeking in past 12 months.

Males and females were analysed separately to determine if different variables are more relevant to treatment seeking for mental health problems for either group. Very few differences were found and those that were had marginal significance levels. Similar to the total sample, none of the alcohol measures apart from social, psychological and physical harms predicted treatment seeking for each sex considered separately.

### 3.4 PREVALENCE AND CORRELATES OF TREATMENT SEEKING AMONGST THOSE WITH ALCOHOL DEPENDENCE

#### 3.4.1 Prevalence of Treatment Seeking for Those With Dependence

Table 8 lists numbers and percentages (prevalences) of those with alcohol dependence who sought some form of treatment for their mental health problem/s in the past 12 months.

A total of 147 of the 437 with alcohol dependence sought help for their mental health problems in the past 12 months. Proportionately, about half the number of males with dependence sought help, compared with females. There were no clear trends in age although the 35-54 year group appeared to be more likely to seek help than the older and younger age groups. There was no trend for education and marital

Variable	Sub-Group	Number in Sub-group with Dependence (weighted %)	Number Seeking Help in Sub-group (weighted %)	Weighted Percentage within Help-Seeking group (N=147)
<b>Sex</b>	Female	153 (2.3%)	71 (44.1%)	42.6%
	Male	284 (6.1%)	76 (23.6%)	57.4%
<b>Age</b>	18-34yr	232 (7.0%)	57 (22.6%)	44.8%
	35-54yr	166 (3.6%)	76 (40.8%)	47.5%
	55yr or more	39 (1.4%)	14 (30.5%)	7.7%
<b>Highest Qualification</b>	Bachelor's Degree or more	56 (3.7%)	17 (29.1%)	13.3%
	Less than Bachelor's Degree	381 (4.2%)	130 (29.5%)	86.8%
<b>Marital Status</b>	Married, De Facto	159 (2.5%)	54 (32.2%)	43.7%
	Single, Separated, Widowed, Divorced	278 (7.1%)	93 (27.6%)	56.3%
<b>Employment Status</b>	Employed	293 (4.7%)	85 (26.4%)	65.2%
	Short- or Long-Term Unemployed	49 (9.8%)	19 (34.7%)	11.7
	Not in Workforce	95 (2.2%)	43 (39.0%)	23.2%
<b>Urban-Rural Status</b>	Urban	308 (4.2%)	106 (30.5%)	77.6%
	Non-Urban	129 (3.8%)	41 (26.4%)	22.5%
<b>Comorbidities</b>	Any Affective Disorder	824 (6.7%)	84 (63.7%)	53.1%
	Any Anxiety Disorder	676 (5.6%)	78 (71.8%)	48.0%
	Any Other Drug Disorder	83 (27.9%)	30 (30.4%)	20.0%
	Any Physical Disorder	178 (4.3%)	76 (38.0%)	51.7%
<b>Disability</b>	SF-12 Mental (Moderate-Severe Disability)	136 (10.4%)	81 (50.6%)	50.9%
	SF-12 Physical ((Moderate-Severe Disability)	79 (4.0%)	41 (49.6%)	28.2%
	5 or More Days Out of Role	78 (6.2%)	47 (52.0%)	26.5%
<b>Level of Dependence</b>	Met 4 or More Criteria	217 (100%)	96 (38.6%)	65.1%
<b>TOTAL GROUP</b>		437	147 (29.5%)	100%

Table 8: Number (prevalence) of those with dependence seeking any care for their mental health problems in the past 12 months

status while slightly less of the employed group tended to seek help. Having comorbid anxiety or affective disorder and, to a lesser extent a physical disorder were positively related to help seeking, while having a comorbid drug disorder was not. Moderate to severe mental or physical disabilities or spending 5 or more days out of role were associated with increased service use, as was, to a lesser extent, having 4 or more dependence symptoms.

### **3.4.2 Correlates of treatment seeking for those with alcohol dependence**

All the variables listed in Table 6 were placed into a logistic regression to determine which correlated with treatment seeking when the others were held constant. Overall males with alcohol dependence were less likely to seek help for their mental health problems than were females (OR=0.46; 95%CI=0.22-0.95). The only other variable to predict help seeking for those with alcohol dependence was the presence of a comorbid affective disorder (OR=3.31; 95%CI=1.43-7.66). Further analyses were done of the effects of grouping variables and it was found that sociodemographic variables as a group did not predict treatment seeking, but groupings of the three comorbidity variables and three disability variables did ( $p < .01$  and  $p < .02$  respectively).

These logistic regressions were repeated for males and females separately to ascertain if different variables were important in help seeking for male and female alcohol dependent individuals. These found that having a comorbid anxiety disorder was predictive of service use for females but not males (OR=9.82; CI=1.02-94.06); having a comorbid affective disorder predicted service use for males but not females (OR=4.85; CI=1.23-19.15); unemployed females were less likely to seek help than employed females (OR=0.19; 95%CI=0.04-0.97); and having a comorbid physical disorder increased the chances of help-seeking for mental health problems amongst males (OR=5.38; 95%CI=1.40-20.68).

Further logistic regressions were carried out on the two comorbid groups: alcohol dependence with affective disorders and alcohol dependence with anxiety, to determine whether the comorbid groups were behaving differently from the whole alcohol dependent group. The only significant correlate of treatment seeking was education (having a higher degree) within the comorbid affective and alcohol dependent group (OR=16.7; CI=3.03-100.0).

The following sections summarise findings regarding the sub-groups of those with dependence who received help (Section 3.5) and those who did not obtain help (Section 3.6).

## **3.5 THOSE WITH ALCOHOL DEPENDENCE WHO SOUGHT HELP: SERVICES USED, TREATMENTS RECEIVED AND SATISFACTION**

### **3.5.1 Type of Services Used**

Participants were asked whether they had stayed at least overnight in a public or psychiatric hospital or a drug and alcohol ward for their mental health problems. Only

12 of those with alcohol dependence answered 'yes' to this, so that inpatient service use could not be used as a category of service use due to this low number. They were also asked if they had seen any of the following for a mental health problem in the past 12 months: GP, radiologist, pathologist, physician/specialist, surgeon, psychiatrist, psychologist, social/welfare worker, drug and alcohol counsellor, other counsellor, nurse, mental health team, chemist, ambulance officer, other professional. They were then asked about the type of treatments received if they had indicated that they had used services.

The data on types of services were collapsed into three categories: GP; specialist mental health (hospitalisations, psychiatrist, psychologist, social worker, drug counsellor, mental health team); and other, which included all other professions consulted.

Of the 147 with alcohol dependence who sought any help, 108 (21.8% of those with dependence) saw a GP, 68 (12.1%) saw a mental health specialist and 54 (10.3%) saw another professional. Correlates of service type were determined using logistic regression, and having a university degree and not being in the workforce (i.e. neither employed nor unemployed) were significantly correlated with seeking specialist services for mental health problems. No variable was found to significantly correlate with either of the other two types of service sub-categories.

### **3.5.2 Treatments Received**

Those who sought treatment were also asked about the type of treatment received. Treatment types were specified as:

- Information about mental illness, its treatments, and available services
- Medicine or tablets
- Psychotherapy - discussion about causes that stem from your past
- Cognitive behaviour therapy (CBT) - learning how to change your thoughts, behaviours and emotions
- Counselling - help to talk through your problems
- Help to sort out housing or money problems
- Help to improve your ability to work, or to use your time in other ways
- Help to improve your ability to look after yourself or your home
- Help to meet people for support and company
- Other

For the purposes of analysis these were collapsed into four categories: information, medicines, psychological (psychotherapy/CBT/counseling), and self-care/other. There were 48 (8.9% of those with dependence) who received some sort of information, 94 (17.6%) who received medicines, 90 (17.5%) who received psychological interventions and 41 (7.5%) in the 'other' category. There were very few in either the 'information' or the 'other' group who did not also seek either medical or psychological help (n=3 and 4 respectively). Logistic regressions were carried out within each treatment category to ascertain whether any variables predicted the

different types of treatment received. No variable predicted any of the four types of interventions.

### 3.5.3 Satisfaction with Treatment

Participants were then asked whether they felt they had got enough of each type of treatment received. Unfortunately this question was not asked of all in the 'other/self-care' category, so that results for the first three categories only are available for the satisfaction question. It was found that 32 who received information were satisfied with how much of this sort of help that they got (weighted proportion,  $p=0.66$ ; 95% CI: 0.50-0.79); 82 got enough medicines ( $p=0.89$ ; 95% CI: 0.80-0.94); and 63 got enough of their psychological intervention (0.76; 95% CI: 0.65-0.84). Proportions satisfied were compared amongst the three treatment categories, using Bonferroni adjustments for multiple testing. Table 7 summarises differences in proportions on this satisfaction measure along with confidence intervals for these differences (Newcombe & Altman, 2000). Significantly higher proportions were satisfied with medical than information received, but there were no differences in satisfaction between information and psychological and psychological and medicine treatments.

Comparison	Difference in p-values	Lower Confidence Interval for Difference	Upper Confidence Interval for Difference	Significance of Difference*
Information x Medicine	.235	.045	.436	$p < .05$
Information x Psychological	.103	-.099	.318	ns
Medicine x Psychological	.132	-.017	.278	ns

\* Bonferroni-adjusted

Table 9: Differences in proportions satisfied with three types of treatment

### 3.6 THOSE WITH ALCOHOL DEPENDENCE WHO DID NOT SEEK HELP: TYPE OF TREATMENT WANTED AND REASONS FOR NOT SEEKING NEEDED HELP

During the administration of the National Survey interview, participants were classified as to whether they had a likely mental health diagnosis and those that did were also asked why they did not get the different types of help. This meant that 260 of the 290 with dependence who did not get help were asked whether they wanted a particular type of help. Only 66 wanted any type of help. This represents 23.4% of those asked. The only variable to predict wanting but not getting treatment was being in the 35 to 54 year age group. However sociodemographic variables as a group and

comorbidity variables as a group were predictive of this unmet need. Disability variables as a group were not.

### 3.6.1 Type of Treatment Wanted

Of the 66 respondents with alcohol dependence who wanted but did not receive some form of help for their mental health problems, 27 (38.1%) wanted information, 14 (21.4%) wanted medicines, 39 (62.4%) wanted psychological help, 27 (43.2%) wanted help with practical issues and 18 (23.2%) wanted help with self-improvement. Pairwise comparisons were made between proportions wanting each type of help with each other type of help using the technique described by Newcombe and Altman (2000) and taking into account sampling as well as Bonferroni adjustments for number of comparisons done. Table 10 summarises the results of these pairwise comparisons.

	<b>Information</b>	<b>Medicines</b>	<b>Psychological</b>	<b>Practical issues</b>	<b>Self-Improvement</b>
<b>Information</b>	<b>.381</b>	.167 (-.084 to .392)	.244* (.000 to .450)	.051 (-.206 to .300)	.149 (-.090 to .367)
<b>Medicines</b>		<b>.214</b>	.410* (.140 to .612)	.218 (-.021 to .426)	.018 (-.189 to .223)
<b>Psychological</b>			<b>.624</b>	.193 (-.090 to .441)	.393* (.118 to .600)
<b>Practical Issues</b>				<b>.432</b>	.200 (-.029 to .403)
<b>Self-Improvement</b>					<b>.232</b>

\*  $p < .05$

Table 10: P-values for wanting but not receiving the treatment (diagonal) and differences in p-values for pairwise comparisons with confidence intervals for the differences.

A significantly greater proportion wanted (but did not receive) psychological help compared with medical, information and self-improvement types of help. No other difference was significant.

### 3.6.2 Analysis of Reasons for Not Seeking Needed Treatments

Where participants indicated that they did not seek help but felt they needed it, they were asked for their reasons. These are summarised in Table 11. Percentages are of all 66 who wanted but did not get help and are weighted for sampling bias.

The proportions of males and females who 'preferred to manage self' were .58 each so that there was no differences between males and females who did not receive but wanted help and chose to manage themselves. Numbers in the other reason categories were too low to analyse further.

TYPE OF HELP REASON	INFORMATION	MEDICINES	COUNS/PSYCH	PRACTICAL	SELF IMP	ANY HELP
preferred to manage self	16 (25.7%)	11 (15.7%)	23 (39.6%)	11 (20.6%)	6 (8.0%)	36 (58.3%)
thought nothing would help	5 (5.9%)	0 (0.0%)	6 (6.8%)	4 (4.1%)	3 (2.3%)	8 (9.3%)
didn't know where to go	3 (3.1%)	0 (0.0%)	4 (4.5%)	5 (5.1%)	4 (4.1%)	8 (9.4%)
afraid to ask/or what others would think	8 (11.1%)	1 (2.4%)	9 (14.0%)	7 (10.6%)	5 (7.6%)	12 (17.1%)
couldn't afford it	3 (4.4%)	5 (9.8%)	7 (11.4%)	5 (8.5%)	4 (7.0%)	10 (16.9%)
asked but didn't get help	3 (4.0%)	1 (0.5%)	4 (5.8%)	2 (2.5%)	2 (1.4%)	5 (6.3%)
got help from another source	0 (0.0%)	1 (0.9%)	1 (3.5%)	4 (6.1%)	3 (3.5%)	6 (10.5%)
total wanting this type of help	27 (38.1%)	14 (21.4%)	39 (62.4%)	27 (43.2%)	18 (23.2%)	66 (100.0%)

Table 11: Reasons for not seeking needed treatment

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The above results can be summarised as flow-charts which relate to the flow-chart of the study presented in Section 2.2. above. Summary flow-charts are contained in Appendix B. Appendix B1 summarises results regarding prevalence and correlates of dependence and types of service used; Appendix B2 summarises prevalence data on type of treatment received as well as relevant satisfaction details; and Appendix B3 presents a summary of prevalence data regarding types of treatment wanted and not received amongst those who did not seek help.



## **4. DISCUSSION**

Alcohol dependence in this Australian sample was found to be nearly three times as prevalent amongst males than females and was particularly over-represented in the 18-34 year age group.

### **4.1 CORRELATES OF ALCOHOL DEPENDENCE**

When other variables were controlled for, the only variables that correlated with dependence were sex (male), age (younger), not living with a partner and having any other affective, anxiety or drug disorder. These data agree well with predictions made from the U.S. data (Grant, 1997), although education level did not correlate significantly with an alcohol dependence diagnosis in the Australian data.

Self-rated level of physical and mental functioning as measured by SF-12 did not correlate with having alcohol dependence. Similarly, the other measure of disability – days out of role – did not relate to dependence. This study is the first large epidemiological study of mental disorders to take account of measures of perceived disability when assessing treatment seeking behaviour. Bijl and Ravelli (2000) suggested that alcohol use disorders do not predict treatment seeking because those classified as having such disorders have few associated 'functional' limitations. This notion has been supported here by the fact that measures of disability (SF12 mental and physical and days out of role) did not correlate with a diagnosis of alcohol dependence.

### **4.2 CORRELATES OF SERVICE USE FOR ANY MENTAL DISORDER**

Like the findings from the Netherlands-based NEMESIS study (Bijl & Ravelli, 2000), having an alcohol use disorder (dependence or abuse) did not predict treatment seeking in this Australian sample. Similarly level of dependence as measured by number of criteria met did not predict service use; but having social, psychological or physical problems associated with alcohol use did predict service use. This latter finding fits with results from smaller community-based surveys reported in Section 1.2.2 above.

Age predicted treatment seeking with the oldest group (55+ years) being least likely to seek help for a mental health problem. This result fits with predictions made from prior epidemiological research, but not with those made from clinical populations and small community surveys. However, as noted in Section 1.2, these studies tended to be poor methodologically and restricted in the applicability of their findings. The relationship between age and service seeking is not linear, as it appears that those who seek help most are in the middle age groups (35-54 years).

The finding that women are more likely to seek help fits with prior research, as do being better educated and having comorbid psychiatric disorders. Contrary to

previous research, having a comorbid physical condition did not predict treatment seeking and neither did employment status nor living in an urban setting.

The fact that the SF-12 disability measures predicted treatment seeking for any mental health problem indicates that these measures provide independent and relevant information to models which attempt to predict treatment seeking in the general population.

#### 4.3 ALCOHOL DEPENDENT GROUP - CORRELATES OF SERVICE USE

The only single variables correlating with service use for those with dependence were being a female and having a comorbid psychiatric disorder. If disability measures were grouped in the regression analysis they predicted service use, but at a low level. It should be noted that confidence intervals were large in these analyses resulting from instability of findings due to low numbers. So, these findings plus those that males with affective disorders and females with anxiety disorders are most likely to seek help, provide an interesting direction for further research, but can only be considered as trends. Similarly, unemployed females with alcohol dependence show a trend to seek more help, as do males with a comorbid physical disorder.

#### 4.4 TYPE OF SERVICE USED

Less than 30% of those with alcohol dependence sought any help for their problems. This corroborates prior research suggesting that most people do not seek such help. Research in the US had suggested that men were more likely to seek specialist services but this did not hold in this Australian sample. However, research in the US tends to consider treatment for alcohol use disorders as synonymous with 'specialist treatment' whilst primary care treatments have not been subjected to the same research scrutiny. In this Australian sample, and amongst those with alcohol dependence who sought help, most saw a GP, but there was no difference between males and females in this behaviour.

The only variables to show a significant relationship with type of service were having a higher education and not being in the workforce, both of which tended to be over-represented in specialist services. The former finding fits with prior data from both large and small-scale studies reported in the literature. Again these findings can only be described as trends but they may well represent the situation where only those who understand the importance of receiving treatment (better-educated) and those who have little choice (e.g. invalid pensioners, not in workforce) attend specialist treatment services.

#### 4.5 TYPE OF TREATMENT RECEIVED AND SATISFACTION WITH TREATMENT

Around 18% of those with alcohol dependence received a medical intervention and a similar number received some sort of psychological intervention. Approximately 7.5% received information but virtually all those who received information also received either medical or psychological help. It is not clear whether this information was part of a single intervention package or whether it was a separate source of help.

No variable was found to correlate with receiving any of the types of help. However, there were significant differences in satisfaction with the different types of help in that those in receipt of information were significantly less satisfied with amount of help received than those who received medicines. There was also a trend towards those receiving psychological help being less satisfied with the amount of help received than those who received medicines. However, the large 95% confidence intervals reflect that these results may be unreliable.

#### 4.6 FINDINGS REGARDING THOSE WHO DID NOT RECEIVE TREATMENT

The prediction that the large proportion would not think they needed help was born out by the finding that only 66 of the 260 (23%) who were asked said they needed any type of help. Wanting but not getting help was associated with the 35 to 54 year age group which fits with the above finding that this group tends to seek help for mental health problems in general – they are more likely to see themselves as needing help but equally likely as other age groups to lack resources to obtain help. The fact that disability measures as a whole did not predict unmet need for help also fits with the finding that disability is not associated with a diagnosis of dependence; while comorbidity variables as a whole predicted unmet need and had been found to be associated with both dependence and treatment seeking in this study.

The most salient expressed unmet need was for psychological/counselling types of help. This fits with the earlier finding that most satisfaction is expressed for medical interventions compared with psychological and information types of help amongst those who do receive help.

Although numbers are small, the breakdown of reasons for not seeking treatment (although believing they needed help) does show some interesting trends. Bearing out a prediction from the research literature was that the largest proportion of those in this group said that they preferred to manage themselves. However there were no differences between males and females on this variable. Believing that nothing would help did not appear to be a significant reason for not seeking help.

## 4.7 CONCLUSION

A majority of those with alcohol dependence did not seek help for their problems in the past 12 months. However, it should be noted that the present study considered only professional treatment seeking and may have excluded attempts to ameliorate alcohol use problems through non-professional or alternative treatment agencies. Also, it cannot be assumed that all those with alcohol problems should be offered treatment as many (up to 50%) remit without any treatment (Hall & Teesson, 2000). Furthermore, evidence from this study and related research has found that most individuals with alcohol use problems do not suffer serious disability nor see a need to seek professional help, and thus may be very resistant to attempts to treat them. However these latter characteristics may be operated upon through public health policy, education about the risks associated with alcohol use disorders (Degenhardt, Hall, Teesson, & Lynskey, 2000), as well as improvements in understanding of and access to effective treatments.

Those who have an alcohol disorder comorbidly with an affective or anxiety disorder are much more likely to seek help and to see themselves as disabled. GPs need to be aware of these high levels of comorbidity, and treatment services should be integrated so that individuals with multiple problems are most effectively treated. Also specialist services need to be aware of and treat comorbid alcohol problems. Most people attend treatment for other disorders such as anxiety and depression. It has been argued elsewhere that at least some anxiety disorders dissipate or disappear when a comorbid individual is abstinent from alcohol for an extended period (Allan, 1995), which highlights the importance of assessment and treatment of alcohol disorders in specialist mental health services.

On the other hand disability tends to not be associated with a diagnosis of alcohol dependence and thus is unrelated to treatment seeking in this group. However, those who suffer significant social, psychological or physical harms due to their alcohol use are more likely to seek help when all other variables are controlled for. This fits with the suggestion by Bijl and Ravelli (2000) that the definition of dependence may not be useful for pinpointing a population at significant risk - either the criteria for dependence or the manner in which they are combined may need to be re-evaluated. Further research is warranted to ascertain the relationships of individual symptoms with disability and service use in order to clarify just how debilitating is misuse of alcohol.

It is telling that level of satisfaction of amount of treatment received was highest for those who received medical interventions. This is likely due to the emphasis on medical treatments within the Government-funded medicare system where medical interventions are largely subsidised but psychological ones are not. This reasoning is supported by the significant gap between medical and psychological treatments wanted by those who did not receive, but felt they needed, help. Thus there is a need at the system level to recognize and encourage non-medical interventions that have been shown to be effective for alcohol use disorders. Evidence suggests that there

are good psychological treatments available. Yet the system does not support their use to the same extent as medical or poorer psychosocial interventions. Furthermore, with increased understanding of the neurobiology of dependence, newer medical interventions directed specifically at the substance abuse are being trialled and show potential for improvements in treatments (Proudfoot & Teesson, 2000). Thus there may be considerable room to improve both individual and system variables leading to increased treatment seeking and improved overall outcomes.

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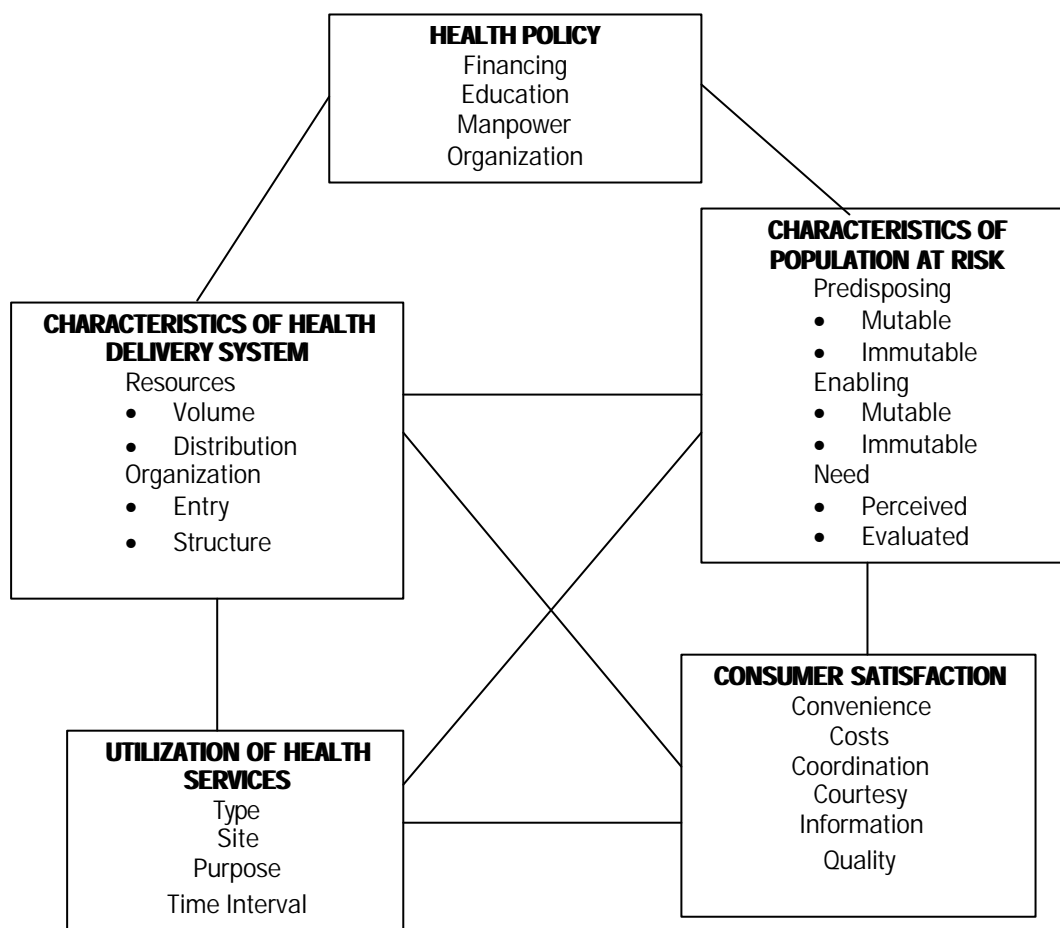
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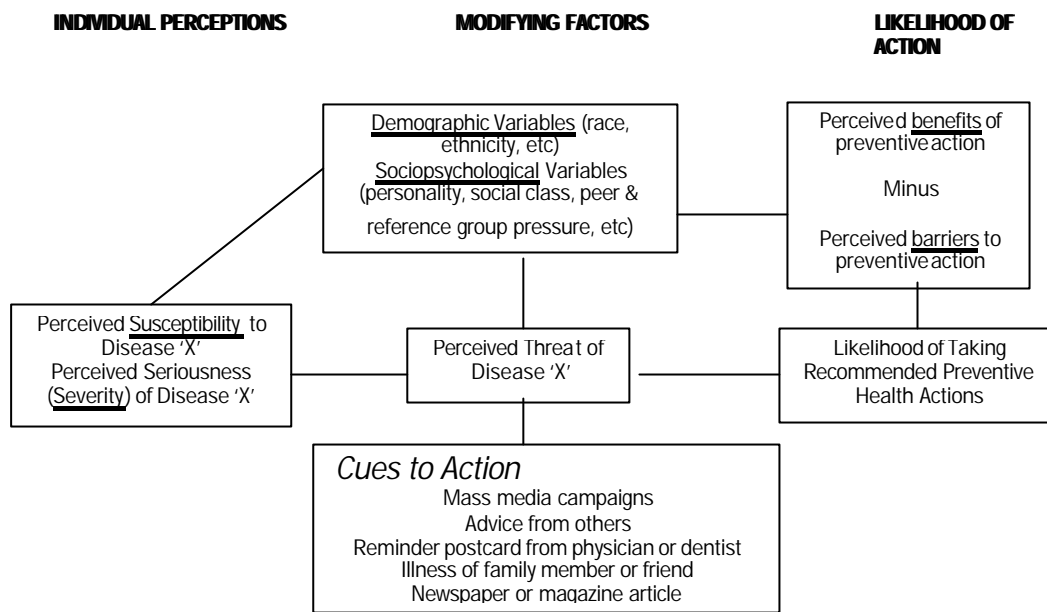


## 6. APPENDICES

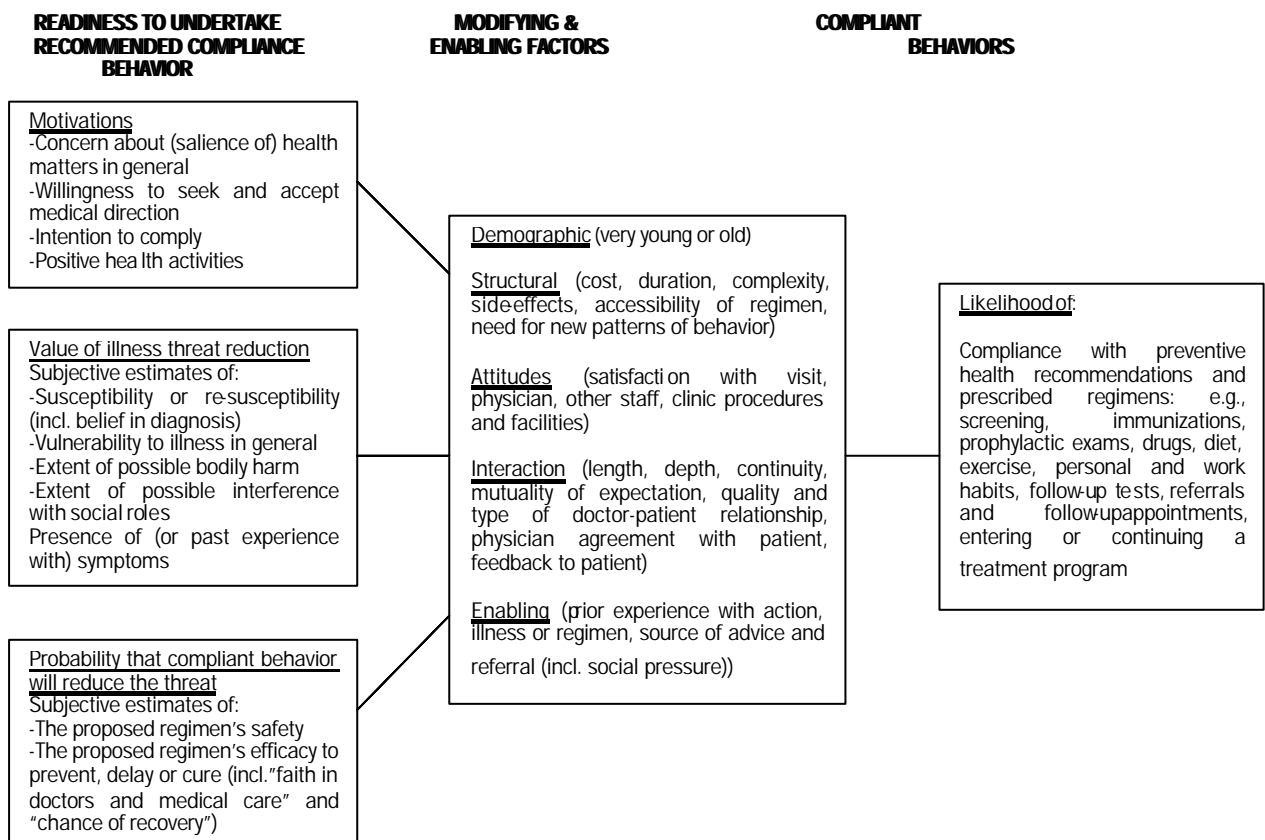
### APPENDIX A: MODELS OF TREATMENT SEEKING BEHAVIOUR



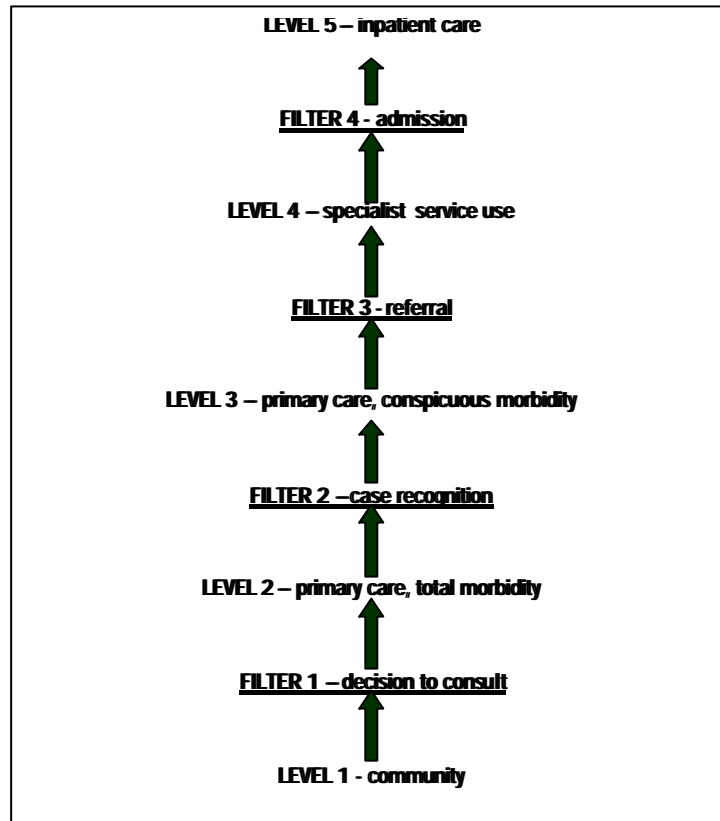
*Appendix A1: Aday & Andersen's Framework of Access to Health Care*



Appendix A2: Original Health Beliefs Model (from Becker et al 1977)



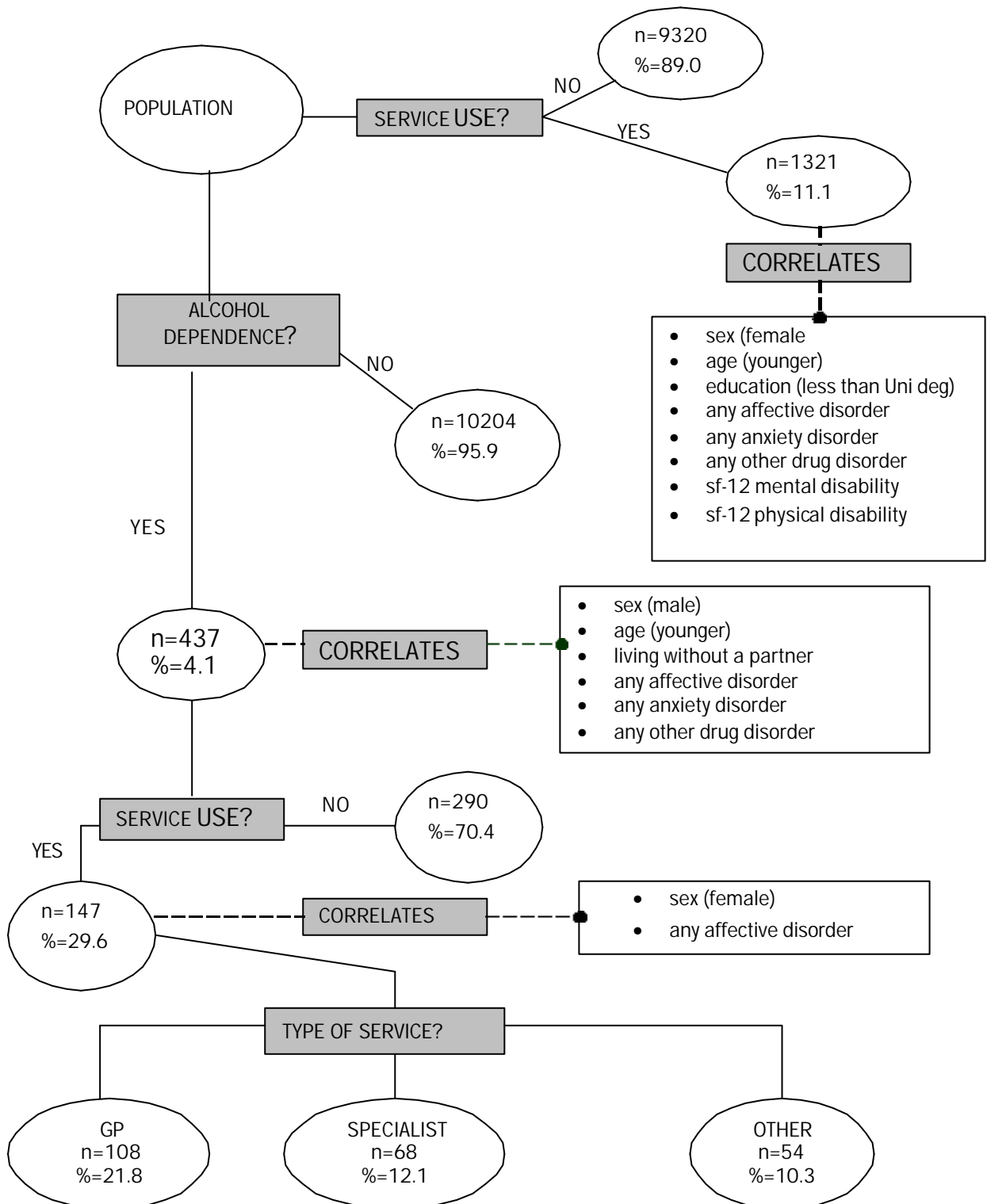
Appendix A3: Adapted Health Beliefs Model of Becker et al, 1977



*Appendix A4: Goldberg & Huxley's Pathways to Care Model*

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## APPENDIX B: FLOWCHARTS OF RESULTS



*Appendix B1: Summary of results regarding prevalence and correlates of dependence and types of service used.*

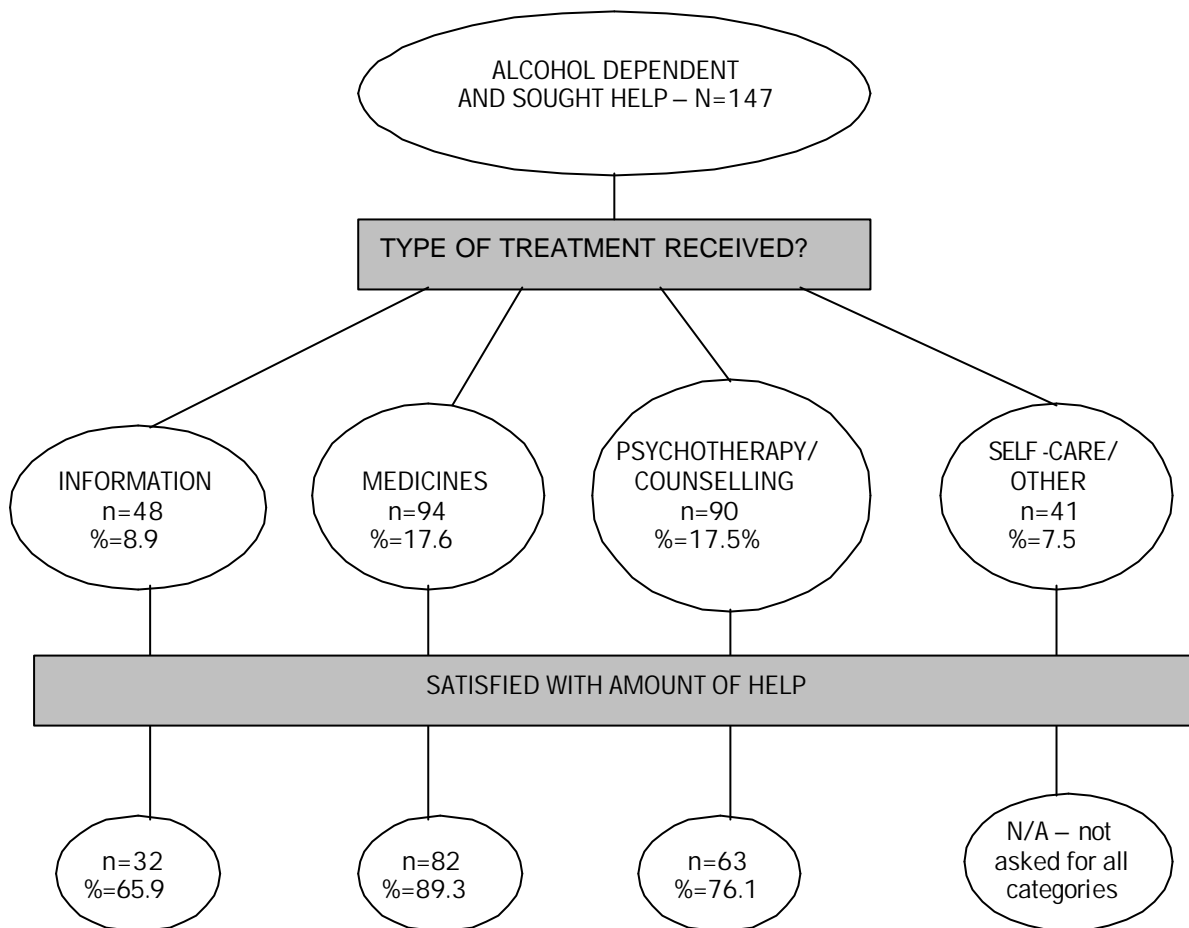
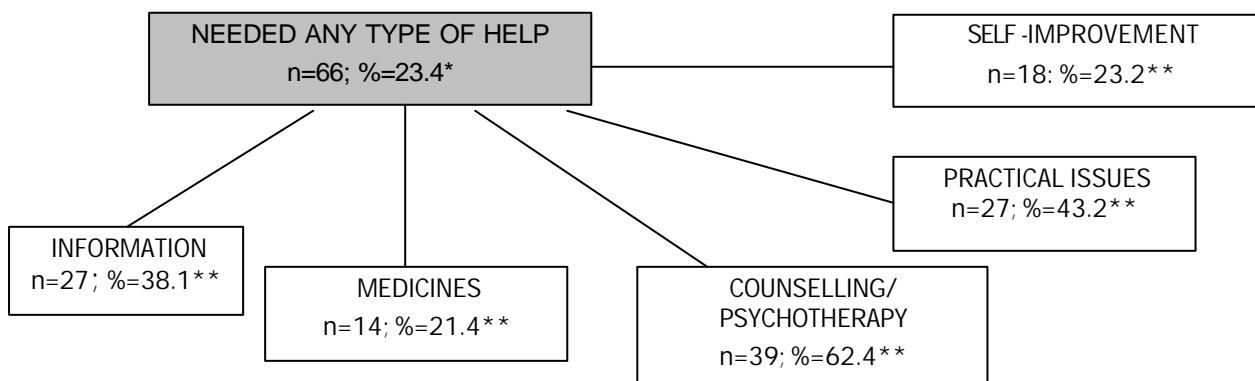


Figure B2: Prevalence of type of treatment received and satisfaction.

ALCOHOL DEPENDENT AND DID NOT SEEK HELP - ASKED IF THEY NEEDED EACH TYPE OF HELP – N=260 (\* = % of those 260 asked but who did not get help; \*\* = % of those 66 who wanted help but did not get it)



Appendix B3: Treatment wanted and not received amongst those who did not seek help.