A PORTFOLIO OF STUDY, PRACTICE AND RESEARCH

Submitted for the Doctor of Psychology (Psych. D.)
in Clinical Psychology

CONVERSION PROGRAMME

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SECTION ONE

PROFESSIONAL AUDIT
PERSONAL STUDY PROGRAMME PROPOSAL

Psych. D. in Clinical Psychology: Conversion Programme

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1. Overall Aims and Objectives

The Conversion Programme represents a course of continuing professional development covering academic, clinical and research components, thereby integrating theory and practice in clinical psychology. This personal study plan has been developed to satisfy both the needs of the employer and the degree requirements and has been fully integrated into ongoing clinical duties. The overall aim is to attain greater professional competence specifically in specialist areas of clinical psychology, which have developed as mainstream over the past ten years, in order to enhance the contribution of Clinical Psychology to Health Care.

This programme of personal study is leading to the award of the practitioner doctorate. The emphasis on the word "practitioner", reinforces the role of the clinical psychologist as scientist practitioner. The prime objective of this programme is to produce a Portfolio of Study, Practice and Research that will demonstrate increased competence in each of these three areas.

The specialist subject area for this conversion programme is the development of the clinical psychology of addictive behaviour.
2. Academic

The choice of academic subject areas has been influenced by two major developments in the NHS in recent years. The first has been the "purchaser/provider" split within the Health Service. The development of purchasing teams independent from providers, has been accompanied by a change in emphasis towards the commissioning of services based on needs assessment, rather than on the basis of demand or supply.

The second is the increasing recognition of the importance of addictive behaviours in the health of the population. Drug misuse in particular is more prevalent now than in the past, it is a behaviour that has become "normalised" amongst the younger age group to such an extent that not using drugs is reported to have become a deviant behaviour, rather than the other way round. Furthermore, substance misuse is unique in that it impinges on all aspects of the key areas covered in The Health of the Nation (the Government's White Paper of 1993 specifying national targets for health gains). Prevention of accidents, cancers, the health of pregnant women, influence on sexual behaviour and the role played both as a cause and effect of mental health problems are just a few examples of how substance misuse figures highly in our health. The advent of HIV and other infectious diseases and the role played by substance abuse in their spread (for example through sharing injecting equipment, and disinhibited behaviour as a result of intoxication), have increased further the importance of substance misuse in the political and health agenda (discussed in detail in Davis, 1993, "Drug Abuse", Chapter in Griffiths, S., "A framework for better health", South West Thames Regional Health Authority Annual Report, 1993).

There is therefore a need to encourage behavioural changes in drug and alcohol use. Yet these patient groups can be difficult to access, difficult to
retain in treatment, and difficult to know how best to help. All of these factors have increased the necessity for needs assessment based on scientific methodology.

2.1 Within my post a need was expressed for increasing the advisory role to purchasers on how to conduct needs assessment in the field of substance misuse. Substance misuse services have not historically been developed on the basis of need, but rather on existing supply, assumptions not supported by scientific evidence, vested interests, and in some cases even prejudice. The services available around the country vary in a way that cannot simply reflect different needs; some, for example, target alcohol, others harm reduction for injecting drug users, some offer primarily a medical, others a psychological, approach; others provide excellent residential treatment, and so on.

Assessing the need should not, of course, delay a core service being set up - indeed it is often impossible in this field to assess need until a service has been started. But at the same time it is hard to influence purchasers of the need for a more specialist or highly developed service without demonstrating:

1. a need for that service.
2. that the service can effectively tackle the need.
3. that it is deserving of priority over other competing needs of the general population.

Carrying out an assessment of the nature and extent of substance misuse, the health and social care needs of drinkers/users (and their relatives), and the types of responses to answer these needs, is notoriously difficult. People might not recognise they have a problem, or are ambivalent about changing their habit; they may be ignorant of the help available, or may maintain secrecy because of the social stigma, its illegality, or perhaps have fears over confidentiality. But nevertheless Needs Assessment is needed. This critical
review of the methodologies for needs assessment in substance misuse will contribute to my clinical work (in particular the development of a consultancy agency) and form the basis of the advisory role of my post to purchasers of substance misuse services.

2.2 A crucial question asked by purchasers and managers in the substance misuse field is "how many people are there with this problem?". Yet such a simple question seems almost impossible to answer in the substance misuse field. Claims are made at both extremes depending on vested interests, but with little scientific basis. The second academic review will therefore examine the methodologies currently available for assessing the extent of the problem, and will propose ways of improving its quantitative measurement.

This critical review describes and critically evaluates methodologies used for conducting epidemiological research amongst drug users. The basic problems in estimating the prevalence of drug misuse in the community are firstly that it is subject to major changes in the extent and nature of the behaviour, with changes, for example, in the extent of the problem over a decade or two, together with changes at the same time in the types of drugs used and their methods of use. Secondly, the behaviour is frequently concealed, giving a "hidden" population of drug misusers of uncertain size and composition.

Attempts at measuring the extent of drug misuse therefore need to be informed in ways quite different from those used in other specialities. The present review will enhance the understanding of purchasers and managers about the complexities of "number counting". In addition it will provide the background to the further development of treatment services for people with addictive behaviour problems attending my services (by identifying the likely
demand from different clinical groups) and it will inform the advice given by the proposed consultancy agency to other providers of services.

3. Clinical

The clinical audit consists of the development of a consultancy service for reviewing clinical services for drug and alcohol users. In order to have an appropriate methodology on how to review clinical services, it is necessary to describe the quality standards, range and types of services that make up a comprehensive service that can best meet the health and social care needs of these patient groups. It is, in addition, necessary to describe the structures, processes and outcomes that make up these services. The clinical audit consists firstly of a document on quality assurance, informed by the academic review of needs assessment, and by a series of consultations with experts and specialists in this field. The second part of the clinical audit consists of examples of marketing materials written in order to describe the consultancy service being offered. The third part describes consultancy work carried out by me following the procedures and approaches described in the first two parts.

The background to the quality assurance document, in the first part, was the need for consensus as to what constitutes a quality service in this speciality, and what is reasonable for purchasers to include in service specifications. Specialist services for substance misusers have a relatively short history, particularly in the health service. The development of services nationally has varied according to funding availability as well as local variations in need. This "newness" of many services together with the difficulties in the past of identifying good practice (arising from the paucity of information on outcome), has meant that responding to the requirements of the "new N.H.S." such as in providing service specifications, clinical audit and quality assurance is perhaps easier to make in this speciality. There are, however,
few national norms or criteria in this speciality, unlike in physical medicine and most other aspects of health and social care.

The guidelines produced are intended to be useful for

1. purchasers and those responsible for planning and service development
2. providers of services, both in the statutory (health, social services, probation, prison services, youth and community, education etc.) as well as the non-statutory and voluntary sectors.

They are designed to have a wide variety of applications, from staff in training who want to evaluate the service they are placed with as part of their course requirements, through to the chief executives, directors and purchasing team members responsible for populations of diverse natures and sizes. They are not intended to be prescriptive; quality is flexible (one person's rose is another's thorn) and has to be home grown (bottom fed, not top led); and can only be "assured" by taking on audit in small, manageable steps.

The document defines and gives descriptions of the patients and users of services, followed by a discussion of needs assessment in this speciality. A short section describes the models and theoretical background to quality assurance used in these guidelines. This is then followed by a detailed description of the features of a comprehensive service required to meet the needs of people with substance misuse problems and those affected by someone else's substance misuse. This section is not intended to describe an ideal service, but rather an optimum level and range of services which purchasers should aim for as a realistic provision within a population the size of an average health authority. The intention as well is to produce a structure in the document for a high quality substance misuse service against which existing services can be assessed in a uniform manner across the country. It
is suggested that purchasers might draw up quality specifications for drug/alcohol services with reference to this part of the document in particular.

The key principles of services are then described, together with the details of the components of services and the service programmes necessary to achieve the goals set out in the earlier sections. A range of quality indicators for each service programme is given.

The next section goes into greater details of applying the quality assurance framework in practice, with examples given of standards and suggestions for monitoring these. The final section looks at special considerations that are applicable for contracting with the non-statutory and voluntary sector, as well as describing a number of standards that are often assumed to be present but need to be agreed to as general quality standards.

There are a number of potential other uses for providers and purchasers:

As a checklist of what should be provided and at what level of quality

As a framework for developing aspects of clinical audit

As a framework for personal as well as service development

As a curriculum for teaching the professional practices of addictive behaviour

As the core material for the development of local standards

As a framework for peer review of services

As planning information for developing a new or existing service
As the basis of a reporting system on performance to senior management

As the source of objectives for service performance

The second part of the clinical audit consists of examples of marketing materials written in order to describe the consultancy service being offered. A prospectus and leaflets were written for potential commissioners of the consultancy agency. Again these were based on the academic review of needs assessment and my work as a Consultant within the Regional Drug and Alcohol Team and subsequently as Specialist Consultant with the Centre for Mental Health Services Development, King's College London. The Regional Drug and Alcohol Team has been formally visiting each of the Health Authorities in the old South West Thames Region, now the South Thames Region (West), since 1989. Between then and 1994 numerous changes have occurred in the N.H.S. and the way services to substance misusers are purchased and provided. The abolition of Regional Health Authorities in April 1996 in addition necessitated a new strategy for the consultancy process provided by the RDAT. The publication, in May 1995, of the Government’s White Paper "Tackling Drugs Together; A Strategy for England 1995-1998" in addition prompted the Centre for Mental Health Services Development to commission me to market its consultancy role in assisting the work of the newly formed Drug Action Teams. These Teams are purchaser led and have a specific range of targets over the next three years; their formation led to a potential expansion in the need for expert consultancy of the kind envisaged for the Consultancy Agency. The prospectus and marketing materials were developed to meet this changing environment.

The revised aims of the RDAT reviews and the consultancy role being developed are intended to aid the contracting process, providing a focus for discussions on service development and for information exchange, rather than advisory only to the providers. Substance misuse services are often very
small parts of any purchasers responsibility and can often be neglected when acute, community and generic health and social care services have many other pressing demands. The impact on public health generally and the costs (often hidden) incurred by generic health and social services because of substance misuse are often underestimated. The services offered by the consultancy agency in its prospectus are an attempt to redress this balance and to create time to consider these specialist services in more detail.

The third part of the Clinical Audit describes consultancy work conducted by me following the procedures and approaches described in parts one and two of this audit. The examples are of needs assessment consultancies and reviews of drug and alcohol services in the Maltese Islands (commissioned by the Maltese Government), a provider trust in Exeter (commissioned by the Exeter and District Community Health Service NHS Trust), and a Purchaser of Health Services in Scotland (Tayside Health Board).

The Maltese Islands' contract was from the Government of Malta's equivalent of the Department of Health. The contract was to assess the need for services, to review the existing services and to identify gaps in service provision. This work in addition made detailed recommendations on how services might be further developed in the short and longer term.

The Exeter contract was similar but focused specifically on provider issues; how best to deliver the kind of services required by the Purchasers. A needs assessment, based on the work of the previous two sections and the literature review in the academic audit, was conducted. This work focused primarily on the clinical services within the provider unit.

Tayside Health Board commissioned a Review of needs for the Angus District, requesting specifically that advice be offered on the development of services that would best serve the needs of the Angus population, rather than
simply perpetuating existing service provision which had largely developed around the needs of Dundee and around one hospital service.

4. Research

The study of gambling behaviour has not until very recently attracted much interest either from clinicians or from researchers (the most recent interest being in part a result of the State support for the National Lottery and the consequent "normalisation" of gambling). Few statutory treatment services exist for people with gambling problems in the United Kingdom, and little is known about the nature of the addictive behaviour, the range of problems presented, or the need for services to this group. A treatment and research clinic for problem gamblers was started by me within the Academic Division of Addictive Behaviour at St George's Hospital Medical School in London. The aims of this clinic included assessment of need in its general sense, and the development of a range of measures for assessing the nature and types of problems. Foremost within this was the need firstly to attempt to identify what constitutes the nature of dependency in problem gamblers, separate from the problems consequent upon gambling, and secondly to produce a quantitative measure of the severity of this dependency.

Referrals to this clinic itself, however, are insufficient in number for the development of standardised measures, and may be a biased sample of pathological gamblers (referred primarily via the mental health services) and the results therefore would not be generalisable to the population as a whole.

The idea that dependence constitutes a separate dimension from problems was originally put forward in relation to alcohol misuse, and subsequently to drug abuse. Early definitions of addiction relied heavily on the central role played by tolerance and withdrawal, whilst more recent formulations have placed greater emphasis upon the psychological components of dependence.
With regards gambling as a (non chemical) addictive behaviour, it seems reasonable to formulate the nature of the dependency in psychological concepts, as there is no clearly defined withdrawal syndrome or tolerance effects such as is found for alcohol or opiates. A measure of dependency for gambling, therefore, will need to focus firstly on psychological constructs, and secondly must exclude problems which are consequences of gambling and losing. Existing measures of pathological gambling focus on the consequences of excessive gambling (and are in a sense therefore measures primarily of "unsuccessful" gambling).

One of the biggest difficulties with conducting research with this patient group is that relative to other addictive behaviour groups (particularly people dependent on alcohol) they are small in numbers, and secondly they are a "hidden" population in that few gamblers are known to helping services. Gaining access to a sample of pathological gamblers large enough to perform the necessary analysis is therefore a major task in its own right.

The research was informed by my clinical work with problem gamblers. The measures used were developed in order to test whether there is a dimension of gambling dependency which does not include the problematic consequences of gambling, and which can be quantified. The pathological gamblers to be sampled are from anonymous self help groups in the South and Midlands of England. Accessing these clients and obtaining other data in addition to that reported here will further help in the development of a treatment service for this patient group.

I therefore aim to gain access to a relatively large sample of pathological gamblers who attend self help groups. These groups have anonymity as a fundamental principle, together with a belief that only help from fellow sufferers can be effective and which therefore tend to be hostile to professionals in the helping services. Through personal contact with these
groups, a battery of tests and questionnaires will be distributed for self completion. The battery contains questionnaires which are the subject of this research, measures of gambling behaviour and demographic variables, together with an Anglicised version of a standardised screening test for pathological gambling (the South Oaks Gamblers Screen). The latter was used to validate the pathological gambler status of the self help group attendees, together with forming an instrument to help validate the ones being researched. The questionnaire results will be analysed by factor analysis (a procedure not previously familiar to me), to help answer the research questions outlined above, and the descriptive information collected will add to our knowledge of this little researched patient group.

5. Portfolio Outline

Section Two ACADEMIC AUDIT


Section Three CLINICAL AUDIT

The Development of Quality Standards for Substance Misuse Services and their Use in Consultancy for Purchasers and Providers
Section Four: RESEARCH AUDIT

- The Measurement of Addictive Dependency in Pathological Gamblers

Section Five: PUBLICATIONS DURING THE PERIOD OF STUDY 1994-96

Section Six: M.Sc. THESIS

- The Nature of the Memory Disorder in Senile Dementia
SECTION TWO

ACADEMIC AUDIT
Critical Review 1

What Does Needs Assessment Mean In Relation To Drug Misuse? A Review of Needs Assessment for Drug Abuse Services
What Does Needs Assessment Mean In Relation To Drug Misuse? A Review of Needs Assessment for Drug Abuse Services

1.0 Introduction

For various reasons specific to this field, needs assessment of problem drug use is a particularly complex exercise (see, for example, the discussion by Davis, 1993a). The complexity stems in part from the paradoxically clandestine nature of the "problem" (paradoxical in the sense that despite being a subject that arouses great media attention, the populations are often hidden). The reasons for it being hidden might include firstly the illicit nature of drug use, secondly the stigmatisation frequently experienced by problem drug users, and thirdly the possibility that drug use is often unrecognised as a problem in need of treatment and therefore is not visible to the helping services.

In addition the complexity is increased by the heterogeneity of the problems covered, as well as the relative dearth of knowledge about treatment outcomes. The "problem" therefore requires innovative needs assessment approaches not necessary with most other health and social problems. In addition, assessing the nature and extent of substance misuse within a Health Authority's general population is likely to require a mixture of approaches, a process which may be likened to piecing together a jigsaw with the knowledge that most of the pieces are missing or distorted in some way. No single needs assessment method will be able to offer more than one piece of this jigsaw (Hartnoll et al., 1985).

This review describes and critically evaluates the methods and approaches used for conducting health care needs assessment as applied to problem drug users. In Sections 2 and 3 the subject areas are defined and described, followed by issues about ways in which the extent of drug misuse in the
community might be assessed. The remaining sections consider services available, how health and other gains might be effected in these client groups (an essential component of needs assessment), and problems with measuring outcomes with problem drug users.

2.0 Needs assessment and the population’s ability to benefit

What is needs assessment?
Most health service purchasers, clinicians, planners and managers would probably agree that services should be needs lead, not supply fed (see the discussion in Davis, 1993a). But how many drugs and alcohol agencies can say that the services they provide have been designed following an assessment of need? It is more likely that their service developed from assumptions, vested interests, prejudice, or were simply built on what was already there. The services available around the country vary in a way that cannot simply reflect different needs; some for example target alcohol, others harm reduction for injecting drug users, some offer primarily a medical, others a psychological, approach; some offer predominantly community services, others provide excellent residential treatment, and so on (see Ghodse et al, 1994).

Assessing the need should not, of course, delay a core service being set up - indeed it is often impossible in this field to assess need until a service has been started (Davis, 1993a). But at the same time it is hard to persuade purchasers of the need for a more specialist or highly developed service without demonstrating:

1. a population in need of that service.
2. that the service can effectively tackle the need.
3. that it is deserving of priority over other competing needs of the general population.
Carrying out an assessment of the nature and extent of problem drinking and drug use, the health and social care needs of drinkers/users (and their relatives), and the types of responses to answer these needs, is notoriously difficult (see, for example, Ghodse, 1995). People might not recognise they have a problem, or are ambivalent about changing their habit; they may be ignorant of the help available, or may maintain secrecy because of the social stigma, its illegality, or perhaps have fears over confidentiality. But nevertheless needs assessment is possible.

Needs assessment for any health related problems is seen as a high priority in the purchasing of services to produce health gains for the individual and the public at large (see, for example, Stevens and Gabbay, 1991); yet it is conceptually muddled and technically difficult in the field of drug abuse. The NHS Management Executive in its discussion paper (1991a) states boldly that the "agenda for needs assessment in the 1990's is about defining the nature and level of services required to care for and improve the health of a population". Yet in the case of drugs, it is argued in this review that the information to do this is largely unavailable as the methods for collecting it are still being developed; neither accurate measures of the level of need nor of the effectiveness of interventions are available as yet.

The NHS paper (1991a) goes on to suggest that three different approaches may be taken to needs assessment: an epidemiologically based approach (an assessment of the population's ability to benefit from effective health care or prevention services); a comparative approach (comparing process and outcome indicators between different geographical areas); and a corporate approach (sounding the views of different parties). The comparative and corporate approaches are not considered further in this review, as they rely almost entirely on unscientific methodology which assumes the existence of already established good practice elsewhere, or that "stakeholders" are
necessarily best placed to identify need. Each of these assumptions is questionable in the case of drug misuse services.

It is the purpose of this review to evaluate the scientific basis for epidemiologically-based needs assessment. An epidemiologically-based approach, by defining need in terms of the population's ability to benefit from effective health care and prevention services, identifies "the problem" under consideration and describes its nature and extent through its relations with effective health care interventions that are at least potentially available. There is a consensus that a broad range of interventions are appropriate in this field (see, for example, ACMD 1988). And in so far as any questions over the effectiveness of interventions for drug misusers is concerned largely with the difficulties of achieving lasting abstinence, then the use of more "modest" interventions aimed at "risk reduction" and "harm minimisation" goes some way towards justifying an epidemiologically-based approach to the problem.

Within epidemiologically based needs assessment, seven stages are required (NHSME, 1991b) which are:

1. a statement of the problem
2. an outline of its subcategories relevant to service delivery
3. an estimate of the range of incidence and prevalence rates for the problem and its categories
4. a summary of the services available
5. a summary of the known effectiveness and cost effectiveness of the services
6. a derivation of models of care from 3 and 4
7. a view on outcome measures, targets, information requirements and research priorities
The potential uses of locally applied measures of the population's ability to benefit from prevention and health care services are various and relate to decision-making about services in different ways.

- The measures may be used to provide the basis for a detailed specification of the nature and level of the services required.
- Or they may be used as a source of 'targets' in the sense of intended improvements in the community's health which services set themselves as goals to be achieved within a given period.
- Or they may be used as a basis for measures of the overall benefits to be derived from one kind of service (defined, perhaps, by a particular form of illness or the group who are the main recipients of the service) in comparison with another.
- Or they be used to monitor the effectiveness of the services that are provided.

The great difficulty, as this review will suggest, is that reliable and valid methodologies for obtaining these measures have still to be developed.

3.0 What is drug misuse and what are its subcategories?

Although this is seemingly a simple question, there is in fact imprecision and controversy over this. The WHO (see Edwards et al., 1981) recommends that the following distinctions be observed in specifying patterns of drug misuse.

1. “any unsanctioned use of drugs.” This is intended to cover use of a drug that is not approved by a society, or by a group within that society.
2. "hazardous or "risky" drug use behaviour": Use of a drug that will probably lead to harmful consequences for the user (either dysfunction or harm).

3. "dysfunctional or harmful drug use behaviour." Unsanctioned use of a drug which is leading to impaired psychological or social functioning (e.g. job loss; financial problems) is dysfunctional. Any unsanctioned drug use which is known to have caused tissue damage or mental illness in the user is harmful.

For the most part, the application of these categories to different forms of drug use is unproblematic. Any use of "street" drugs, for instance, evidently falls into the first category, although this definition of course begs the question "unsanctioned by whom" as many groups within western society challenge why some drugs are illegal whilst the use of others, for example tobacco, caffeine and alcohol, which are arguably more hazardous, is sanctioned.

Similarly, most instances of drug use will also fall into the second category, although this definition then presumably will include commonly used licit drugs such as alcohol and tobacco, although this seems unlikely to be the general perception of drug misuse. Furthermore, since much medically supervised drug therapy is hazardous but is justified by the expectation of therapeutic benefit, presumably only medically unauthorised drug use with this property counts as drug misuse.

Moreover, cases of iatrogenic dependence or the use of prescribed drugs for the treatment of dependence do not fit so easily into any of the categories. The drug use in such cases is evidently harmful but is not medically unauthorised or illegal. The final category of harmful use might therefore be extended to include any dependent use.
An important subcategory of problem drug users is that of dependent users. Drug dependence may be defined as "a state, psychic and sometimes also physical resulting from the interaction of a living organism and a drug, characterised by behavioural and other responses that always include a compulsion to take the drug on a continuous or periodic basis in order to experience its psychic effects, and sometimes to avoid the discomfort of its absence" (WHO, described by Edwards and Gross, 1976).

Most of the substances that are misused in any of the senses noted by the WHO are misused because of their psychoactive properties. Dependence also is associated with the compulsive use of a substance "in order to experience its psychic effects". Some substances, however, may be misused because of other properties. Anabolic steroids, for example, are used by some athletes and body-builders to improve performance or muscle size. Mild analgesics such as aspirin may be used excessively because of their analgesic properties. The misuse of psychoactive substances - such as opiates, stimulants, tranquillisers, hypnotics, hallucinogens, cannabis - may form the core of the topic under review, but it is not the whole of it.

Of course, not all drug users are dependent or experiencing problems, and it is important to clarify whether or not the needs assessment is considering other categories of use. A more helpful distinction for health care needs assessment therefore might be in terms of the kind of health care intervention appropriate to their condition. In addition, it is important to look at possible categories of population-in-need as they may exist in the community, and not just in the clientele of the current provider agencies. Indeed there is some evidence that different types of drug agencies seem to reach essentially the same population (Strang et al, 1993), thus leaving the hidden populations still largely hidden, and their health needs unrecognised.
The term "problem drug taker" covers all the actual or potential target population for the provision of health care, the defining characteristic being that there is a problem of a physical, psychological and/or social nature which may have developed as a result of the use of the drug. Thus dependence may be considered within this broad sub-category, but so too should the following two subcategories:

1. "Low risk" users?

If the criterion proposed by the WHO for identifying drug users is that of deviance from legal and/or medical rules, then all illicit users of drugs, whether past or current, heavy or light, regular or occasional, will be counted as a misuser. It is therefore possible that some "misusers" will be safe "misusers". That is to say, from the point of view of health service interventions, they will be in essentially the same category as non-users. They would be "targets" for services aimed at preventing the occurrence of the risky behaviour, rather than services aimed at the modification of such behaviour or the treatment of ill-health that resulted from such behaviour.

Two reasons might be offered for regarding some forms of illicit or unsanctioned use as non-hazardous, contrary to the definitions put forward by the WHO. Firstly, some individuals identified as misusers may be past users, just as ex-smokers are past users of tobacco. Their "risk status" is more akin to that of a non-user than a current user because they exhibit no existing risk behaviour. Secondly, a more controversial ground for asserting the possibility of "safer" use is that there may be some forms of current drug use which are "safe" (do not pose a threat either to the users or anyone else) just as there are some forms of alcohol use which are considered non-hazardous. It could, of course, be argued that any current use of a "highly addictive" substance should count as "risky" behaviour, that many illicitly used substances carry a risk of a potentially life-threatening acute adverse reaction with a single dose,
and that there are potential dangers inherent in the social context of illegal drug use. These points, however, apply equally easily to sanctioned drug use or could be taken as reasons for the decriminalisation of drugs.

2. "Risky" users who are not suffering current impairment or harm as a result of their drug use.

Primary prevention strategies may be effective in deflecting the individual at risk of starting drug use away from a drug using career. Initiation into use of illicit drugs usually occurs during late adolescence and early childhood (Ghodse, 1995) and so much of the efforts of prevention are targeted at this younger age group. But as Strang (1994) points out, initiation can also occur late in life, either in association with changes in peer group or in association with changes in the local availability of different illicit drugs.

The task of identifying members of this diverse group of misusers for the purpose of “face to face” interventions presents obvious difficulties, since none of these users experience their own drug use as a problem for which they need help (otherwise they would be suffering harm as a result of their drug use) and since also they tend to conceal their behaviour because of its illegality. The onus is very much on the service providers to devise ways of “reaching out” into the community, if they are to effect change in this kind of “risky” drug use behaviour.

Individuals at risk will, of course, also include those who are already involved in some degree of illicit drug use, because of the possibility of prevention of accruing of harms due to continuation of the drug use or by detrimental changes in the nature of that continued drug use (for example the move from occasional use to daily dependent use of a drug; or, as with heroin chasing and injecting, the move from smoking a drug to injecting the same drug).
As well as describing the possible categories of population in need in the above broad terms, it is likely that any assessment will need to consider further subcategories, and suggestions for people already misusing drugs (but not necessarily demanding help) might include the following:

1. Services for people injecting drugs, regardless of whether the drug use is dependent, recreational or even experimental. This is a particular focus of attention because of the spread of infectious disease through sharing injecting equipment, the health risks from using non-sterile equipment even when not shared, and the greater risk of addiction and overdose from injecting (Ghodse, 1995). Whilst it could be argued that such problems are self-inflicted, in terms of improving the health of the population, this subcategory of drug user is important.

2. Services for people who do not currently wish to change their drug use. This is another controversial group to suggest are in need of health care interventions, but in terms of health benefits, engaging the “unmotivated” dependent drug user into helping services serves at least two functions. Firstly, harm reduction becomes possible (for example the lifestyle changes that are possible as a result of moving from illicit use to relatively cheap, reliably and easily obtained prescribed, pharmaceutically produced drugs), which is arguably likely to produce health gains. Secondly, it serves the function of opening the possibility for the drug user of further help which is change directed.

3. Services for people “who voluntarily wish to withdraw from drugs, and for those whose regular supply of their drug of dependence is interrupted” (Strang, 1994); such as when in police custody, or when receiving inpatient treatment for another health complication.
4. Services for people with co-morbidity of drug problems with either physical problems (such as HIV, accidental overdose, septicaemia, pregnancy, chest infections etc.) or psychiatric (such as depression, anxiety, psychotic illnesses). The pathology occurring alongside drug use may be causal to the drug use (e.g. self-medication for depression), a consequence (such as infection from injecting equipment), or influenced/modified by drug use (such as relapses in schizophrenia). And, of course, the risk of co-morbidity may continue even when abstinence from drugs is achieved (for example past infection with HIV which might not be identified for several years).

5. Services for people who have stopped their drug use. The nature of drug misuse is such that it is a chronic, relapsing condition and people's needs therefore extend beyond "the stopping" phase into the "staying stopped" phase (Davis, 1996, provides a description and review of approaches and services for longer term support and relapse prevention).

As Strang (1994) has pointed out, none of the possible subcategories of need for problem drug users can be mutually exclusive; for example in the proposed subcategories described above it is clearly possible to be an injector (category 1) who is not seeking help (category 2) and who has a co-existing problem such as depression (category 4). Nevertheless, the categories proposed here seem an improvement on the blanket term "problem drug user" so often used in needs assessment (e.g. Drug Indicators Project, 1985).

4.0 Estimating the extent of the "problem"

With regards estimating the range of incidence and prevalence rates for the problem and its subcategories, most of the research effort has been directed at assessing the extent and nature of the "drug problem" in the community by
using prevalence measures (Strang, 1994). Also, the NHS Management Executive in its report on needs assessment makes the point that prevalence measures are more useful for defining the kind and level of services that are required, whereas incidence measures are more useful for charting the course of the epidemic over time (NHSME 1991b).

The basic problems in estimating the extent of drug misuse are firstly that it is subject to major changes in the extent and nature of the behaviour, together with changes at the same time in the types of drugs used and their methods of use. Secondly, the behaviour is frequently concealed (Strang, 1994), giving a "hidden population of drug misusers of unknown size and needs".

Thirdly, as has already been noted, drug misusers are not an homogeneous group in terms of health needs; it is important to identify prevalence and incidence for the subcategories outlined above rather than finding a "grand total" which seems unlikely to be helpful in an assessment of need.

As well as "counting numbers" for the subcategories separately, it is also important (as Strang, 1994, points out) to specify the geographical level required (national, county, district, city etc.) as there seems some confusion in the literature over the purpose of the counting exercise. For example, the Government might be interested primarily in national uptake of people into treatment generally, a district health commissioner might be concerned more with need for detoxification resources district-wide, and a street needle exchange agency might be wanting data only on that community served. Although this may seem an obvious point to make, there are examples in the literature where no distinction is made of the geographical levels needed for the purpose of the assessment (e.g. "Tackling Drugs Together", HMSO, 1995), and it would seem of value to consider a matrix of geographical level vs. subcategory as a starting point for any proposed needs assessment.
Despite these many difficulties, attempts at "headcounting" are frequently made. All have great methodological shortfalls for the reasons given above, and often they lead to widely varying estimates. As an example, Sutton and Maynard (1992) calculate the value of the multiplier which they apply to the number of U.K. Home Office notifications in a particular year to obtain a national estimate of the size of the total addict population from which the Home Office sample is drawn. Their calculation is based on a population-standardised combination of the results of local studies which provide estimates of the total addict population in the community and also report what proportion of this number were notified to the Home Office. The figure they obtain (a multiplier of 7 for the year 1985) is used to obtain a best estimate for national prevalence. However, since the local multipliers on which the national estimate is based vary from 1:3 (in Worthing) to 1:16 in Oxford, this method seems meaningless if any pretence to accuracy is required.

5.0 Summarising the services available

This is perhaps the least contentious part of needs assessment in this context, and examples of methods for doing this are described elsewhere (see, for example, Ghodse et al., 1994). An important point to consider, however, is the extent to which generic services are provided to these patient groups. It might be, for example, that few specialist services exist in a Health District, but the general hospital, primary health care team, general psychiatry/psychology/social/probation/voluntary services etc. may be playing a large role in service provision and need to be included.
6.0 The known effectiveness, cost effectiveness, and outcome evaluation of the services

As with many fields of psychological and mental health problems, the effectiveness of interventions is difficult to measure. Watts' (1989) review of the effectiveness of clinical psychology claims in relation to addictions that a number of approaches, such as relapse prevention using cognitive-behavioural principles, are effective, yet no controlled studies are quoted to support this. Rather, the fact that the interventions are based on principles proven with other client groups is used to justify the claim. Similarly with other drug services such as drug maintenance prescribing, there is a paucity of research, which led the Department of Health in 1994 to commission a national "Effectiveness Review" which is due to report its findings in May 1996.

The problem of assessing outcomes with drug users who have received an intervention in any of the groups described earlier is that, even within subgroups, there is likely to be much heterogeneity. There will be differences firstly in client characteristics, secondly in the way a treatment is implemented (for example, diversity of therapist skill and commitment), and thirdly in the dimension of improvement for one client compared to another (e.g. one client may reduce criminality but not consumption, another given the same intervention may improve in psychological well being, another in job stability etc.). Some treatments may simply evaluate number of drop outs from the programme, others rely on behavioural change measures. The point here is that outcome measures vary between studies, making comparisons of different approaches difficult. Clearly, the evaluation must be suited to the aims of a particular programme, which are diverse in this field. Other methodological problems include how long a follow up period should be to ensure that any effect is a true treatment effect in view of the relapsing and remitting natural pattern of drug misuse, and the recognition that many people
stop or reduce their use of drugs without formal interventions from helping agencies (see, for example, Baker et al., 1994; Gossop et al., 1991). For these reasons, treatments can only be successfully evaluated in studies that have appropriate control conditions for comparison, which of course is problematic in this field. In the face of these difficulties in evaluation, even the findings from controlled studies should be viewed with caution. Consistent demonstration of efficacy would be convincing but is yet to be found in this field, whilst a failure to demonstrate efficacy cannot be taken to mean that a programme has no value for the individual patients using that programme.

One of the problems is the same as was outlined earlier, that "problem drug user" is too broad a category for considering effectiveness. It might be better therefore to consider effectiveness separately for each of the five subcategories identified earlier.

1. Services for people injecting drugs, regardless of whether the drug use is dependent, recreational or experimental.

Interventions are generally subsumed under the umbrella title of "Harm Reduction" (e.g. Stimpson, 1990) and range from pharmacy-based sales of injecting equipment, specialist agencies providing sterile water and prescriptions for ampoules of drugs, through to cognitive and behavioural techniques used in relapse prevention and cue exposure (Davis et al., 1990).

Whilst there is some evidence of health gains from harm reduction interventions with injectors (see, for example, Stimpson, 1990), it seems uncertain from the literature as to what proportion of injectors actually use the schemes. Studies such as those by Strang et al. (1993), suggest that the client groups accessed by different types of agencies, including harm reduction services, essentially are the same. Thus there is a fear that those
using the schemes may be already using safer practices and are not the "hidden population" of drug users who would not otherwise be in touch with a helping service (although Donohoe et al., 1992, argue that needle exchange schemes in their evaluation attracted many users not in touch with other services). And of those who do use the harm reduction services, the drop out rate is so high as to make their evaluation meaningless (Stimpson, 1990). Moreover, critics could argue that "harm reduction" with injectors may in fact harm the person (for example by inadvertently discouraging the move from injecting to non-injecting) or reduce the motivation of other users who might otherwise be attempting to achieve abstinence from drugs.

With regards effectiveness of behavioural interventions such as cue exposure, (a technique based on classical conditioning theory believed to extinguish the learned associations by exposing the user to cues that evoke craving, such as needles, spoons, belts and other injecting paraphernalia, but with no unconditional response; see Davis, 1996, for a description of the clinical uses of cue exposure), some outcome research suggests health gains can be effected (e.g. Dawe et al., 1993), although few controlled studies are available. As well as the need for more research, there are suggestions at a theoretical level whether cue exposure might enhance craving in the longer term for some people (Powell et al., 1990), and whether the benefits could be expected to generalise from the clinic to the community setting, (Powell, 1995). The impact of any of these techniques on preventing relapse in the longer term is not known and so basing services on proven effective interventions could not at present include cognitive-behavioural therapies.
2. Services for people who do not currently wish to change their drug use.

There is good evidence that "motivational interviewing" can help a user move on in terms of motivational stages of change (see, for example, Bien et al., 1993, Saunders et al., 1995), but clearly there will always be users who are not motivated towards changing their drug use, but who nevertheless can achieve health gains (for example through maintenance programmes of oral methadone). Evidence from the United States (Ball and Ross, 1991), Australia (Ward et al., 1992), and the European Union member states (Ghodse, Clancy, and Jones, 1995) indicates that considerable reductions in illicit drug use, HIV risk behaviours, criminal activity and other health needs are seen in drug users enrolled on methadone maintenance programmes compared either with drug users who are not (e.g. Ball and Ross, 1991), or compared with themselves when not on the programme (Ghodse, Clancy and Jones, 1995).

Interestingly, comparisons of outcomes between different methadone maintenance clinics suggest large differences exist. Ball and Ross (1991) compared outcomes for different clinics in the US, and Ghodse, Clancy and Jones (1995) have reported on comparisons between EU countries. Those clinics offering broad-based approaches as well as a prescription (for example providing key worker sessions, non directive counselling, problem solving, group support etc.), and those able to offer high as well as low dose prescribing (as opposed to having a fixed, relatively low maximum dosage for everyone) were found to be associated with better outcome. This suggests that methadone maintenance programmes are best delivered by specialist agencies able to provide a more flexible and bigger range of interventions than, for example, a "prescription only" or non-specialist service such as a generic primary health care team. Yet it is precisely the latter arrangement that purchasers are being encouraged to
take in the UK (see, for example ACMD 1988; Tackling Drugs Together, 1995).

3. Services for people who voluntarily wish to withdraw from drugs, and for those whose regular supply of their drug of dependence is interrupted (such as when in police custody, or when receiving inpatient treatment for another health complication). Oral substitute prescribing is by far the main treatment option for the management of opiate dependency (Ghodse, 1995), and its use in inpatient settings has been relatively well researched (e.g. Gossop et al, 1986, 1987, 1989a, 1989b). These, and other studies, suggest that 75% of patients entering inpatient treatment programmes of withdrawal, voluntarily comply with treatment through to the completion of the methadone withdrawal (usually after two to three weeks). Drop out is reported to be high during the following two weeks whilst withdrawal distress remains high (Gossop et al., 1987). Although as many as 50% of patients return to their previous level of drug use (Gossop et al, 1986), this is nevertheless an effective intervention in comparison to no treatment (assuming that no treatment is ineffective, which of course might not be the case; further research into self treatment and spontaneous remission is needed before firm conclusions can be made).

In recent years the emphasis in the provision of detoxification programmes for people who are dependent on either alcohol or opiates has been on community based help, using outpatient or community clinics for the vast majority of patients offered help (see ACMD Report, 1988; the Department of Health's Guidelines of Good Clinical Practice, 1984; Tackling Drugs Together, HMSO, 1995). It has become common practice for these withdrawal regimens to be extended over several months (discussed, for example, by Ghodse, 1995), despite the fact that supportive evidence on the effectiveness of substitute prescribing has been obtained only from inpatient and brief intervention programmes.
For alcohol problems it has been suggested that it is preferable for detoxification to be carried out while the person remains in their own environment (e.g. Stockwell et al., 1986). The recommendations, made by the ACMD and Department of Health reports referred to earlier, carried across this view into the treatment of opiate dependent people. It is also reflected in the allocation of resources since 1983 to the present, in which new funding for drug dependence treatment has been assigned to the development of community services whilst at the same time seeing a reduction of scarce specialist inpatient resources (Ghodse et al. 1994). There is some evidence (reviewed in Dawe et al., 1991) to suggest that outpatient programmes are effective with problem drinkers. In a comparison of inpatient and outpatient detoxification programmes for people with mild to moderate alcohol dependence, inpatients were more likely to achieve abstinence than outpatients, although both groups did well (95% vs. 72% treatment completion for inpatients and outpatients respectively). Although such results indicate that outpatient detoxification may be worthwhile for alcohol dependency, there are theoretical reasons as well as research evidence to suggest this might not necessarily be the case for people with opiate dependency. Dawe et al. (1991) report that high drop out rates are typically found for outpatient programmes. In a controlled study involving the random allocation of opiate dependent people to either an inpatient or an outpatient programme, it was found that only 17% of the outpatient group completed withdrawal compared to 81% who completed the inpatient programme (Gossop et al., 1986). As Dawe et al. (1991) conclude, there is a need to identify factors which contribute to the higher relapse rates in the outpatient groups, and how the effectiveness of community detoxification programmes can be improved, before this treatment can be adopted as an effective community treatment.
The reasons for why someone stays in treatment and maintains motivation to complete a community detoxification, whilst others do not, are probably varied and difficult to predict. Drop out and relapse rates of people living in the community are potentially affected by many social and environmental factors which are potentially controllable in an inpatient setting, but are likely to be less controllable in a "home" setting. It is not clear, however, why this should be more so for opiate users than for alcohol drinkers, particularly as alcohol is no less avoidable than opiates in the community and is considered culturally acceptable and indeed actively promoted. Explanations might include differences in lifestyles between the two populations (e.g. it could be that opiate misusers, because of the drug's illegality, lead a more chaotic lifestyle which might affect ability to stay in treatment), sub-cultural and/or personality differences between the two populations (for example initial experimentation with heroin may be considered a more deviant activity than drinking and may be influenced more by personality factors and/or subcultural factors than is alcohol) and many other possible social, psychological and biological differences. These are as yet speculative as there is little research in this field.

Several reports (e.g. ACMD, 1988) suggest that the provision of community support may help to increase the chances of programme completion with opiate users, and the development in recent years of the Community Drug Team in the UK (e.g. Schneider et al., 1987) is an example of how this might be achieved. Another factor which has been suggested might increase successful completion of detoxification is the extent to which patients are involved in deciding the rate and manner of the withdrawal programme, presumably based on the notion that self-efficacy and internalisation of control is likely to be more effective than externally imposed control. Banks and Waller (1988) suggest that "in general it is best to respond to a patient's own time scale to withdraw", and indeed several studies (described in Dawe et al., 1991) have reported "an
Improvement in completion rates, a decrease in overall methadone dose used, and a shorter time to complete detoxification when the patient plays an active role upon deciding the rate of detoxification in an inpatient setting" (Razani et al., 1975; Stern et al., 1974). Similar findings have been reported when patients participating in a day care programme have been given the option of reducing their methadone at a faster rate (Raynes and Patch, 1973). What has not been shown, however, by any of these studies is the extent to which the benefits of self regulated withdrawal are transferred to the community setting. In a study by Fulwiler et al. (1979), partial self regulation of a community withdrawal programme resulted in a slower rate of dose reduction, although on the positive side these patients remained in treatment longer and used illicit supplies to a less extent whilst in treatment compared with those receiving a physician regulated withdrawal.

In a more recent UK study, Dawe et al. (1991) compared two methods of outpatient withdrawal programme: a fixed, non negotiable linear reduction programme, or a flexible, negotiable withdrawal schedule. The authors found that for both groups together, only 39 of the 82 outpatients continued beyond the initial assessment (i.e. regardless of the group only 48% attended a second time), and of those 39 who started the detoxification it was found that only 11 stayed in treatment to complete their detoxification programme. As the authors state, at best this represents a completion rate of either 28% (11/39) or 13% (11/82). This outcome however is rendered even less satisfactory since the authors also report that many of the people in the trial were known to have been regularly supplementing their methadone with street opiates (the average proportion of morphine positive urine samples for all subjects was 40% and therefore it is probable that many of the patients had not actually achieved abstinence from opiates despite having continued and completed the treatment programme). This relatively poor outcome (in terms of drug reduction) for community samples
on reducing methadone prescriptions has been reported in other research (see, for example, Davis et al, 1990; Birke et al., 1990) and to date there is no support for the effectiveness of this treatment with community samples. Indeed, without evidence to the contrary, it could be argued that self withdrawal from opiates (i.e. withdrawal in the community without any formal treatment intervention) might be more effective for many dependent users, and until it can be shown that the latter are from a different population with more severe needs than those accessing services, then there has to be considerable reservation about providing methadone substitution therapy as an effective treatment for opiate detoxification. Of course, its use in harm reduction is a different matter, as discussed above.

Nor did the two groups suggest differential outcomes in the expected direction, with the group who negotiated the rate of their reduction doing no better and in some respects doing worse than the group on a fixed linear reduction. Not surprising to those who work in this field, patients in the negotiable programme extended the period of time over which their withdrawal took place, (i.e. given the flexibility, patients opted to extend the time they were prescribed methadone) which is consistent with the finding reported in a positive way by Fulwiler et al. (1979) as keeping the patient engaged in treatment for longer! But unlike in the Fulwiler et al. (1979) study, this better engagement as an outcome was not balanced by a reduction in the use of street opiates by the negotiable group. Moreover, the authors found that fewer “negotiable” patients received a prescription reducing to zero (13% compared to 53%) and overall dose reduction was less. Thus although inevitably the numbers of completers in both groups was small making statistical comparisons difficult, it may nevertheless be concluded that flexibility within a short term community withdrawal programme did not produce an improvement in completion rates nor a reduction in overall methadone dose. The importance of this study, however, is the poor outcome relative to those found for inpatient
programmes (e.g. Gossop et al, 1986, 1987, 1989a, 1989b). It is unlikely that this difference is due to the community patients having more complex or severe problems (indeed the opposite is more likely to be the case; see Ghodse, 1995). It seems more likely that the process factors of the methadone substitution withdrawal programme are qualitatively different in a community as opposed to the inpatient setting for many possible reasons. Of course the long term outcomes might be different again for the two settings, with better longer term outcome expected on theoretical grounds when treatment and management is conducted in the patients home setting where the cues and problems are to be found (discussed in Davis, 1996).

Yet the recommendations from the Government to purchasers of services (see the Reports from ACMD e.g. 1988, 1989) clearly state that all drug services should become more flexible in their prescribing style - partly to increase the attractiveness of services to users and therefore increasing recruitment into services, and partly to increase retention in treatment programmes. The evidence reviewed suggests, however, that the offer of a prescription as part of a short-term detoxification programme fails to attract into treatment a large proportion of those who get as far as an assessment, and fails to retain the vast majority of those who start a programme, regardless of whether the programme is flexible or not. It may be that other forms of interventions are more successful at attracting (such as street agency services providing harm reduction, low threshold and non reducing prescriptions) and retaining (e.g. motivational interviewing approaches described by Davis, 1996, Miller and Rollnick, 1991, and others) problem drug users and that short-term detoxification programmes should be reserved only for those motivationally "ready for change" who are wishing to become abstinent.
Because of the pressure to move toward community treatments in drug services (see Ghodse et al., 1994), the number of inpatient beds available for detoxification of drug users has reduced in recent years. In view of the higher detoxification completion rates reported for inpatient programmes (Simpson and Sells, 1983), further investigation is required not only into this difference but also into the failure of purchasers to take note of this effect in the development and planning of services. The many problems (discussed for example in Ghodse, 1995) that are associated with the delivery of an effective community detoxification service for drug dependency (but probably less so for alcohol dependency) raises questions about the continued reliance on this type of intervention as the main option for opiate dependency treatment espoused most recently in the Government's strategy document "Tackling Drugs Together" (HMSO, 1995).

4. Services for people with co-morbidity of drug problems with either physical or psychiatric problems.

The effectiveness of services with people with co-existing problems has not been evaluated, but the potential health gains seem considerable in that substance misuse impinges on all aspects of the key areas covered in The Health of the Nation (the Government's White Paper of 1993 specifying national targets for health gains). Prevention of accidents, cancers, the health of pregnant women, influence on sexual behaviour and the role played both as a cause and effect of mental health problems are just a few examples of how substance misuse figures highly in our health. The advent of HIV and other infectious diseases and the role played by substance abuse in their spread (for example through sharing injecting equipment, and disinhibited behaviour as a result of intoxication), have increased further the importance of substance misuse in the political and health agenda (discussed in detail in Davis, 1993b).
5. Services for people who have stopped their drug use.

Davis, (1996) provides a description and review of approaches and services for longer term support and relapse prevention. Appropriate services range from residential rehabilitation with diverse programmes to community relapse prevention programmes and self-help groups. Although an analysis of the outcomes and effectiveness of the many components of these programmes is outside the scope of this review, it has been commented (e.g. Strang, 1994), that "each of these approaches is strongly supported by those committed to the particular approach, but there is frequently a lack of objectivity in the limited research which has been done". A common outcome feature of all approaches seems to be that the longer patients remain engaged in a programme, the better the outcome. Christo and Sutton (1994) for example followed up a cohort of attendees at Narcotics Anonymous (NA, a self-help group for people attempting to remain abstinent, which follows the 12 Step programme also known as the "Minnesota Model"). These authors found that "those who had been off drugs and in contact with NA for longer tended to have lower trait anxiety and higher self-esteem scores", and they go on to suggest that there is a causal link between the two, rather than the alternative explanation that those who persist with NA groups are a self selecting group of people with lower anxiety and higher self esteem. Unfortunately for the authors, this finding, that the longer a person is engaged in treatment the better the outcome, is found for other types of treatment than NA (e.g. Ghodse, 1995), and the alternative explanations, that either the psychologically healthy remain in treatment, or that continued engagement in treatment per se (i.e. no matter what the treatment, the important element is to stay engaged in therapy), remain a possibility.
Conclusions

This review has attempted to critically assess the evidence for a scientific basis being adopted in needs assessment for drug misuse. Clearly the difficulty of defining the problem areas, estimating accurately prevalence, and evaluating the effectiveness of interventions, which this review has highlighted, can not be a reason for not attempting to assess need in as objective a way as possible. But at the same time it must be recognised that these attempts will be limited in their accuracy until research into methodology has been completed.

References


Critical Review 2

Part One Epidemiological Methods for Assessing “Visible” Drug Misuse

1.0 Introduction

This review describes and critically evaluates methodologies used for conducting epidemiological research amongst drug users. The basic problems in estimating the prevalence of drug misuse in the community are firstly, that it is subject to major changes in the extent and nature of the behaviour, with changes, for example, in the extent of the problem over a decade or two, together with changes at the same time in the types of drugs used and their methods of use. Examples of the latter are the change from universal injection of opiates to a mixed pattern of both injecting and smoking of heroin; and injecting and swallowing of pharmaceutical opiates (Strang, 1994). Moreover, patterns may vary according to the area. For example, in the Wirral, about 90% of heroin users surveyed were taking the drug by “chasing the dragon” (Parker et al., 1987). Over the same period, but in South London, only half of a treatment cohort were taking their drug by injection and the other half by chasing the dragon (Gossop et al., 1988); whilst virtually all heroin users known to services in Edinburgh were taking their heroin by intravenous injection (Brettle et al., 1987; Robertson, 1990).

Secondly, the behaviour is frequently concealed (Strang, 1994), giving a “hidden” population of drug misusers of uncertain size and composition.
Some of the methods which have been used to collect information for prevalence estimates make no pretence to penetrate this hidden population (e.g. Jones et al., 1994, Das Gupta, 1990). They confine themselves to "visible" drug misuse, which superficially seems of limited value for needs assessment if this is the tip of the famous iceberg, with no knowledge of the full picture available. Nevertheless they may provide a baseline against which changes can be measured, as well as giving an indication of the nature of drug use locally and the success of services in reaching targeted groups.

2.0 Population surveys

Population surveys take a sample which aims to be representative of the "population at risk". This could be either the entire community or some portion of it (e.g. 16-25 year olds; secondary school children). The most common form of general population survey is based on a random selection of households (e.g. Hartnoll, 1992). By determining the frequency of problematic drug use behaviour in the sample, it is possible to estimate the frequency of that behaviour in the wider population from which the sample is taken.

The main dimensions of drug use that surveys usually seek to measure are (i) the drug(s) used and (ii) the regularity and frequency of use (Ghodse, 1995). The route of administration is sometimes included (e.g. Regional Drug Misuse Databases, see Jones, 1994), sometimes not (e.g. Exeter University School's Health Education Unit, Balding, 1992). Some surveys (e.g. Pattison et al., 1982) approach the task of measuring levels or "intensity" of use by concentrating their attention on what might be called the "recency" of use: they ask about "lifetime" use ("have you ever used.....?"), previous year use (have you in the last year used.....?", previous month/week/day use of certain drugs, usually listed by name). Other surveys (see Hartnoll et al., 1985) attempt to gather more direct information about regularity and frequency of
use, so that users can be classified as heavy or light, occasional or regular, past or current users of specified drugs.

Superficially this information might be expected to give some indication of the degree of risk associated with individual patterns of drug misuse. Other claims which might be made for surveys include the following:

1. they are the only way of obtaining direct measures of the prevalence of drug use in the population at large.
2. such data provide a reference for comparing prevalence between subgroups within a population, or between populations in different areas or countries.
3. the data can be used to validate other techniques for estimating prevalence, and also as a baseline to which to add prevalence data obtained by other methods on subgroups not covered by population surveys.
4. surveys measure the perceived availability of drugs, consequences, knowledge, attitudes and beliefs, and diverse other variables (demographic, social, behavioural, etc.) that might give a more differentiated picture or point to factors associated with a higher or lower probability of drug use.
5. if repeated over time, they give trend data in prevalence and other variables which are recorded consistently.

Unlike alcohol and tobacco, illicit drug use is not included in the U.K. General Household Survey (see GHS, 1988), and there is no systematic collection of data in the U.K. Some countries do however conduct such surveys (for example, the annual household surveys in the USA begun in 1971 and undertaken by the National Institute on Drug Abuse (NIDA); the sample, which in 1990 was 9,259, aims to be representative of the general population aged 12 years and over). An example of the use of the NIDA data is the
estimate made from the 1986 survey (NIDA, 1986) that more than 20 million Americans (almost 10% of the total population) had used cocaine at least once, that 4-6 million used it regularly, and that between 200,000 and 1 million people would have to be classified as dependent users. There have been suggestions (e.g. the Pompidou Group, and the work of the EU funded European Drugs Monitoring Centre, described in Hartnoll, 1992) to conduct comparative population-based surveys, using standard instruments and methods, in different European countries including the U.K.

Population surveys of drug use behaviour, however, are subject to several important limitations. In the first place, surveys do not give direct measures of drug use. Intervening between the reality (drug use and other factors which are measured) and the data are the subject, the interviewer, and the interview itself, all of these being influenced by surrounding cultural attitudes and the politics of the day. There are many examples in the large literature on survey methods (see, for example, Kandel, D.B., 1975), which demonstrate how the process and context of measurement can affect the results obtained. Self-reported levels of drug use are likely to provide an inaccurate measure of true levels of use because the activity is illegal and stigmatised (presenting a temptation to deliberate over-estimation (to impress), or under-estimation (to hide) depending on the groups being surveyed).

Various studies have used different methodologies for conducting validity checks. The studies uniformly indicate that drug use is admitted in the majority of interviews (see Maddux and Desmond, 1975, Bale, 1979, Bale et al., 1981). The willingness to do so, however, tends to decrease the more deviant the activity is: cannabis is mostly admitted, harder drugs such as heroin and cocaine less often. In the latter cases, the discrepancies between objective measures such as urine analyses among arrestees and subjective measures increase (Harrison, 1992). Whilst these studies can be criticised in that they use highly selected samples (such as arrestees and addicts
attending for treatment,) in situations where the motivation for honesty is
different from that of most surveys, they nevertheless support the notion of
underreporting of highly stigmatised activities.

Characteristics of the interviewer also affect the reliability of results; there is a
greater willingness among respondents to admit drug use with a younger
compared to older interviewers (Reuband, 1992). Among the 18-24 year old
respondents in this study, 31% indicated cannabis lifetime prevalence when
the interviewer was 18-34 years old, with older interviewers the rate dropped
to 13%. This study did not have objective measures against which self reports
could be assessed, and consequently it is not known which figure was closest
to the “truth”, but the point is that a significant difference in self reported data
existed. Little is known about other effects of mode of collection, e.g.
interviewing on the basis of questionnaires in group settings (such as school
classes), face-to-face interviewing, telephone interviewing and postal surveys
(Reuband, 1992). If desirability effects have an impact on responses and this
is partially bound up with the situation of the interview, more anonymous
settings should provide higher rates of drug use and more valid data. There is
some support for this. When school surveys based on anonymous
questionnaires in the group setting are compared with face-to-face surveys,
higher rates of drug use are obtained in the anonymous setting (Reuband,
1989). Again, although it is difficult to judge which of these is the more
accurate data as no validation was attempted by the researcher, there is
nevertheless a discrepancy which places a question mark over the use of
surveys until there is a better understanding of the biases which will be
present.

Secondly, in a household survey the drug-using population seem to be more
likely to be missed than the non-using population. Young males are probably
the least likely group to be found at home, and are also the highest age-sex
drug-using group (Ghodse, 1995). The homeless and people living in
institutions such as prisons, are other groups with high morbidity who are difficult to access for "general population" surveys.

Thirdly, as phenomena become more rare, so it becomes increasingly problematic to estimate their true frequency on the basis of a randomly selected unbiased sample (see Intraval report, 1992). A reliable estimate is only likely for more common patterns of drug misuse (e.g. occasional cannabis use). An example of problems in the survey method with low frequency behaviours is seen in a survey reported on cocaine use in Rotterdam (Intraval, 1992), in which the last-year prevalence (having used the drug last year) was given as 1% of the population aged 17 to 49 years. To estimate current use would require a very large survey to obtain accurate results from such a small sub-population.

General population surveys are therefore unlikely to provide accurate estimates of the more "extreme" forms of drug misuse. Users are more likely than non-users to be missed out of the sampling frame, the activity is relatively rare, and the least socially acceptable forms of drug misuse are the most likely to be concealed. With the exception of lifetime prevalence of cannabis, most surveys suggest rather low levels of illegal drug use in the general population (Hartnoll, 1992). Thus, apart from being an expensive and inefficient way of finding hidden populations, population surveys are largely studies of non-users. Furthermore, many surveys include questions on knowledge, attitudes and beliefs about drugs and drug-related issues (Hartnoll, 1992). Thus, as well as trying to map the distribution of drug use, there is an attempt to determine how, if at all, drug users differ from the rest of the population, but from information provided largely from the non-using population. The danger of this, of course, is that when the information is used for planning or evaluating information and education campaigns (see, for example, The Department of Health's evaluation of European Drug
Prevention Week, DoH, 1995), conclusions could be drawn that serve simply to reaffirm mainstream “consensus” values or to justify policies.

Some of these methodological problems may be avoided by sampling an especially “high risk” group within the population, such as teenage children. Examples of surveys of targeted groups of drug users include surveys of addicts attending clinics (Blumberg et al., 1974; Stimpson, 1973) and of people arrested for drug offences (Bean, 1971).

This is unlikely, however, to overcome problems of validity with higher-risk or more stigmatised patterns of drug use (e.g. injecting heroin, drug use amongst pregnant mothers). Priority needs to be given to methodological issues of sampling, nonresponse analysis, and validity, and this implies that small-scale, high quality methodological studies are needed before there can be any meaningful data from any further large-scale surveys.

In spite of these criticisms, general population surveys are probably the best means available for estimating the prevalence of the less “extreme” and more common forms of drug misuse. Population surveys are also the most obvious means of detecting not just this or that particular form of drug misuse, but any illicit drug use. In other words, they are well suited to provide the most comprehensive and least differentiated measure of the prevalence of drug misuse in the community.

3.0 Agency-based data: counting known users

Various different kinds of information are collected by different agencies on their contacts with drug misusers (see, for example, Ghodse, 1995). Attempts to collate this information so as to obtain an estimate of the total number of known or “discovered” or “identified” drug misusers are usually described as multi-agency enumeration studies (e.g. Drugs Indicator Project, 1989;
Hartnoll et al., 1985). Multi-agency enumeration is a form of intensive case-finding which collates information mostly from "public agency" (e.g. health services, social and educational services, the various elements of the criminal justice system etc.) contacts with drug misusers.

The rationale for multi-agency enumeration is simply that individual users known to one agency might not be known to another, and that a picture of drug misuse in the community which extends its data collection to more than one agency will be more accurate of the true need. Multi-agency enumeration requires the establishment of a case register of users based on data supplied by as many agencies who come into contact with users as possible. Double-counting is avoided by the use of personal identifiers (e.g. initials and date of birth). Although seemingly a simple procedure, it is beset with methodological and practical problems.

Clearly, the final "headcount" will inevitably be an underestimate as there will always be some users not known to any agency. Most agencies will have their own needs for data collection and their own rules on confidentiality, and so often data is not transferable across agencies. The systems are rarely designed for the purpose they are being used for, and experience of conducting these studies has suggested the systems are inflexible, and generate limited data in statistical form only (Hartnoll, 1992). By definition, the data will only reflect problematic consequences rather than drug use per se, and they will only reflect the effects of institutional activities and policies (e.g. how much of a priority is currently or locally given by the police or customs to law enforcement and drugs, the attractiveness and availability of treatment services to drug users locally etc.). A good example of the differential attractiveness of services is the availability of methadone as a drug substitution therapy for users of "street" opiates and the unavailability of an equivalent therapy for users of crack/cocaine. This makes it reasonable to
suppose that a higher proportion of heavy opiate users than heavy cocaine/crack users are in contact with care providers.

If it is accepted that these data will reflect service availability and local policies, then clearly comparisons using this approach in different parts of the U.K. are meaningless, but nevertheless comparisons are made (see, for example, Das Gupta, 1990). Some of the case register studies conducted in the U.K. in the 1980's (e.g. Drug Indicators Project, 1989) looked for "problem drug users" instead of a more specific group of "high risk" users. The criterion for inclusion corresponds to the definition of problem drug use given by the Advisory Council on the Misuse of Drugs in 1984. No easily applied behavioural criterion is available as a means of case identification, and thus it seems likely that these studies could not be useful for comparative purposes.

Multi-agency enumeration studies which look at a relatively homogeneous group of users such as heroin addicts often assume (without supportive evidence, however) that the cases they identify have the same kinds of problems. Studies of a relatively heterogeneous group of users such as "problem drug users" can make no such assumption. Without some indication, therefore, of the kind and severity of the problems suffered by the different individuals they include on the register, the information they collect would be of little use for the purpose of needs assessment. A variety of approaches may be adopted towards this task of individual "problem assessment" (see Strang, 1994). The ideal tool would allow the integration of indications of problems from different domains so as to provide a single overall "problem score" or measure of "case severity" but as yet this is not available.

Finally, there is some evidence that different agencies tend to see the same populations of drug users (Strang et al. 1993). In this study the "reach" of different types of drug agency in South London was found to overlap
considerably, suggesting that the multi-agency enumeration approach may not add as much to the picture as might be thought.

4.0 Ratio estimates from known drug user statistics

Data collected from various "public agency" sources has been used as the basis for inferences about the true prevalence of particular forms of drug misuse.

4.1 Home Office data

The Home Office Index may be used as a basis for inferences about the prevalence of opiate/cocaine dependence in the community if a reliable estimate is available of all dependent users who are notified to the index. Thus if an agency or area has a known number of drug users notified to the index, and if the ratio of these known users to those not known is available, then a simple calculation can be made to estimate the total population. Various studies have been conducted in the last decade on the size of the local opiate-using population in various locations in the U.K. The most widely cited studies (according to Strang, 1994) are those of Hartnell et al. (1985), where they concluded that the size of the heroin-using population was approximately five times greater than those known to the Home Office Index. A similar multiplier was found in a study over the same period in an urban setting in the North of England (Pattison et al., 1982). Whilst different multipliers have emerged from other studies elsewhere in the U.K. (e.g. Haw, 1986; Levy, 1988), it is clear that the size of the heroin-using population is at least several times greater than the size of the known population.

Sutton and Maynard (1992) calculate the value of the multiplier which they apply to the number of U.K. Home Office notifications in a particular year to
obtain a national estimate of the size of the total addict population from which the Home Office sample is drawn. Their calculation is based on a population-standardised combination of the results of local studies which provide estimates of the total addict population in the community and also report what proportion of this number were notified to the Home Office. The figure they obtain (a multiplier of 7 for the year 1985) is used to obtain a best estimate for national prevalence. However, since the local multipliers on which the national estimate is based vary considerably (see Table 1), it is doubtful whether the national figure can be usefully re-applied to other localities.

Table 1: Ratio of dependent opiate users notified to the Home Office to estimates of total users (from Sutton and Maynard, 1992)

<table>
<thead>
<tr>
<th>District/Area of study</th>
<th>Year</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camden &amp; Islington</td>
<td>1983</td>
<td>1:5</td>
</tr>
<tr>
<td>Glasgow</td>
<td>1983</td>
<td>1:7</td>
</tr>
<tr>
<td>Avon</td>
<td>1984</td>
<td>1:4</td>
</tr>
<tr>
<td>Barnet</td>
<td>1985</td>
<td>1:5</td>
</tr>
<tr>
<td>Oxford</td>
<td>1985</td>
<td>1:15</td>
</tr>
<tr>
<td>Wirral</td>
<td>1985</td>
<td>1:16</td>
</tr>
<tr>
<td>Worthing</td>
<td>1986</td>
<td>1:3</td>
</tr>
</tbody>
</table>

With ranges from 1:3 in Worthing to 1:16 in Oxford, this method seems meaningless if any pretence to accuracy is required. In addition, there are problems when attention turns to use of this observation in the planning of local services, as the proportion of heroin users known to services is likely itself to be influenced significantly by the quality and quantity of these services (Strang, 1994). Thus it may be more appropriate to look at indicators which are independent of service provision.

4.2 Mortality data

Some researchers (see Ghodse, 1995) have used results from studies looking at the annual mortality rate of dependent opiate users as the basis for estimates of the prevalence of opiate dependency. From an estimate of the annual mortality rate (a figure of between 1-2% is cited) is derived a
"multiplier" which can then be applied to an estimate of the total number of addict deaths (by any cause) in a year. This base figure of the number of deaths in a defined area is multiplied by 50 in order to obtain a lower estimate and 100 to obtain an upper estimate of the number of addicts in the community.

The assumption underlying the use of the "multiplier formula" is that the annual mortality rate of addicts will show a constant and linear relation between prevalence and number of deaths. Since, however, the hazards of drug misuse vary according to the choice of drug and route of administration, and since patterns of drug use show changes over time, the assumption seems likely to be too weak to be relied upon.

4.3 Public Health data

Public health data on the occurrence of morbidity associated with drug misuse (e.g. dependence, Hepatitis B or C, HIV, overdose cases) could be employed to make estimates of the prevalence of "risky" drug use behaviour if it were known:

1. what proportion of occurrence of a given disease was attributable to particular forms of drug misuse
2. what proportion of "risky" users suffer from the disease
3. what proportion of "risky" users with the disease come to the attention of the monitoring services.

Even though drug dependence, unlike for example, HIV or Hepatitis B, is a condition specific to drug use behaviour, and therefore 1. above is known, 2. and 3. are not known and would have to be estimated. No examples of the use of public health data for estimating a multiplier in this way were found in the literature reviewed here.
4.6 Other considerations

Clearly there are many other indicators from "visible" drug use statistics, many of which are independent of service provision such as police seizure rates, toxicology surveys of drug using samples, probation pre-sentencing reports, which could feasibly be used to calculate a "ratio". In interpreting these data, however, attention must be paid to the changing circumstances under which these data are collected year by year. If police seizures or Home Office notifications from doctors increase, can these be regarded as reliable indicators of change - i.e. can the relationship between the reporting and the behaviour under study be regarded as constant? If doctors become more alert in their identification of heroin addiction, or if they become more compliant with the requirement to notify, then the relationship between reporting and the behaviour may change, and hence the reliability of the indicator will be reduced. Multiple indicators might reduce the likelihood of error from one single indicator, although this assumption itself would need to be tested.

5.0 Conclusions from Sections Two to Four

In conclusion, direct measures of the extent of drug misuse in a community are probably of limited value and may be misleading. Even where estimates are made using a ratio method, the data used are from those people in touch with one service or another, and it seems inevitable that this bias in the sample will underestimate the true figure. It would seem that indirect methods are needed if the true extent of the problem is to be assessed.
Part Two  Determining the Prevalence of "Hidden"
Illicit Drug Use

1.0  Introduction

Part 1 of this review focused primarily on estimating numbers from already known problem drug users. People who misuse drugs are, for obvious reasons, a largely clandestine population and it is difficult to obtain valid estimates of the size of this unseen population. The need for reliable estimates of the "hidden" population is important for monitoring the effectiveness of prevention initiatives, developing treatment services for those in need (but not demanding) of services in order to improve the population's health, and to help prevent the hazards of drug misuse from spreading to the community at large by targeting resources at this hidden population.

Estimates of the prevalence of drug misuse which simply report the results of agencies which deal, by definition, with the visible drug problem, invariably underestimate the true prevalence of drug misuse in the community (Strang, 1994). The following sections aim to evaluate the methods used for estimating the "hidden" population, and to make recommendations on how commissioners of services might improve needs assessment with this population.

The term "hidden population" is sometimes used as if its meaning were self evident. In practice, it is a rather broad and ill-defined concept that covers a range of situations, not only the stereotype of closed, marginal groups lurking
in the corners of a society. A selection of definitions might include the following:

1. not known to formal organisations (untreated addicts, dealers not known to police) whether they are hidden or not depends, in part, on the organisation concerned (some untreated addicts may be well known to the police).

2. known to individual agencies, but information not passed on (e.g. known to general practitioner or local drug squad, but not to the drug agency).

3. socially marginal, deviant groups (e.g. street addicts, prostitutes); in one sense these may be all too visible - what is visible is the stereotype, what is hidden is the reality of those worlds and the impact of their behaviour (for example crime or risk behaviours vis-a-vis HIV transmission).

4. private populations; examples might include discrete cocaine use in high-income groups, ecstasy in exclusive gay clubs or secretive benzodiazepine/alcohol use by women.

5. openly visible but not studied populations (e.g. drinkers in bars, cannabis smokers); often, they are stigmatised and less clearly defined as populations. Nevertheless, the patterns of behaviour, the factors influencing behaviour, and the consequences are "hidden".

The nature of the hidden population seems likely to affect the methods. Thus 3. and, perhaps 5. may involve ethnographic field work, 1. and 4. may require a more active process of contact tracing, 2. could be achieved through surveys of agencies and practitioners or intensive case-finding methods, and 5. could involve population surveys.
### 2.0 Indirect indicators of problematic drug use

A variety of indirect indicators have been used to estimate prevalence in the hidden population (reviewed by Strang, 1994) such as street price, police arrests, police and custom's seizures, data from the Home Office Addict's Index, Regional Substance Misuse Databases, treatment statistics, mortality figures, notification of infectious diseases, and prescriptions issued.

The major issue to address is the validity of conclusions based on indicator data, since these are *indirect* indicators, i.e. they record events which are believed to correlate with real trends. But, as is well known (see for example Hartnoll, 1992), indicators are influenced by other factors as well as the actual pattern of drug availability, drug use and its consequences. Good examples of this include police arrests, and street prices.

With regards street prices, Sutton and Maynard (1992), in a brief discussion of the information that is collected on drug prices, comment that "it is tempting to make inferences about prevalence based on analysis of drug price and purity changes". Thus an increase in price or a decrease in purity might be taken to suggest an increase in demand, and therefore prevalence. The same phenomenon may be explained however by the increased success of enforcement agencies in restricting supply. As a general rule, the interpretation of price information (and this itself is of questionable validity based as it is on buyer's reports) is made problematic by the limited knowledge of background market conditions. Sometimes, of course, researchers may have enough of such knowledge (see, for example, George and Fraser, 1989).

With regards police arrests, it is tempting to look to rises and falls in the annual arrest figures as indicators of change in the overall prevalence of illegal drug use as well as of indicators of changes in the picture of drug use
and of drug users (Strang, 1994). There are two main problems with these data however. Firstly, the level of resources committed to enforcing the laws relating to drug misuse can vary from year to year (National Audit of Drug Misuse in Britain 1992, ISDD, 1993). Secondly, even if the resources stay constant, they may be used more or less efficiently. A surge in the overall arrest figures may reflect an increase in manpower directed at the problem. Similarly, a surge in the arrest figures for a particular drug such as “ecstasy” may reflect a policy decision (resulting from a few well publicised cases of harm which stir the general public), to “target” venues known to be connected with the sale and use of this drug.

This is not to say that arrest figures cannot be used as indicators of change in patterns of misuse. It is rather that considerable background knowledge of local law enforcement policies and priorities will be required to interpret the data.

Nevertheless, some indirect indicators provide valuable information particularly when they tap into populations not previously reached.

3.0 Ratio estimates made from studies of “hidden” populations

Data collected from studies of people not directly recruited from “public agency” sources has been used as the basis for inferences about the true prevalence of particular forms of drug misuse. In other words, estimates of the number of “hidden” users are made on the basis of information about those users who are made “visible” from this hidden population.

3.1 Nomination and “Snowballing” techniques

The nomination technique is a ratio estimation method which has often been used in research among opiate users (Hartnoll et al., 1985). In this method,
users are asked, for example, to describe friends who use "hard" drugs, and whether these friends have been in touch with, for example, any drugs programmes in the last twelve months. On the basis of the ratio of programme to non-programme people obtained, and from figures from the drug agencies on total numbers of users in touch with services in the same period, an estimate can be made of the total population of "hard" drug users. An example of the use of this method is provided by Blumberg and Dronfield (1976).

The Drugs Indicator Project (1985) describes a further method based on information supplied by drug users. Known as "triangulation", the method involves matching a list of nominees (not necessarily by name, but by other characteristics) with the list of users obtained, for example, through a multi-agency enumeration study. The technique involves fixing the position of individuals in a network by reference to at least two independent sources. From this process an estimate for the ratio of "hidden" users to known users is derived.

An obvious criticism of such nomination techniques is that they rely on "second-hand" accounts from friends and acquaintances, with no validation available as to the accuracy of the information or the willingness to reveal information. One possible way of validation might be to compare the information when users who have already been interviewed are themselves nominated.

A second criticism is that since they require a definitive count of nominees, personal identifiers (if not names) are needed to eliminate double-counting (which many drug users will be likely to be loathe to give). An alternative method (described by Howse et al., 1993) is to ask the sample what proportion of their drug-using acquaintances are currently in treatment (or in contact with services). In the Howse et al. (1993) study, questionnaires were
distributed to non-attending drug users via attendees at four specialist drug agencies in South London. As well as being asked about their own drug use, they were asked to estimate: (i) how many of their close acquaintances were regular drug misusers; (ii) how many of their close acquaintances were currently in treatment for a drug problem. 59 questionnaires were returned (the authors do not say how many were given out). The sample mean for the proportion of nominated opiate users in treatment to those not was 3:1! This study is described here because it highlights and exaggerates the limitations of all ratio estimate approaches which use a sampling frame, namely that the ratio obtained reflects the bias of the original sample used. In this case the original “first wave” recruits were all themselves in treatment (and many had been with their agency for over 12 months), and so their nominees (the “second wave”) would seem likely to be biased towards knowing other drug users in treatment. If the sample had been, for example, drug users in police custody, a different (and equally biased) ratio is likely to be found. For example, it is known from survey research that black people in London are under-represented among drug users known to agencies, whereas they tend to be over-represented in terms of police arrests for drug offences (Mirza et al., 1991; Pearson et al., 1992). The problem of bias in the “entry point” for the study prevents the use of the method with many groups; for example cocaine users could not be estimated in this way as they tend not to be known to most agencies (Pearson et al., 1992).

A development from nomination techniques is known as “snowballing”, a technique developed for sampling “rare or elusive populations” (Sudman et al. 1988). An initial wave of subjects with the desired characteristic, for instance regular cocaine use, is identified (usually through “detached” or “outreach” work), each of whom nominates acquaintances also with the desired characteristic. A random selection of these nominees is invited to participate in the study and they in turn are asked to nominate acquaintances with the
characteristic. And so on. The aim is to obtain a reasonably unbiased sample of the population under investigation so that the characteristics of the subjects in the sample may be used as a basis for inferences about the characteristics of the population.

"Snowballing" also describes a method used to identify for interview as large a number as possible of subjects in an elusive population such as cocaine users. Instead of randomly selecting nominees for interview, all nominees are interviewed. All the chains are followed until the "trail dries up".

Hartnoll (1992) suggests that it is difficult to overstate the usefulness of "snowballing" in drug misuse epidemiology. It provides researchers with a systematic approach to the task of contacting a sample of drug misusers some of whom will and some of whom will not be in contact with health care services. It is a way of reaching out and trying to locate "hidden" drug misusers in the community.

The "snowballs" must start from a first wave of known users and there are obvious advantages in casting the net as widely as possible for the "first wave" users. Researchers using this methodology are likely therefore to spend a great deal of time trying to recruit "first wave" users outside of treatment settings (see, for example, Intraval, 1992). By this means it is hoped to produce a profile of the characteristics of drug misusers which avoids the bias inherent in a treatment sample. "Snowballing" also enables researchers to examine the characteristics of the social relations between drug misusers. Of particular importance in this respect is the extent of mutual acquaintanceship and mutual knowledge of drug use. The detailed analysis of such relations is usually known as "network analysis". The combination of snowballing and network analysis is an approach to the study of drug misuse much favoured by ethnographers (see, for further discussion, Intraval, 1992).
"Snowballing" may also be used to provide estimates of the size of the "hidden sector" of drug users, those users who are not identified in a multi-agency or multi-source enumeration study. One potential use of the technique is to use the snowball sample and some other agency-based sample for the capture-recapture methodology described in detail in a later section. This was attempted in a group of parallel studies of cocaine use in three different European cities. "Snowballing" was used to identify samples of users in three studies of cocaine use in Barcelona, Turin, and Rotterdam (Intraval, 1992). The same basic methodology was followed by all three studies. In the event, however, only one of them, the Rotterdam study, was able to attempt to base a prevalence estimate on the application of capture-recapture techniques to information obtained from their sample. The smallness of the samples and the range of different user profiles - from occasional users to dependent users - prompted the Barcelona and Turin studies to drop their attempt at prevalence estimation. And although the Rotterdam study carries it through, the results are presented with an admission that their method of estimating prevalence makes an assumption which is not fulfilled by their study, namely that their initial respondents or "first wave" users are themselves a randomly selected sample of the cocaine-using population in Rotterdam. This seems to highlight the difficulties inherent in these approaches and makes their practical use within a Health District's needs assessment limited.

3.2 Ratio estimation without sample frames

Gossop et al.(1994) have recently proposed a ratio estimation method that can be applied to random samples of overlapping populations for which no sampling frames exist (i.e. the samples are not attending certain agencies or are not from specific sub-groups other than drug related ones). The two samples used to illustrate the method are from populations of people using cocaine and people using heroin. In the absence of sampling frames, subjects were obtained by means of "contact methods", and were intended to
approximate simple random samples. Recruitment was in a wide range of settings in the South London area. Subjects were approached and interviewed by "Privileged Access Interview (PAI)" teams (i.e. researchers recruited from the relevant drug using subculture).

The rationale of the method is that a proportion of the two samples will overlap (in this case some of the heroin using sample will also use cocaine, and a proportion of the cocaine sample will be found also to use heroin, i.e. those who use both drugs form an overlapping population). Where the prevalence of one of the drugs is known or can be estimated (in this case heroin), and if some people use both drugs (i.e. overlapping populations), then the relative prevalence of cocaine use may be estimated by obtaining a random sample of heroin users, another random sample of cocaine users, and using the proportion of each sample who use either one or both of these drugs as a basis for inferring the size of the unknown population using the drug (cocaine).

The method assumes that heroin users, who are also cocaine users, are from the same population as cocaine users, who are also heroin users. To support this contention, the authors state that the two sub-samples (those using both heroin and cocaine) are similar in terms of demographics, drug-taking patterns, and treatment attendance, and therefore may be regarded as two random samples of the same group (users of both heroin and cocaine). The authors caution that the results are from one area only of London, and since there is known to be considerable geographical variation in drug distribution and drug-taking patterns in the U.K., this estimate should be applied with caution to the country as a whole.

The contention that the sub-groups are from the same population is, however, questionable, particularly since the authors assert, and present supporting arguments, that cocaine users who do not use heroin, and heroin users who
do not use cocaine, are from independent populations. Consider an analogy with pathological (compulsive) gambling and alcoholism. The two groups are probably more or less independent; but some alcoholics will bet, and some pathological gamblers will drink, and they may share similar demographic and treatment seeking patterns. This does not mean that they are from the same population however; the drink behaviour of the pathological gambler is qualitatively different from the gambling behaviour of the alcoholic, and likewise the secondary heroin use by someone identified as primarily a cocaine user is likely to be qualitatively different from the secondary cocaine use by someone identified as primarily a heroin user.

A second criticism of this study is that the samples comprised severely unequal numbers (408 in the heroin sample, 150 in the cocaine sample). The authors account for this by stating that the difference was due to "funding restrictions" and not to difficulties in recruiting cocaine users. Yet it is difficult to understand how funding might affect recruitment differentially, whilst it is easy to understand that cocaine users may be harder to access. This further adds to the likelihood that cocaine users who also use heroin are from a different population from the heroin users who also use cocaine.

Until the assumption that the people falling into the overlap area (those using both heroin and cocaine) can be regarded as two random samples of the same group (users of both heroin and cocaine) has been more convincingly demonstrated (possibly using qualitative data analysis) this method is spurious. But as the authors themselves conclude, whilst methodological concerns may be raised about the specific samples used in any such calculation, the use of the ratio estimation method is valid.
4.0 Capture-recapture

The simplest form of this method consists of comparing two independent samples from the same population. The number of people who appear in both samples is noted. On the basis of this overlap and the size of both samples it is possible to estimate the size of the whole population (see for example, McCarty et al., 1993). The method is a variant of the capture-mark-recapture method used by field ecologists to estimate fish and other animal populations: a captured sample (M) is tagged and released, then a second sample (n) is captured and the number of previously tagged animals in the second sample (m) as a proportion is assumed to represent a ratio of all tagged animals to the total animal population (N).

\[
\text{Total Population } N = \frac{(M+1)(n+1)}{(m+1)} - 1
\]

The variance of N can be estimated by:

\[
\text{Var}(N) = \frac{(M+1)(n+1)(M-m)(n-m)}{(m+1)(m+1)(m+2)}
\]

and confidence intervals constructed by N+(-) 1.96(Sq.Root variance)

These methods are described as having become the standard for estimating the changing frequency of certain birds, fish and insects (McCarty et al., 1993). "Hundreds, and possibly thousands, of studies employing the methods and testing the assumptions have been published in the wildlife literature" (quoted from LaPorte et al., 1992). It also has a long history of application in demographic studies, from estimating the population of France in the 18th century (see Hook and Regal, 1992), to recent uses in the 1990 US census (Wolter, 1991).

In epidemiology, capture-recapture techniques allow the number of cases of disease in a defined population to be estimated using two or more sources of
cases. Potential sources for example for a non-communicable disease might include hospital records, private health services, death certificates or other patient lists. Taken alone, each of these sources may considerably undercount the number of cases. By using more than one source the formula above can be used to provide an "ascertainment corrected" rate (McCarty et al., 1993). The greater the overlap, the smaller the total population estimate will be.

Despite the existence of these powerful methods, they are reported (McCarty et al., 1993) to be little used within health/social epidemiology in general (examples of where they have been used include monitoring the incidence of myocardial infarctions (LaPorte et al., 1992), investigating the incidence of congenital rubella syndromes, cleft palate, cancers, homelessness and childhood diabetes (discussed in McCarty et al., 1993). Within drug misuse epidemiology, the methods have been used by Bloor et al (1991) with 208 streetworking prostitutes sampled in one location in the course of 32 fieldwork visits; and by Drucker and Vermund (1989), Guydish et al. (1991), Hartnoll et al. (1985), and Frischer et al., (1991) who used different agency samples. Intraval (1992) describe the use of capture-recapture technique to a "snowball" sample (capture) and their nominees as the recapture group.

The use of the methods in the drugs field however may be criticised on several grounds. As McCarty et al. (1993) point out, although they are simple to use, there are instances in which the two-sample capture-recapture methods may lead to biased estimates, and from consideration of these instances it seems likely that this is no more so than with drug using populations. Traditional capture-recapture models require that the population be closed to additions or deletions, that individual identifiers are not lost or overlooked, and that for a given source each case is likely to be listed by that source (independence). The first two assumptions are considered by McCarty et al. (1993) as not "usually problematic"; this comment is made in the context.
of general epidemiology not specific to ascertaining the rate of undercount for a "hidden" population of the kind found amongst drug misusers, and so this will be questioned later. The third assumption will be considered now, however; this is described as the most difficult assumption to fulfil, as truly independent sources rarely occur. McCarty et al. (1993) cite examples from the animal literature where dependencies may result in positive interactions ("trap fascination") or negative interactions ("trap avoidance"). In health epidemiology, "trap fascination" could be renamed "health care visibility" in that it suggests certain individuals might be more likely to be identified by a particular source. Negative interaction, or "trap avoidance", could refer to "health care invisibility" as it reflects a situation where individuals could be systematically excluded from a selected source. Translated to the drugs field, samples taken from treatment, arrest or death records (e.g. Hartnoll et al., 1985) or from HIV and drug agencies (e.g. Frischer et al., 1991) or prostitutes who inject drugs sampled over different time periods, (Bloor et al., 1991), are perhaps at first sight independent samples, but on reflection are unlikely to be so. It is unlikely (as is supported by the Strang et al., 1993 study), for example, that a user initially identified in one treatment programme has a random likelihood of being contacted by a second treatment agency, and thus it is wrong to assume that there is no relationship between the two. Similarly, it is possible that a user identified by the criminal justice system is more likely to die of a drug overdose than someone who has not, and that someone attending a treatment agency is more likely to be identified as HIV positive and attend the GUM services than someone not known to the treatment agencies.

Fortunately, methods exist that can assess whether or not dependencies exist between samples (described in McCarty et al., 1993); these techniques require, however, at least three sources for estimating population size. One of these methods (the "Bernoullii census" approach, described by Hook et al., 1980) plots all the pairwise comparisons of the two-sample estimates to
investigate bias. This process is repeated until no sample dependency is suggested. There are no examples of the use of this method in the drug epidemiology literature reviewed here. A related method is however used in the Bloor et al. (1991) study of Glasgow prostitutes, in which the increasing ratio each day of repeat to new contacts of women who are/are not injectors was used to model statistically the total street population and the proportions of female street-working prostitutes who are injecting drug users.

A second method which addresses dependency between samples has been proposed by Fienberg (1972). This method employs log-linear models for incomplete multiway contingency tables, and has been used by Frischer et al (1991) for estimating prevalence of injecting drug use in Glasgow. A total of 2006 cases were obtained from three sources:

1. treatment agencies, (which consisted of community counselling projects, residential rehabilitation, hospital in-patients, and Home Office notifications)

2. Scottish HIV-test reporting scheme

3. Police arrests under the Misuse of Drugs Act

Having established which cases appear in two or more samples, a log-linear analysis is performed by organising the data in a 2x2x2 cross-classification, corresponding to all the present/absent dimensions, with one missing cell representing absences in all three samples. The aim of the analysis is to fit a model with the fewest possible parameters, allowing for dependencies between the samples, in order that the variance of the estimate of the population be as small as possible. This model is then used to estimate the contents of the missing cell.
This model is an important advance on the simple two sample capture-recapture studies of drug users, but does not overcome other criticisms of these techniques as applied to drug misusers. Firstly, with regards the assumption that the population be closed to additions or deletions, this seems unlikely to be met with problem drug users. Over a given time, some users leave the total user population due to death, spontaneous abstinence, treatment, long-term incarceration or migration. At the same time, new users are likely to be created at a rate determined by the incidence of drug use, migration into the area, changes in police activity etc. An assumption made in the Bloor et al. (1991) study is that the female sex worker/injecting drug user population is of a fixed size with no movement into and out of the population during the study. Although the authors do not state the data collection period, it may be inferred from their results that the time period was 250 days, which seems long enough for movements to occur and which should therefore be tested before this assumption can be accepted. The authors attempt to counter this by offering a reanalysis of their data in which the assumption that there is no movement into and out of the prostitute population over time is dropped. This still assumes, however, that the total population remains fixed, that entry of new recruits is equal to the exit of the same number, that each woman is equally likely to leave the population at any one time, and that a fixed proportion leave every day so that the number leaving between observations depends only upon the time between observations.

As the authors state, many of those contacted had been working as prostitutes for several years or more, but it seems likely that many will have a variable pattern. This is especially so for the injecting drug users who would seem more likely to have less stable lifestyles and to use prostitution on a "when needed for drug money" basis rather than the more regular basis of the non-users.
Each of these assumptions, whilst no doubt reasonable with ecological studies of wildlife populations, may be challenged when applied to the present populations, and should be tested before applying the statistical modelling that relies on their accuracy. There are numerous factors that could influence these assumptions with injecting drug users who are prostitutes, such as drug prices and availability, police activity, availability of outreach treatment services, changes in the pattern of distribution locally by dealers, to name but a few.

The second assumption of the capture-recapture method (that individual identifiers are not lost or overlooked), again seems a reasonable assumption with wildlife populations, but is open to challenge with a drug using population especially one with a high level of criminal activity. There is the problem of the use of aliases and deliberate attempts to preserve anonymity and avoidance of personal identifiers, and the possible collusion with this of drug agencies in their attempts to ensure confidentiality for their clients.

Other studies (e.g. Hartnoll et al., 1985) have made the point that the geographical area selected for study must be large enough to contain a "geographically stable" population. Temporary movements of drug users in and out of the area can, however, be a major determinant of the size of the drug-using population at any one time, rendering the method inadequate for estimating the size of the "resident" population. The area might, for example, attract large numbers of non-resident users, both because of the health care facilities it offers and because it is an established centre for buying and selling of drugs. In these circumstances, the size of the overlap between police contacts and health services contacts would provide a swollen estimate of the size of the local population.

A further assumption of the approach is that in all studies it is assumed that each group used is a random representative sample of the total number of
users. This may not be the case, as it is likely that users seen, for example, in a criminal justice agency are not typical of those who are never treated or arrested. The assumption that agencies do not deal with different "subspecies" of drug users cannot be made, and therefore the method may only be applicable to a relatively homogeneous group of users with similar sorts of problems (which effectively excludes the application of the technique to "problem drug use").

5.0 Conclusions

Clearly, this review suggests that all methods currently used for estimating the "hidden" population are flawed to some extent, and may give a distorted picture. The recommendation made by Hartnoll et al. in 1985 that no single method is sufficient and that a "multi-method" approach to the problem be adopted, begs the question as to why several distorted views might give any less a misleading picture than one. There is no evidence, and perhaps there never will be, that the best possible picture of drug misuse in the community will be derived from diverse data sets collected from different sources and by different methods.

This review has shown that the methodologies used attempt to "count heads" but do not have scope for identifying need in terms of the ability of individuals and the population to benefit from health interventions. Rather, they confuse subtypes of drug users, and include people who may have minimal health needs. It seems likely that only qualitative approaches, such as those used by ethnographers mentioned earlier, could provide information of value to commissioners, but this would only be useful if coupled with quantitative data.

Nevertheless, if a quantitative needs assessment is required which provides an estimate of the hidden population of drug users (regardless of problems
being experienced) then this review would suggest that an ideal multi-method approach would probably incorporate the following elements:

- an analysis of data routinely collected by agencies in regular contact with drug misusers;
- a case register to provide a best estimate of the prevalence of 'visible' problem drug use;
- estimation of a ratio multiplier to use on the above figures;
- an application of capture-recapture techniques to different samples of drug misusers e.g. drug misusers not in treatment but identified via "outreach"; those in contact with specialist treatment services; drug misusers known to the police; drug misusers identified through HIV-testing schemes;
- an interview study of drug misusers identified through "snowballing"; a questionnaire study of the general population/schoolchildren/young people.

The data would then need to be coupled with qualitative data in order to be of use to commissioners. An example of the necessity for this is provided by the concern over preventing the spread of the HIV virus. The spread of HIV and AIDS has made it important to know the extent of injecting regardless of the particular drug of use or other drug related problems, and so a more useful approach might be one that concentrates on route of administration (injecting) rather than the numbers using specified drugs. The study by Frischer et al. (1991) was able to estimate that there are approximately 10,000 injectors in Greater Glasgow; if this information could be coupled with qualitative information on HIV risk behaviours, then this would give commissioners the necessary information for the types and levels of services needed, whereas the quantitative data alone is of very limited use.
References


Intraval (1992) Between the lines: a study of the nature and extent of cocaine use in Rotterdam. Intraval, Groningen-Rotterdam.


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SECTION THREE

CLINICAL AUDIT
3.0. INTRODUCTION

The clinical audit consists of the development of a consultancy service for reviewing clinical services for drug and alcohol users. In order to have an appropriate methodology on how to review clinical services, it is necessary to describe the range and types of services that make up a comprehensive service that can best meet the health and social care needs of these patient groups, and the structures, processes and outcomes that make up these services. The clinical audit consists firstly of a document on quality assurance, informed by the academic review of needs assessment, and by a series of consultations with experts and specialists in this field. This work was started at the beginning of my period of study, with the calling by me of a series of meetings of these invited experts and specialists in the commissioning and provision of substance misuse services. The resulting document was then put out for consultation to a wider range of specialists nationally, who similarly attended working groups to give feedback and comments. The names of those consulted are listed at the beginning of the document.

The second part of the clinical audit consists of examples of marketing materials written by me in order to describe the consultancy service being offered. A prospectus and leaflets were written for potential commissioners of the consultancy agency. Again these were based on the academic review of needs assessment and my work as a Consultant within the Regional Drug and Alcohol Team and as Specialist Consultant in Substance Misuse with the
Centre for Mental Health Services Development, King's College London. The Regional Drug and Alcohol Team has been formally visiting each of the Health Authorities in the old South West Thames Region, now the South Thames Region (West), since 1989. Between then and 1994 numerous changes have occurred in the N.H.S. and the way services to substance misusers are purchased and provided. The proposed abolition of Regional Health Authorities in April 1996 in addition necessitated a new strategy for the consultancy process provided by the RDAT. The Government's White Paper "Tackling Drugs Together; A Strategy for England 1995-1998" in addition prompted the Centre for Mental Health Services Development to commission me to market its consultancy role in assisting the work of the newly formed Drug Action Teams. These Teams are purchaser led and have a specific range of targets over the next three years; their formation led to a potential expansion in the need for expert consultancy of the kind envisaged for the Consultancy Agency. The prospectus and marketing materials were developed to meet this changing environment. The prospectus is described in summary only and is not given here in full.

The third part of the Clinical Audit describes consultancy work conducted by me following the procedures and approaches described in sections one and two of this audit. The examples are of needs assessment consultancies and reviews of drug and alcohol services in the Maltese Islands (commissioned by the Maltese Government), a provider trust in Exeter (commissioned by the Exeter and District Community Health Service NHS Trust), and a Purchaser of Health Services in Scotland (Tayside Health Board).
QUALITY ASSURANCE IN SUBSTANCE MISUSE SERVICES

a briefing paper and guide for purchasers and providers of substance misuse services

A Report by Paul Davis, Consultant Clinical Psychologist in Addictive Behaviour

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Responses to the needs of potential and actual problem drinkers and drug users vary from health promotion aimed at primary prevention, through to highly specialist treatment and rehabilitation programmes. The agencies providing these responses are found in the non-statutory as well as the statutory sector, and they range from the generic, such as a primary health care team, the specialist but not alcohol or drug specific services such as Accident and Emergency Departments and acute general or psychiatric wards in hospitals, through to specialist drug and alcohol services.

These specialist services for substance misusers have a relatively short history, particularly in the health service. The development of services nationally has varied according to funding availability as well as local variations in need. This "newness" of many services together with the difficulties in the past of identifying good practice (arising from the paucity of information on outcome), has meant that responding to the requirements of the "new N.H.S." such as in providing service specifications, clinical audit and quality assurance is perhaps easier to make in this speciality. There are, however, few national norms or criteria in this speciality, unlike in physical medicine and most other aspects of health and social care. The following references contain criteria and standards for specific aspects of elements of a comprehensive service:

- Department of Health (1990) A future for alcohol and drug misuse services: Department of Health guidance to voluntary sector alcohol and
drug misuse services on the implications of the NHS and Community Care Act. HMSO, London.


- NHS and Community Care Act (1990), HMSO, London

- Assessment of Standards of Care in Drug Abuse Treatment. WHO

- SCODA Membership Guidelines

- Code of Ethics: British Association of Counselling

- European Convention on Human Rights

- UN Declaration of Human Rights

**How to use this document**

These guidelines are intended to be useful for

1. purchasers and those responsible for planning and service development
2. providers of services, both in the statutory (health, social services, probation, prison services, youth and community, education etc.) as well as the non-statutory and voluntary sectors.
It is designed to have a wide variety of applications, from staff in training who want to evaluate the service they are placed with as part of their course requirements, through to the chief executives, directors and purchasing team members responsible for populations of diverse natures and sizes. It is not intended to be prescriptive; quality is flexible (one person's rose is another's thorn) and has to be home grown (bottom fed, not top led); and can only be "assured" by taking on audit in small, manageable steps.

Firstly it should be stressed how not to use it. The document is not intended to be read from cover to cover, and certain sections will be of use to some readers but irrelevant to others. It gives a broad overview of quality assurance in substance misuse services with specific examples of standards which providers in particular may find useful, but by no means should more than a small handful be taken on at a time.

Purchasers and planners of service developments will probably find Sections 7.0 and 8.0 less relevant than the remainder of the document. In Section 2.0 definitions and descriptions of the patients and users of services are given, and this is followed by a brief discussion of needs assessment in this speciality. Section 4.0 describes the models and theoretical background to quality assurance used in these guidelines.

Section 5.0 presents a detailed description of the features of a comprehensive service required to meet the needs of people with substance misuse problems and those affected by someone else's substance misuse. This Section is not intended to describe an ideal service, but rather an optimum level and range of services which purchasers should aim for as a realistic provision within a population the size of an average health authority. The intention as well was to produce a structure in this document for a high quality substance misuse service against which existing services can be
assessed in a uniform manner across the country. It is suggested that purchasers might draw up quality specifications for drug/alcohol services with reference to this document.

Section 6.0 is intended both for purchasers and providers. The key principles of services are described, together with the details of the components of services and the service programmes necessary to achieve the goals set out in the earlier sections.

In Section 7.0, which will again be of use to both purchasers (in identifying quality indicators and standards for service specifications and contracts) and to providers (in developing a quality assurance and audit programme), a range of quality indicators for each service programme is given. Section 8.0 is intended more for providers than purchasers as it goes into greater details of applying the quality assurance framework in practice. Section 9.0 returns to purchaser guidance by looking at special considerations that are applicable for contracting with the non-statutory and voluntary sector, as well as describing a number of standards that are often assumed to be present but need to be agreed to as general quality standards.

There is a number of potential other uses for providers and purchasers:

- As a checklist of what should be provided and at what level of quality
- As a framework for developing aspects of clinical audit
- As a framework for personal as well as service development
- As a curriculum for teaching the professional practices of addictive behaviour
- As the core material for the development of local standards
• As a framework for peer review of services

• As planning information for developing a new or existing service

• As the basis of a reporting system on performance to senior management

• As the source of objectives for service performance

2.0 THE USERS OF OUR SERVICES

Because of the increasing trend toward joint drug and alcohol services (RDAT Annual Report, 1994) the guidance given in this document also considers the two together. It is recognised that the characteristics of the patients/users are often different, but services are frequently combined managerially and their separation is often at the point of service delivery only; the content of interventions and the services offered are frequently the same for problem drinkers and their families as for problem drug users. There are numerous commonalities between the two, but where differences exist they will be considered separately.

The term "user" in this report refers to any consumer of services, be they a patient, a relative or a professional referring to the service or receiving training or in some way "networking" with it. There are many possible ways of defining the patient/user groups. The term "problem drug user" refers to any person who experiences social, psychological, physical or legal problems related to intoxication and/or regular excessive consumption and/or dependence as a consequence of his/her own use of drugs or other chemical substances (Advisory Council on the Misuse of Drugs, 1982 and
subsequently). The World Health Organisation (WHO, 1981) distinguishes the following forms of drug use:

1. unsanctioned use: use of a drug that is not approved by a society, or by a group within that society

2. hazardous use: use of a drug that will probably lead to harmful consequences for the user - either dysfunction or harm

3. dysfunctional use: use of a drug that leads to impaired psychological or social functioning (for example loss of job, relationship difficulties, mood disturbances, impaired lifestyle etc.)

4. harmful use: use of a drug that is known to have caused tissue damage or mental illness in the particular person

Although the original DHSS and WHO definitions excluded alcohol and tobacco, in recent years it has become more common to include both under the term "substance misuser". The present document considers substance misuse as any hazardous or harmful or unsanctioned (either by the culture or professional groups) substance use which falls under any of the above definitions and therefore includes all of the illicit drugs; solvents and volatile substances when used for changing psychological state; legally obtained drugs such as tobacco but including as well those prescribed by a doctor which are not used for their original intention (particularly the benzodiazepines); and alcohol when used excessively (as defined below).

Clearly, not all substance misusers are dependent users. Drug dependence refers to the altered physical and psychological state which results in disturbed physical and mental functioning when a drug is abruptly discontinued (WHO, 1981); dependent and non-dependent use are not discrete categories, rather they exist along a continuum. This continuum is independent from harm, as each is directly associated with physical, psychological and social harm (death can result from the first experimentation with solvents, the recreational use of alcohol or the dependent use of heroin).
The existence of drug dependence is based on the presence of three or more features of the dependency syndrome (described in more detail in Ghodse, 1989):

- Subjective awareness of a compulsion to take the drug or engage in the particular behaviour. This is sometimes referred to as "craving" for the drug.

- Taking the substance more often or in larger amounts than intended; there is a tendency for habituation of the reinforcing effects of the drug to occur unless performed at greater frequency and/or intensity.

- Continued use despite adverse psychological, social or physical effects.

- Increased salience of drug seeking or other behaviour. As dependency develops, simply obtaining the drug or the opportunity to engage in the addictive behaviour assumes increasing importance over other once important activities, even to the extent of risking losing a job, family and health. Increasing time may also be spent recovering from the effects of the drug.

- Narrowing of the repertoire of the addictive behaviour. The pattern of the excessive behaviour becomes increasingly stereotyped.

- Repeated withdrawal symptoms. When the behaviour is prevented or stops, discomfort and distress are experienced and these may continue for several weeks if not months, varying of course with the substance and addictive behaviour.

- Unsuccessful efforts to terminate or reduce drug use, with rapid reinstatement of the syndrome following a period of abstinence.

- Relief or avoidance of withdrawal symptoms. Using the drug to relieve the unpleasantness of withdrawal can become a strong reinforcer of the addiction, and once learned as a solution is difficult to replace.
The key features of the syndrome are a compulsion or strong desire to engage in the behaviour; an overwhelming priority or salience being given to the behaviour; an impaired capacity to control the behaviour; frequent attempts to stay abstinent; and distress if prevented from carrying out the behaviour. Not all of these need to be present in every instance of addictive behaviour, but most of them are usually evident to a greater or lesser extent. Evidence of any single criterion such as neuroadaptation is insufficient to categorise drug-taking as drug-dependent, which is why it is incorrect to describe someone who has developed tolerance to opiates prescribed for the management of pain as having an addictive behaviour. The whole picture has to be taken into account, and the relative contribution of the severity of each criterion considered before labelling a behaviour as an "addiction".

Because alcohol use in moderation is sanctioned within our culture and at low doses there is controversy over the risks of harm from alcohol, it is necessary to elaborate the definition given above of substance misuse. Edwards and Unnithal (1994) identified three categories of alcohol misuse and these are used in this document:

- **Category I: Excessive drinking without occurrence of problems or dependence.** This category includes anyone drinking over "safe limits" (21 units/week for men or 14 units/week for women) who has not incurred problems or developed dependence. Typically this kind of use falls within the province of the general hospital setting, primary health care and prevention services as a target for health education and advice.

- **Category II: Excessive drinking with occurrence of problems but without established dependence.** These alcohol related problems could be medical, social and/or psychological, and they will be dealt with partly by the generic health and other services including the primary health care team, although they will also contribute to the case-load of the general hospital.
• Category III: Excessive drinking with problems and dependence. People with dependence typically present to specialised health services or specialised non-statutory services for help with the dependence itself and/or a cluster of associated health, interpersonal, psychological and social problems. In addition the physical and psychiatric complications experienced by such patients inevitably means that they are also users of other general and specialised hospital services.

3.0 NEEDS ASSESSMENT

It is beyond the scope of this document to describe needs assessment fully. A separate report on local needs assessment is available (RDAT 1994).

An assessment of need requires not only a knowledge (or estimate) of the range of incidence and prevalence rates for the problem and its subcategories, but also information on the services available, the known effectiveness and cost effectiveness of these services, as well as information on the ability of the patients to benefit from the services (NHS Management Executive, 1993). The majority of the present document describes in detail the range and types of services needed to match the need. The remainder of this section looks at potential sources of epidemiological data.

A number of sources are used for identifying the nature and extent of substance misuse. For illicit drugs the Regional Substance Use Database is probably one of the best indicators of service use (see RDAT Annual Report, 1994) The database collects information on all clients and patients seen in specialist substance misuse agencies; in some areas of the country generic services, such as G.P.'s and probation officers, also report to the database.
Other sources of routinely collected data include the Home Office Index (doctors are required to notify suspected or confirmed opioid and cocaine dependent users), the NHS Patient Administration System, mortality data, and law enforcement statistics which include seizure information, arrests and probation data.

The main difficulty with assessing numbers is that illicit drug users are by and large a "hidden" population; their activity is illegal and often carries considerable stigma. More subtle techniques are sometimes employed therefore, in particular capture-recapture (a method borrowed from ethology which involves counting the overlap in samples of known size in order to calculate the total population size) and "snowballing" (borrowed from social scientists this requires following up nominated acquaintances of drug users who in turn nominate acquaintance and this chain is followed, getting ever bigger, until "the trail dries up")

In general, it is recommended (RDAT Annual Report, 1994) that a combination of sources is used, each providing different pieces of the jigsaw from which an impression can be built up. A good "multi-method" or combination approach would probably consist of:

- an analysis of data routinely collected by agencies in regular contact with drug misusers.
- a case register to provide a best estimate of the prevalence of "visible " problem drug use
- an application of capture-recapture techniques to different samples of drug misusers e.g. drug misusers in contact with specialist treatment services; drug misusers known to the police; drug misusers identified through HIV-testing schemes.
- an interview study of drug misusers identified through "snowballing".
- an estimate of the resource cost of drug misuse to the community.
• a questionnaire study of the general population/schoolchildren/young people.

For alcohol, an assessment of numbers of people falling into the three groups described earlier is generally provided from national estimates extrapolated to local populations.

• Category 1 (hazardous use, described as excessive drinking over identified safe limits without the occurrence of problems or dependence)
  13% males 7% females in the U.K.

• Category 2 (excessive drinking with occurrence of problems but without established dependence)
  7% males 2% females in the U.K.

• Category 3 (excessive drinking with problems and dependence)
  7% males 2% females in the U.K.

These figures are derived from General Household Survey data. This categorisation and source of data provide one useful way of assessing the likely prevalence of various kinds of alcohol related problems in the community. When taken with additional indicators (such as Hospital Patient Administration Information, liver cirrhosis deaths, Accident and Emergency data, alcohol related offences, etc.) then it is likely that a more accurate picture of need is possible with alcohol problems than with other drugs.

Quantifying the drug and alcohol problem can be used as a basis for initial planning of services, although it must be recognised that there are complications to take account of, particularly when the problems associated with substance misuse can be as diverse as a relatively minor health or social problem all the way through to the person who presents with long term and severe health care needs such as might be seen in a chronic alcoholic or a pregnant, HIV positive heroin injector. The required size and composition of the services needed can only realistically be estimated by existing services
monitoring demands on their service, with input and throughput activity audited and including outcome measures in their audit.

4.0 OTHER CURRENT ISSUES

4.1 The Government's White Paper

In May 1995 the Government's new drugs strategy for England ("Tackling Drugs Together; A Strategy for England 1995-98) was published. This is the first strategy to be presented to parliament which is truly interdepartmental (presented by the Lord President and Leader of the House of Commons, the Secretary of State for the Home Department, the Secretary of State for Health, the Secretary of State for Education and the Paymaster General, although not covering the Welsh, Northern Ireland and Scottish Offices who have their own reports). The last strategy (Tackling Drug Misuse, published in 1986) was not jointly owned. This represents a "major" step forward by the Government and this strategy will have a significant impact on how drugs services are funded and provided in the future. It does not, however, include alcohol or tobacco.

The White Paper has arisen from work by The Central Drugs Coordination Unit set up in January 1994 and which reports directly to the Lord President of the Council and Leader of the House of Commons. The new strategy has the following statement of purpose:

"To take effective action by vigorous law enforcement, accessible treatment and a new emphasis on education and prevention to:

- increase the safety of communities from drug related crime;
- reduce the acceptability and availability of drugs to young people; and
• reduce the health risks and other damage related to drug misuse."

It thus endorses "harm reduction" approaches and treatment as having a major role to play in tackling drugs; it puts them firmly on the Government's agenda, rather than concentrating heavily on supply control and control using the criminal justice system (which in the past has tended to be more politically acceptable and appeasing the concerns of the general public and voter).

Money is pledged along with the strategy recommendations. The recommendations are detailed and the reader should consult the Report for these. In the immediate future, Chief Executives of district health authorities have the responsibility of ensuring that multi agency Drug Action Teams are established (by 30 September 1995) which will have detailed terms of reference. £8.8 million is to be provided over the next three years for Drug Action Teams to implement local action.

It is in the interests both of providers and purchasers to understand the implications of this White Paper and how to benefit from its proposals.

4.2 Harm Reduction

Concern about preventing the spread of infectious diseases (especially HIV, Hepatitis B and C) has fuelled enthusiasm for harm reduction. Most drug workers accept these approaches as valid for helping the drug user in his or her own right, but acknowledge the push has come from the concern that injecting drug users (and the influence other drugs have on risk taking e.g. unsafe sex and alcohol) pose a risk as a bridge for infection to the wider community.

The reality of harm reduction is often contentious however, and local providers and purchasers need to be aware of the political problems posed by
introducing injecting equipment schemes, low threshold prescribing clinics, prescribing of injectable drugs and sterile water, setting up special schemes for travellers, male and female sex workers and prescribing stimulants, to name but a few of the sensitive ones.

4.3 Prescribing Services

In addition to the issues raised above, there are uncertainties about too easy access to prescribing which may serve as an obstruction rather than a lubricant to the process of change (e.g. with recreational and less dependant users). Prescribing stimulant and other non opiate drugs is contentious as there are few medical grounds for prescribing other than harm reduction for which there is no proof of effectiveness with stimulant users (and indeed there are strong arguments for this potentially harming the user in the longer term rather than reducing harm).

4.4 Combined treatment services

Should alcohol and drugs be combined within one organisation? There are pros and cons, and often there will be local factors which decide the outcome. In general, however, combined services tend to be favoured as producing the best quality of service to the client although there may be a separation at the point of delivery.

4.5 Funding and the need for partnership arrangements and joint commissioning

This need is not always recognised at a local level and can lead to fragmented service delivery, not providing the local, comprehensive community services that are needed.
4.6 Non Statutory Involvement

The role of the non statutory sector is particularly important in the substance misuse field, and it is vital that any development of services includes this sector.

4.7 User Participation

This is a very tricky issue in this field. The client group is more heterogeneous than others, and there is a danger of the users' voice reflecting "wants" rather than needs. There are strong views from user groups on, for example prescribing the drug of the user's choice on demand, and some services do this. A similar plea made from severe drinkers at risk of harm from their methylated spirits misuse for dispensing free whiskey would be unlikely to be entertained.

Nevertheless services in the past have tended not to be responsive to the views of service users, and this needs to be redressed. Establishing users' forums and enabling representation by training, payment and so on might be considered.

4.8 Funding

Money for drug services comes from many different sources, including special money available centrally that (until next year) has been "ringfenced". There was often no existing service to divert money from to fund new developments, it had to be new money.

Alcohol services have not fared so well. Less central money is available, and what there is tends to be available to non statutory rather than the statutory sector. Purchasers have had to be more imaginative, using joint finance, health gain money etc. The bulk of the health services to alcohol misusers
are however non specialist. As much as 40% of acute hospital beds have been estimated to be of people with alcohol related medical problems, found in surgical, liver and general physical medicine wards, in primary health care settings (ask any G.P.) as well as being both a cause and effect of psychiatric and psychological disorders, and being frequently related to suicide attempts.

Large proportions of existing budgets go towards treatment of alcohol related problems, and it is arguably the case that much of this morbidity could be prevented by specialist alcohol teams being available. In other words there are arguments for commissioning specialist alcohol services from mainstream money which is currently not recognised as alcohol related.

4.9 Skills mix and "Who Leads"

The emphasis in recent years has been away from a traditional medical model for services, and towards one based on what is known as a "social-psychological model" of health care. Problem drinking and drug use do not necessarily fit well into an "illness" model and many services have developed away from this. This means that local providers need to look imaginatively at how their service will be best led and the skills mix needed to provide the health gains required.
5.0 A FRAMEWORK FOR QUALITY IN SUBSTANCE MISUSE SERVICES

There are many possible models for the description of quality in the treatment and prevention of substance misuse. Two models have been combined in this document: the first is one that is described by Donabedian in a number of sources (see for example Donabedian, 1980) and the second is known as the Chris Wilson model (e.g. Wilson 1987). These models were chosen as each is widely used in health related services and each has something different to offer for this specialist field.

In summary, the Wilson model recommends that a quality assurance programme should include:

- a statement on the **purpose** of the service
- a description of the service's **key principles**
- a description of **service programmes**
- **quality indicators** or **standards** for these programmes
- systems for **monitoring** these standards
- systems for **feedback** of the results of monitoring in order to improve service provision (known as "closing the audit loop")

Donabedian suggests that there are three major elements in considering quality in health care:

- **structure** The resources, human, financial, administrative and physical that enable a quality service to be delivered
- **process** The activities that take place within the system involving the interactions between practitioners and the organisation and the crucial area of contact and interaction with the users/patients
- **outcome** The changes in a patient's/users current and future health/social status that are attributable to contact with the health/social care organisation and system.

Two further categories need to be added to extend this model to cover all the varieties of substance misuse services. These two categories, which were additions suggested by the British Psychological Society (BPS, 1989) for clinical psychology services, are:

- **congruence** The harmony that should exist between a drug/alcohol worker and the patient/user, and between the worker and the organisational context at whatever level they work. Personal and social values come into this category, and, because of the difficulty sometimes of attracting and retaining patients/users into services, they are seen as having a particularly important bearing on the development and delivery of a quality service in this speciality compared with others.

- **quality assurance processes** The systems that exist within a service for ensuring the continuing development of quality services, including monitoring and evaluation processes. In most organisations this will include as a minimum the following features:
  1. standard setting
  2. measurement of performance against these standards
  3. taking action (either congratulatory or corrective)

A third theoretical source in building the present framework is the work of Robert Maxwell (e.g. Maxwell, 1992) who describes six dimensions of quality in health care:

- **effectiveness** Is the intervention given the best available in a technical sense, according to those best equipped to judge? What is their evidence? What is the overall result of the intervention?

- **acceptability** How humanely and considerately is this treatment/service delivered? What does the patient/user think of it? What would/does an
observant third party think of it? What is the setting like? Are privacy and confidentiality safeguarded?

- **efficiency** Is the output maximised for a given level of input or (conversely) is the input minimised for a given level of output? How does the unit cost compare with the unit cost elsewhere for the same treatment/service?

- **access** Can people get this treatment/service when they need it? Are there any identifiable barriers to service - for example distance, inability to pay, waiting times and waiting lists - or straightforward breakdowns in supply?

- **equity** Is this user/patient or group of patients/users being fairly treated relative to others? Are there any identifiable failings in equity - for example are some people being dealt with less favourably or less appropriately than others?

- **relevance** Is the overall pattern and balance of services the best that could be achieved, taking account of the needs and wants of the population as a whole?

Finally, the fourth influence in the development of this theoretical framework is the recognition that services operate at different **levels of work** (see, for example, Ovretveit, 1992) and that different quality standards will be applicable to the level operated at. Thus some service programmes will require quality standards at the level of the alcohol/drug worker with his/her individual user/patient, while others will be at the interface of that worker with the organisation, and still others will be at the interface of the organisation with other organisations and systems such as would be found in "networking" and joint care, public health programmes and objectives, national targets etc.

In this document three levels of work are considered (the services delivered to individual users/patients, the quality issues between the worker and the organisation, and between the organisation and the total system).
These four theoretical sources are used to provide the framework for quality assurance and standard setting in substance misuse services. **It is essential to recognise, however, that the process of defining standards is done locally, so that the "product" is owned by those to whom it refers, and so that local specificity and variability can be taken account of.** Standards which are generalised are likely to be less relevant, and therefore not used, by services and their purchasers, and this is probably more so in the drug and alcohol field given the great diversity of need and service provision in different localities.

**6.0 GUIDANCE FOR PURCHASERS OF SERVICES FOR SUBSTANCE MISUSE**

### 6.1 The Purchaser’s Aims and Objectives

This section is intended to help provide a framework for the purchase of Quality Services to meet the needs of people with substance misuse problems within a defined geographical location. These services may include the statutory, non-statutory, private and voluntary sectors. Different elements of the total service may be the responsibility of different purchasing authorities; the term "Purchaser" refers to any one or all of the purchasing authorities. It is suggested that in respect to substance misuse the following aim might be adopted by the Purchaser:

"the Purchaser's aim is to diminish and where possible eliminate the physical, social and psychological harm associated with inappropriate and/or excessive use of substances."
In order to help achieve this aim the Purchaser will need to ensure the availability of, or access to, a range of services based on needs assessment and informed by epidemiological information, which in addition takes account of requirements from the "Patient's Charter as well as the views of the patients and other service users. Special attention may need to be given to assessed priority needs (such as achieving the targets within the key areas identified in "Health of the Nation which are associated with alcohol and/or drug misuse, described in Section D above) and also to meeting the needs of special or minority groups. Examples of these groups include:

- people with disabilities: substance misuse occurs amongst disabled people who may require special services; for example people with hearing problems are rarely catered for by substance misuse services.

- ethnic and racial groups: different groups stigmatise or tolerate alcohol or drug use to different extents; special outreach projects targeted at these groups may be necessary to improve "equity".

- the special needs of the young and the elderly substance misusers.

- homeless people: special types of problems are encountered amongst the homeless substance misuser.

- women: this is not restricted to issues surrounding care during pregnancy and child care, but also the effect of gender on acceptability and access to services.

- people affected by someone else's substance misuse; the impact on a family member's health, social and psychological well being can be as severe or worse than on the substance misuser themselves and these needs are often best met by the specialist services.
Four other points need to be considered in identifying aims and objectives:

1. Although the effects of AIDS has been to develop services aimed at reducing the spread of HIV infection, it is important for the Purchaser to recognise the range of health and other gains which can be achieved by services which have a wider remit than HIV infection.

2. Strategies for prevention of new or further harm should be included at all levels of services purchased. Interventions should focus on quality of life and health promotion as well as the reduction of substance related harm.

3. The needs of the family and others affected by substance misuse should be addressed at all levels of services purchased.

4. Continuity of care and support and strategies for relapse prevention which have been jointly agreed with all of the relevant purchasing authorities within Community Care Plans should be emphasised.

6.2 Key Elements Of a Comprehensive Service

Many reports (e.g. the Advisory Council on the Misuse of Drugs reports of 1982 and subsequent, the N.H.S. reforms and the Community Care Act of 1992, the Regional Drug and Alcohol Team's report of 1994 etc.) support the recommendation that patients and users of services will receive greatest benefit from help which is:

- community based, readily available, accessible at time of need and wherever possible is locally provided. Although the focus of service provision is within the community rather than an institutional setting, access to inpatient and residential care should nevertheless be available.
• sensitive and appropriate to attract all those who are experiencing difficulties with their own or others' use of substances. Attention should be paid to the provision of special services targeted at making services available and accessible to all sections of the community.

• multidisciplinary in approach, providing a mixture of both generic and specialist services drawn from the non-statutory, statutory, and voluntary sectors. A range of responses should be available which recognise individual needs and, wherever possible, the wishes of the client.

• able to demonstrate precisely the quality standards to be followed with a quality assurance system which includes monitoring and evaluation of the services.

• able to demonstrate good liaison between services.

These key elements can be further elaborated to describe "the model service", which is:

• accessible
• equitable
• flexible
• comprehensive
• consumer orientated
• culturally and racially sensitive
• able to give empowerment
• able to focus on strengths
• aware of normalisation and use of natural supports
• adaptable (for example to special needs)
6.3 A summary of service programmes to be purchased

- **ADVICE AND INFORMATION** - accurate and objective factual advice on substances and the services available.
- **PREVENTION** - programmes should include (1) raising awareness of substance related issues within the community (2) strategies targeted at "at risk" groups (3) providing skills and information which enable people to make informed choices in their use of substances and (4) training for workers involved, directly or indirectly, in prevention work.
- **EARLY INTERVENTION** - programmes which attract people at an early stage in their substance misuse.
- **OUTREACH SERVICES** - to engage substance misusers who are not otherwise in contact with helping services.
- **PREVENTION OF INFECTIOUS DISEASE** - programmes include needle exchange schemes, outreach services, substitute prescribing and education in safer sex and drug use.
- **EMERGENCY CARE** - people with substance use problems have equal rights of access to existing emergency services such as acute psychiatry sector beds, Accident and Emergency Departments, duty social workers and General Practitioners. Substance Misuse Services should not be expected to provide responses to emergencies such as overdoses, acute confusional states or severe mood disturbance. There is a need, however, for substance treatment services which can respond rapidly to appropriate requests for help.
- **ASSESSMENT** - provision of or access to multidisciplinary assessment of needs, which covers medical/psychiatric, psychological, social (including family, legal, housing, and occupation) and the needs of others.
- **HARM MINIMISATION AND DAMAGE LIMITATION** - programmes to reduce substance related harm as a step towards the elimination of substance related harm.
• COUNSELLING AND INTENSIVE THERAPIES - programmes for people (1) at an early stage of changing their problem behaviour, (2) actively changing, and (3) those attempting to maintain their change; as well as for those experiencing difficulties as a result of someone else's substance misuse.

• DETOXIFICATION - a programme for the withdrawal from substances which may include the prescribing of medication.

• PHARMACOLOGICAL INTERVENTIONS - drugs may be prescribed as treatment during detoxification, as part of a longer term treatment strategy such as harm reduction or stabilisation of drug use, or as treatment for concomitant problems.

• TREATMENT IN THE COMMUNITY - the provision by Community Teams of service programmes at home or in as local and non-institutional a setting as is possible.

• DAY CARE - a "drop-in" social centre where patients can stay in a drug free environment.

• DAY TREATMENT - a structured treatment programme.

• INPATIENT THERAPY PROGRAMMES - programmes for patients requiring intensive residential treatment.

• REHABILITATION AND RESIDENTIAL CARE - a longer term structured programme provided away from the patient's normal environment.

• FAMILY SUPPORT - programmes specifically aimed at the families of substance misusers.

• TRAINING AND EDUCATION - a programme for all staff on the recognition of substance misuse and appropriate methods of intervention.

6.4 Who is the purchaser for these programmes?

Some programmes are more easily recognised as one purchaser's responsibility than are others. The majority, however, could potentially be the responsibility of a number of purchasers, including the District Health
Authority, Family Health Service's Authority, fund holding General Practitioners, Local Authority departments such as Social Services, Probation, Police, and Education, locally managed schools, the Prison Services (both centrally and individual prisons) and possibly in some cases the independent sector acting as a purchaser. In the recently published documents "Across the divide - building community partnerships to tackle drug misuse" (Department of Health, 1994) and "Tackling Drugs Together; A Strategy for England 1995-1998" (HMSO, 1995), it is recommended that collaborative arrangements be put in place for the joint commissioning of services. In particular, it is suggested that local "Drug Action Teams" be established (which would consist of senior officers of the Health Authority, Police, Education etc. and would be the responsibility of the Chief Executive of the Health Authority to set up) which would have as one of their roles the preparation of a "programme for the commissioning of specialist services for drug misusers and for prevention initiatives involving the wider community".

It is likely that health services purchasers (the District Health Authority, the Family Health Service's Authority, and fund holding General Practitioners) will be major purchasers of the majority of the service programmes described, but with several exceptions (such as residential rehabilitation, social work and probation officer input to multidisciplinary teams, prevention and early intervention in young people, services to people in prison or on remand, and some community projects and social care).

The precise details of by whom and by what proportion services are commissioned will vary in different areas; the important principle, however, is that decisions are taken in collaboration with other purchasers and preferably is done by a joint commissioning team.
7.0 A DESCRIPTION (FOR PURCHASERS AND PROVIDERS) OF APPROPRIATE SERVICE PROGRAMMES

7.1 The Key Principles Guiding Service Delivery

The general philosophy expected of a provider should include the following:

- To seek to empower the users of services so they may be able to make informed and realistic choices regarding their treatment.
- To be responsive to changing needs; delivering services in a flexible manner and in a way that is not judgmental.
- Users of a service have a right to be treated in confidence and with dignity and respect.
- The service must treat users without discrimination on the basis of race, religious or philosophical beliefs, sex or sexual preference.

7.2 The Service Programmes

ASSESSMENT

Provision of or access to the following areas of assessment:

- Physical (including toxicological)
- Psychological
- Psychiatric
- Social (including family, legal, housing, occupation)

Provision of or access to multidisciplinary assessment.
DETOXIFICATION
Detoxification will take place in a number of settings, dependent on the user's/patient's needs and the development of local services. There are recommendations from various professional bodies regarding the appropriate number of beds to be made available. Health Authority Purchasers should ensure the availability of the following services:

- outpatient and/or community-based detoxification programmes, developed in conjunction with community teams, CPNs, GPs, counselling and support services

- inpatient beds within the District Health Authority and/or access to detoxification beds outside.

COUNSELLING AND INTENSIVE THERAPIES
Each locality should have an identified accessible counselling and advice service, offering the service to those experiencing difficulty through their own or others' substance use. It should fulfil the following requirements:
• be accessible to residents for whom the Purchaser is responsible
• be free to the user (or if a charge is made, systems are in place which
  minimise the possible deterring effect for people on low incomes)
• be confidential and have a statement for the users/patients regarding the
  service's role, organisation and its confidentiality
• offer counselling outside of normal office hours
• a central telephone number should be available for contacts
• all counsellors should be suitably trained, supported, supervised and
  appropriately accredited

For some problem users, there will be a need for access to additional
resources including intensive programmes consisting of psychological and
social interventions, and/or inpatient rehabilitation programmes. These
intensive therapies may include one or more types of individual and/or group
psychotherapy, training in relapse prevention strategies, motivational
interviewing, family therapy, contingency management and therapies which
use the social milieu to effect change. Access to help for child care problems,
legal, occupational, accommodation and other problem areas may also be
necessary.

PHARMACOLOGICAL INTERVENTIONS
Pharmacological treatments should be available, provided by GPs, Substance
Misuse Services and/or sector psychiatry services. Withdrawal programmes
which include prescribing of drugs should be written according to the patient's
assessed needs and should be in accordance with the Guidelines on Good
Clinical Practice, 2nd Edition 1991. Longer term prescribing of drugs of
dependence should normally only be offered as part of an eventual goal of
drug reduction, and should be regularly (and at least every three months)
reviewed with the patient and staff as to the goals and purpose of continued
treatment. Prescribing of stimulant drugs such as cocaine and amphetamines
is rarely indicated.
DAY CARE/TREATMENT
Problem substance users may be receiving treatment for their problem use within the community and some form of local day care/treatment will be necessary. For some this will entail a social centre or drop-in facility. Others will require a structured substance misuse programme with appropriate staffing levels.

REHABILITATION AND RESIDENTIAL CARE
Individuals with severe substance misuse problems often require long-term therapeutic treatment and support, which can extend to a period from 4 weeks to 9 months and beyond. Long-term support in many instances may be on an outpatient basis within the community conducted by counsellors, GPs, psychologists etc. In some cases, however, residential care is required. This is in many cases a social care cost for which local authorities are responsible following a Community Care assessment. The Probation Service similarly is responsible for purchasing the social care element of offenders who are drug misusers, and increasingly is contributing to the joint purchasing of treatment services to offenders.

Residential projects vary in many ways, each offering its own style and type of programme. It is important that the type of residential project offered matches the user's assessed needs.

EMERGENCY CARE
People with substance use problems, like any other members of the general public, have equal rights of access to existing emergency services, such as acute psychiatry sector beds, Accident and Emergency, duty social workers and on-call General Practitioners.
Substance misuse services should not be expected to provide responses to emergencies such as overdoses, acute confusional states or severe mood disturbance.

**PREVENTION**

Purchasers should have a multi-agency strategy to include Information, effective education and workplace policies. The following areas need to be specifically addressed:

- Raising awareness of substance related issues within the community.
- Specifically targeted programmes and strategies for "at risk" groups.
- Providing skills and information which enable people to make informed decisions concerning their behaviour.
- Training for workers involved, directly or indirectly, in prevention work.

**EARLY INTERVENTION**

The service should enable people with substance related problems to be recruited into contact with helping services as early as possible in their career. This can be achieved by providing low threshold specialist substance misuse services and helping all agencies in the community to identify substance related problems and respond appropriately at the earliest point of contact. The target groups for dissemination of this knowledge include GPs, other primary care staff, magistrates, probation officers, police etc.

**TRAINING AND EDUCATION**

It is the responsibility of the purchasing authority to ensure that provider services use staff who are given appropriate training. This is for all staff who deal with the service users, regardless of whether or not their roles bring
them into contact with identified problem substance misusers. This training should be multidisciplinary and multi-substance rather than single-substance focused. Every individual who becomes involved in a professional capacity with a substance misuser should be sufficiently well trained to be able to intervene in an effective and confident way.

Staff in designated drug and alcohol services should have access to specialist training to equip them with improved skills and to provide an effective and efficient service.

**HIV TRANSMISSION PREVENTION**

Purchasers should have a policy on the prevention of HIV infection including an accessible needle and syringe exchange scheme, outreach services, substitute prescribing and education in safer sex and drug use. Effective links should exist between local substance use and HIV services.

**HARM MINIMISATION AND DAMAGE LIMITATION**

A service should be flexible and have a view of interventions to suit individual needs, which may not always include total abstinence. While abstinence from illicit drug use or inappropriate alcohol use should be the aim, individuals should have intermediate goals available to them which focus on reduction of harm to the individual and/or the community.

**LIAISON**

A service should communicate and network effectively with other relevant services, for example, probation, social services, courts, non-statutory agencies, police, housing associations and departments and other medical services, whilst respecting an individual's confidentiality. It is important that a service is part of an overall strategy which incorporates Community Care Case Management. Joint assessment procedures should be identified to allow "Case Management" to be multi-agency.
COMMUNITY FOCUS
The community substance misuse team should be the core focus for assessment and service delivery within the statutory sector, offering domiciliary and local consultations and support.

Such services can only thrive with effective in- or day-patient back-up which needs to involve detoxification and intensive substance misuse therapies and longer term rehabilitation facilities.

INPATIENT THERAPY PROGRAMMES
For a minority of patients there is a need for access to an intensive inpatient therapy programme.

AUDIT
A service should operate an effective procedure for auditing its work on an ongoing basis, with reference to the agreed standards of quality outlined in this document.

OUTREACH WORKERS
A quality service will be proactive in engaging with the unidentified misusing population, who would not otherwise come into contact with substance misuse services.

FAMILY SUPPORT
A quality service will take account of the needs of others directly or indirectly affected by someone else's substance misuse, and provide helping services for them or be able to refer on to an appropriate helping service.
In this section a range of quality indicators and monitoring systems is outlined; this is not intended to be exhaustive but an attempt is made to include what are considered here to be amongst the highest priority for quality assurance within each service programme. The most pertinent of the dimensions of quality described by Robert Maxwell (see Section D) for that programme are given where appropriate.
## SERVICE PROGRAMME ONE: ASSESSMENT

<table>
<thead>
<tr>
<th>PRINCIPLE</th>
<th>QUALITY INDICATORS</th>
<th>MONITORING SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ACCESSIBILITY</td>
<td>Initial contact within 24 hours of referral (face-to-face or telephone)</td>
<td>Weekly audit of new referrals. A system should be in existence where dates of referral, first contact and assessment are recorded.</td>
</tr>
<tr>
<td></td>
<td>Full assessment offered within 14 days of initial contact</td>
<td>Weekly review of data at team meetings.</td>
</tr>
<tr>
<td></td>
<td>The referrer should have appropriate support and advice from specialist team, pending assessment</td>
<td>Audit of what support has been provided</td>
</tr>
<tr>
<td></td>
<td>All centres of population have access to assessment via public transport or within walking distance</td>
<td>Does every major centre of population have access to assessment via public transport or within walking distance? YES/NO</td>
</tr>
<tr>
<td></td>
<td>All target groups are reached by publicity</td>
<td>Policy document, leaflets, posters and meetings with referrers and community groups</td>
</tr>
<tr>
<td></td>
<td>Suitable hours for target groups</td>
<td>24 hr. access to telephone answer service.</td>
</tr>
<tr>
<td></td>
<td>Clients who cannot attend in office hours should be catered for</td>
<td>Percentage of domiciliary visits compared to agency appointments</td>
</tr>
<tr>
<td></td>
<td>Domiciliary visits should be available when necessary</td>
<td>Existence of an equal opportunity policy</td>
</tr>
<tr>
<td></td>
<td>Equal opportunity policy covering clients</td>
<td></td>
</tr>
<tr>
<td>2. EFFECTIVENESS</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>There should be more than one discipline involved in the assessment, or cases are discussed by MDT (3 or more disciplines).</td>
<td>Weekly team meetings - where new referrals are discussed Yearly audit of casenotes</td>
</tr>
<tr>
<td></td>
<td>The assessment covers (a) medical (b) psychological (c) social aspects of the case</td>
<td>Team policies state this and are implemented</td>
</tr>
<tr>
<td></td>
<td>Appropriate investigations carried out Alcohol pt: FBC, LFTS Opiate pt: Urine screening</td>
<td>Yearly audit of casenotes</td>
</tr>
<tr>
<td></td>
<td>Appropriate recording in multidisciplinary casenotes</td>
<td>Yearly audit of casenotes</td>
</tr>
<tr>
<td></td>
<td>Communication with relevant agencies, and written contact with referrer within 14 days of assessment</td>
<td>Yearly audit of casenotes</td>
</tr>
</tbody>
</table>

## SERVICE PROGRAMME TWO: EMERGENCY CARE

<table>
<thead>
<tr>
<th>PRINCIPLE</th>
<th>QUALITY INDICATORS</th>
<th>MONITORING SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVAILABILITY</td>
<td>When required emergency assessment + treatment</td>
<td>Annual survey of general practitioners, emergency services available when required (yes/no)</td>
</tr>
</tbody>
</table>
SERVICE PROGRAMME THREE: DETOXIFICATION

PRINCIPLE  
ACCESSIBILITY  
Adequate provision of detox. facilities  
Prompt response  
This should be less than 24 hr's. for emergency, otherwise less than 2 weeks  

FLEXIBILITY  
Community and residential treatment programme options are available  

SAFETY  
If an individual is assessed to be at risk due to the process of detox., access to appropriate medical services should be available  
Staff supervising detox regimes should be appropriately trained  
Adequate staffing ratios should ensure that patients are monitored safely during detox.

QUALITY INDICATORS  
Review of waiting lists for detoxification  
Surveys of patient's travel time and cost  
Audit of waiting time between assessment and commencement of detox. programme  
Quality Assured inpatient and community detoxification facilities are available (yes/no)  
Level of non-prescribed drug use, untoward incidents whilst on waiting list and during detox. process  
Professional and local guidelines on good practice are followed (yearly audit)  
The rate of occurrence of serious morbidity whilst waiting for and during detox.

MONITORING SYSTEM  

SERVICE PROGRAMME FOUR: PRESCRIBING

PRINCIPLE  
FLEXIBILITY  
Prescribing services should be available on a community, O/P and I/P basis  
Negotiation with the individual patient occurs in accordance with the individual's needs, which may include various dispensing arrangements and/or preparations.  

ACCESSIBILITY  
There should be prescribing clinics within reach of public transport in each major centre of population served by the service  

APPROPRIATE  
There should be a prescribing policy for both alcohol and drug misusing patients  
Guidelines on “Good Clinical Practice” 2nd Edition are being adhered to for drug misuse  
The length and dosage of prescribing should reflect the assessed needs of individual clients  

SAFETY  
Prescription for detox. should only occur where there is evidence of dependence  
Formal review of patients on long-term prescriptions should take place at least every three months  

QUALITY INDICATORS  
Yearly audit of prescriptions  
Patron feedback  
Yearly audit of casenotes  
Consumer feedback  
Does a liaison network exist with community pharmacies?  
Does a policy exist?  
Regular policy review and update meetings  
Casenote/team review of practice  

MONITORING SYSTEM  

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## SERVICE PROGRAMME FIVE: REFERRAL ON TO REHABILITATION AND RESIDENTIAL CARE

<table>
<thead>
<tr>
<th>PRINCIPLE</th>
<th>QUALITY INDICATORS</th>
<th>MONITORING SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCESSIBLE</td>
<td>Budget available for &quot;top-up&quot; funding</td>
<td>YES/NO Survey of specialists within the field</td>
</tr>
<tr>
<td>NEEDS LED</td>
<td>Up-to-date service directories</td>
<td>Updated list of rehabs</td>
</tr>
<tr>
<td></td>
<td>Knowledge of staff</td>
<td>Leaflets available</td>
</tr>
<tr>
<td></td>
<td>Willingness of staff to assist clients to access places</td>
<td>Local Authority monthly returns</td>
</tr>
<tr>
<td></td>
<td>Takes account of &quot;Community Care&quot;</td>
<td>Has the service contributed to &quot;Care Planning&quot; for the client?</td>
</tr>
</tbody>
</table>

## SERVICE PROGRAMME SIX: INPATIENT THERAPY PROGRAMMES

<table>
<thead>
<tr>
<th>PRINCIPLE</th>
<th>QUALITY INDICATORS</th>
<th>MONITORING SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVAILABILITY</td>
<td>Services should include access to an inpatient specialist programme for patients who require this</td>
<td>YES/NO</td>
</tr>
<tr>
<td></td>
<td>The waiting list for such a programme should be less than 4 weeks</td>
<td>Casenotes review</td>
</tr>
<tr>
<td>COMPREHENSIVENESS</td>
<td>There should be a printed programme including individual and group counselling with multidisciplinary and family involvement; programmes should be responsive to individual needs</td>
<td>YES/NO Scrutiny of Unit policy</td>
</tr>
<tr>
<td></td>
<td>Admission to the programme should only occur after adequate assessment and ward conferences</td>
<td>Casenote/team review</td>
</tr>
<tr>
<td>SETTING</td>
<td>Should be in a self-contained unit, not located within a general psychiatry and/or general medical ward</td>
<td>YES/NO</td>
</tr>
<tr>
<td>ACCEPTABILITY</td>
<td>The inpatient service should be acceptable to patients in terms of the physical and therapeutic environment</td>
<td>Patient satisfaction survey Number of discharges taken against medical advice Discharge summaries</td>
</tr>
</tbody>
</table>

## SERVICE PROGRAMME SEVEN: HARM MINIMISATION

<table>
<thead>
<tr>
<th>PRINCIPLE</th>
<th>QUALITY INDICATORS</th>
<th>MONITORING SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLEXIBILITY</td>
<td>A wide range of services should be available offering health counselling including pre- and post-test HIV counselling, HIV testing, prescribing health promotion activities</td>
<td>Comparison of the range of leaflets, condoms, needles, syringes, sharps boxes, etc. with neighbouring or other services in comparable areas Audit of range of services offered Regular stock-taking</td>
</tr>
<tr>
<td></td>
<td>Designated staff are responsible for ensuring a range of options is available</td>
<td>Level of service uptake/retention</td>
</tr>
<tr>
<td>ACCESSIBILITY</td>
<td>Service should be provided free or at a non deterring rate of charge; open outside office hours and offered in a variety of settings</td>
<td>Patient/client satisfaction Level of service uptake/retention</td>
</tr>
<tr>
<td>LOW THRESHOLD</td>
<td>Confidentiality; Speed of response; No appointment system</td>
<td></td>
</tr>
<tr>
<td>CONFIDENTIALITY</td>
<td>Security of casenotes held</td>
<td>A policy should exist for the handling and security of casenotes</td>
</tr>
<tr>
<td>APPROPRIATE STAFF SKILLS</td>
<td>Staff participation in specialist training - A multi-agency approach to training</td>
<td>No. of training days should be recorded Evidence of more than one type of agency participating in the training</td>
</tr>
</tbody>
</table>
SERVICE PROGRAMME SEVEN: HARM MINIMISATION (contd)

PRINCIPLE  EFFECTIVENESS  QUALITY INDICATORS

Staff target specific high risk activities such as:
1 syringe & injecting equipment
2 unsafe sex
3 excessive drinking
4 poor diet
5 lack of exercise
6 smoking behaviour

General health counselling available

MONITORING SYSTEM

Reduction of high risk activity of client group, for example % of clients tested for HIV status
Surveys of changes in client's injecting behaviour should reflect the targets and opportunities for action set o
in The Health of the Nation document (1992) and Regiona
Annual Reports.
Use of alcohol smoking eating etc. diaries

SERVICE PROGRAMME EIGHT: LIAISON

PRINCIPLE  QUALITY INDICATORS

PROACTIVE  Service should initiate contact with other agencies
Services should support newly-formed agencies

RESPONSIVE  Systems exist for joint work and easy referral between clinical and other teams

COMPREHENSIVE  Mailshots, newsletters, representation on committees, formation of working relationships, co-operative casework should take place

CO-OPERATION  Service offers consultancy
Regular communication/update with referring agencies

CONFIDENTIALITY  Security of casenotes held
Clients' privacy respected

REGULARITY  Scheduled updates on information
Attendance at DSMAC meetings, etc.

MONITORING SYSTEM

Review of membership and attendance at liaison meetings
Evidence of support, feedback from agencies
Audit of waiting time after referral
Number of referrals received from other secondary health care teams
Yearly audit
Casenotes reflect networking between agencies
Referral agency updated at least every 3 months
Is the security of notes comparable to other organisations?
Agency is represented on local groups and liaison committees

SERVICE PROGRAMME NINE: AUDIT

PRINCIPLE  QUALITY INDICATORS

REGULAR/Routine  Should be built into rolling programme

APPROVAL  Outside agencies should be invited to participate

MULTIDISCIPLINARY  All staff members should be included

STANDARDISED  Comparison with other services' audit procedures should occur

SUPPORTIVE  Constructive criticism by peer review should take place
Staff ownership of audit process should occur

MONITORING SYSTEM

Peer review of casework at least monthly
Approved by purchaser
Annual reports produced
Involves at least 3 separate disciplines
Published format and principles
Staff feedback questionnaires
YES/NO - were staff consulted in the development of the audit process?
### SERVICE PROGRAMME NINE: AUDIT (contd.)

<table>
<thead>
<tr>
<th>PRINCIPLE</th>
<th>QUALITY INDICATORS</th>
<th>MONITORING SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTERNAL MONITORING</td>
<td>Published annual report</td>
<td>YES/NO - is the audit process relevant to the staff’s work?</td>
</tr>
<tr>
<td></td>
<td>An external peer review should take place annually</td>
<td>YES/NO - have these taken place?</td>
</tr>
<tr>
<td></td>
<td>Attendance at quality assurance and audit meetings on a region-wide or national basis</td>
<td>Annual review by outside consultants</td>
</tr>
<tr>
<td></td>
<td>YES/NO - is the audit process relevant to the staff’s work?</td>
<td>YES/NO - Review of membership and attendance at meetings</td>
</tr>
</tbody>
</table>

### SERVICE PROGRAMME TEN: HIV TRANSMISSION/PREVENTION

<table>
<thead>
<tr>
<th>PRINCIPLE</th>
<th>QUALITY INDICATORS</th>
<th>MONITORING SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONFIDENTIALITY</td>
<td>Security of casenotes held</td>
<td>Patient/client satisfaction questionnaire</td>
</tr>
<tr>
<td>LOW THRESHOLD</td>
<td>Anonymity, confidentiality non-judgmental</td>
<td>Blood tests non-attributable</td>
</tr>
<tr>
<td>ACCESSIBILITY</td>
<td>Service provided free of charge</td>
<td>Service uptake</td>
</tr>
<tr>
<td>EFFECTIVENESS</td>
<td>Patient/client satisfaction</td>
<td>Survey</td>
</tr>
<tr>
<td></td>
<td>Service uptake</td>
<td>Rates of sero-prevalence</td>
</tr>
<tr>
<td></td>
<td>No. of tests undertaken</td>
<td></td>
</tr>
<tr>
<td>APPROPRIATE STAFF SKILLS</td>
<td>Participation in specialist training</td>
<td>Customer satisfaction</td>
</tr>
<tr>
<td></td>
<td>Regular updates</td>
<td>Log of training sessions attended</td>
</tr>
<tr>
<td></td>
<td>Sessonal input from specialist HIV/AIDS counsellors</td>
<td>Ringfenced AIDS/HIV training allocation for this (YES/NO)</td>
</tr>
</tbody>
</table>

### SERVICE PROGRAMME ELEVEN: COUNSELLING AND INTENSIVE THERAPIES

<table>
<thead>
<tr>
<th>PRINCIPLE</th>
<th>QUALITY INDICATORS</th>
<th>MONITORING SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCESSIBILITY</td>
<td>Initial contact within 1 week following assessment</td>
<td>Client records</td>
</tr>
<tr>
<td></td>
<td>The service is used fairly and proportionate to the assessed needs of the population</td>
<td>Statement of clients' rights exists</td>
</tr>
<tr>
<td></td>
<td>Domiciliary visits should be available when necessary</td>
<td>Equal Opportunities policy exists</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Staff training is given and monitored</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Health &amp; Safety Legislation is followed</td>
</tr>
<tr>
<td>AVAILABILITY</td>
<td>Telephone contact available within office hours Accessible to major centres of population</td>
<td>Agency Operational Guidelines state this and are followed Geographical location is appropriate or an outpost/outreach service exists</td>
</tr>
<tr>
<td>EFFECTIVENESS</td>
<td>Trained and supervised staff Counsellor review system Appropriate records kept Production of annual reports and reviews Location and security of records is comparable with other services</td>
<td>Staff training and qualifications (to include supervisors) to nationally agreed standards Monthly staff supervision</td>
</tr>
<tr>
<td>FLEXIBILITY</td>
<td>Range of approaches offered or available Services offered where appropriate to caring others</td>
<td>Audit of records</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agency information leaflets, operational guidelines and audit of practise show this</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clients records</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial contacts</td>
</tr>
</tbody>
</table>
### SERVICE PROGRAMME TWELVE: TRAINING AND EDUCATION

**PRINCIPLE**

**QUALITY INDICATORS**

- All services to offer appropriate training and education
- Multidisciplinary, joint training education activity
- Access to region-wide educational resources

**MONITORING SYSTEM**

- Records, agency leaflets
- Evidence of multidisciplinary participation
- Audit of use

**ACCESSIBILITY**

**APPROPRIATE**

Is consistent with region-wide/national training strategy

**EFFECTIVENESS**

Monitoring and evaluation procedures and systems used to evaluate effectiveness of programme/inputs

- Multidisciplinary/multi-agency approach should be adopted (towards training)
- Staff should be suitably trained and supported
- Multi-agency planning of training programmes should occur.

Current materials/information used

**QUALITY INDICATORS**

- Records, annual report
- Records, staff training annual report
- Are several agencies contributing to planning and running the training?

### SERVICE PROGRAMME THIRTEEN: PREVENTION AND EARLY INTERVENTION

**PRINCIPLE**

**QUALITY INDICATORS**

- 1st level - General population targeted
- 2nd/3rd level - Specific groups targeted
- Specifically designed materials
- Practised by all staff
- Involvement with other agencies and workers
- Is consistent with region-wide/national strategy
- Raised awareness
- Behavioural choice is shown
- Length of time between first contact and intervention
- Follow-up work requested

**MONITORING SYSTEM**

- Leaflets available and distributed
- Audit of activity
- Agency policy is audited. Multi-agency courses exist
- Records of inputs to agencies
- Outside review of prevention and health promotion projects
- Reduction in needle use
- Reduction in consumption
- Reduction in the duration of problematic substance use prior to first presentation
- Agency records

### SERVICE PROGRAMME FOURTEEN: DAY CARE/TREATMENT

**PRINCIPLE**

**QUALITY INDICATORS**

Initial contact within 1 week following assessment
The service is used fairly and proportionate to the assessed needs of the population

**MONITORING SYSTEM**

- Patient/Client records
- Statement of clients' rights exists
- Equal Opportunities policy exists
- Staff training is given and monitored
- Health & Safety Legislation is followed
- Leaflets

- National guidelines
- Health and Safety Regulations
- Records, comparison with local population profile

**ACCESSIBILITY**

**AVAILABILITY**

Crêche provided

**EFFECTIVENESS**

- Appropriate levels of staffing and qualifications
- Appropriate building and accommodation
- Monitoring of patient's/client's sex, ethnic background, age, disability

**QUALITY INDICATORS**

- Patient records
- Statement of clients' rights exists
- Equal Opportunities policy exists
- Staff training is given and monitored
- Health & Safety Legislation is followed
- Leaflets

- National guidelines
- Health and Safety Regulations
- Records, comparison with local population profile
<table>
<thead>
<tr>
<th>SERVICE PROGRAMME FIFTEEN: OUTREACH WORKERS</th>
<th>QUALITY INDICATORS</th>
<th>MONITORING SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRINCIPLE COMPREHENSIVENESS</td>
<td>There should be a wide range of services available to meet the needs of the target population</td>
<td>How does the range of projects I compare with other services?</td>
</tr>
<tr>
<td>ACCESSIBILITY</td>
<td>The service operates in locations and at times which meet the needs of the target population</td>
<td>Service uptake and retention, consumer feedback</td>
</tr>
<tr>
<td>CONFIDENTIALITY</td>
<td>Clients' wish for anonymity should be respected</td>
<td>Policy document. Consumer feedback</td>
</tr>
<tr>
<td>EFFECTIVENESS</td>
<td>New and difficult to access patients are seen Clients are gaining access to other services via the outreach project</td>
<td>Audit of records</td>
</tr>
</tbody>
</table>

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In this section quality indicators are considered within the service programmes described above according to whether they relate to (A) the **structure** (what must be provided to meet the standard), (B) **process** (what must be done to meet the standard), (C) **outcome** (what should happen as a result), (D) **congruence** (the harmony between patient/user and the worker, the worker and the agency, the agency and its larger organisation etc.) and (E) **quality assurance processes** (the systems that exist for ensuring the continuing development of quality services).

These are then further sub-divided into quality indicators and standards at (1) the level of the **staff and patient/user interface**, (2) the **agency with staff interface**, and (3) the **agency's interface with its wider organisations including its purchasers**. The focus of audit may be at any point within this matrix.
## Matrix for the Focus of Audit

<table>
<thead>
<tr>
<th>(A) Structure</th>
<th>(B) Process</th>
<th>(C) Outcome</th>
<th>(D) Congruence</th>
<th>(E) Quality Assurance Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Interface of staff and patient/user</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) Interface of staff and agency</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) Interface of agency with its wider organisations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### A STRUCTURE (i.e. the resources that enable the service to be delivered)

#### A1 Standards at the level of the worker with patient/user interface.

- **Standard 1:** Users/patients are seen in a setting which is easily accessible, appropriately located, furnished and decorated in an acceptable fashion.

- **Standard 2:** Users/patients are seen in a setting that ensures privacy and confidentiality.

- **Standard 3:** For the benefit of users/patients, staff have access to satisfactory secretarial and support services.

- **Standard 4:** Information systems are in place that allow staff to keep full, up to date records of progress with users/patients.
A2 At the agency with worker interface.

Standard 1: The necessary range of different types of service settings are available for seeing patients/users.

Standard 2: Up-to-date equipment and materials needed to undertake the work of the service effectively are available.

Standard 3: The agency has adequate financial resources to pay for travel to see patients/users.

Standard 4: Adequate systems are in place for collecting and conveying information to service managers and planners, for example about patient's/user's needs, the nature and volume of work, and other information about users/patients for the purpose of monitoring and planning interventions.

Standard 5: There is a rational organisational and management structure which allows good access to line managers and other key members of staff.

A3 At the level of the agency's interface with its wider system.

Standard 1: The resources of the service (staff numbers, buildings, budgets for training and equipment etc., skills depth and breadth) are sufficient to undertake the agreed business of the service.
Standard 2: Information booklets or leaflets are available describing the service and its relationship to other services.

Standard 3: A clear managerial and/or organisational structure exists between the agency and its parent organisation/purchaser.

Standard 4: Managers within the service are familiar with Purchaser, Regional, national and professional guidelines and statutory policies.

Standard 5: Managers within the service are familiar with local NHS and local authority planning processes, cycles and organisational and management structures.

Standard 6: Managers within the service have a clear knowledge of the population it serves and the needs of this population.

Monitoring systems: Checklist (yes/no) of whether or not these are in place compared with standards agreed by comparable service providers. One-off surveys might be conducted of staff.

**B PROCESS** (i.e. the activities that take place to produce the desired outcome)

**B1 Standards at the level of the worker with patient/user interface.**

Standard 1: Up to date assessment procedures are used which are relevant to each user/patient and their needs
Standard 2: A clear preliminary formulation of intervention goals is agreed with each patient/user.

Standard 3: Intervention approaches for each patient/user reflect current literature and/or "expert opinion" on the effectiveness of that approach and its relevance to that person's presenting problem.

Standard 4: Written records of the agreed formulation of intervention goals are kept and the patient/user is given a copy.

Standard 5: In agreement with the patient/user, written feedback is provided to the original referrer as a minimum at the beginning and end of intervention.

Standard 6: Regular feedback, with the agreement of the patient/user, is given to other key people involved in his/her treatment and care.

Standard 7: Progress of intervention is regularly reviewed with each user/patient.

Standard 8: At the end of each episode of care, the user/patient's estimation of its value to them is sought.

B2 At the agency with worker interface.

Standard 1: A performance or work plan which specifies standards, priorities and objectives is agreed for each worker individually and reviewed at least annually.
Standard 2: Systematic procedures exist for monitoring work against agreed performance standards.

Standard 3: Annual appraisals of staff take place which include planning for continuing professional development.

Standard 4: The service provides for its staff opportunities for teaching and training of others.

Standard 5: Service managers are informed about how the quality of work of the service can be improved.

**B3 At the level of the agency's interface with its wider system.**

Standard 1: Procedures are in place for identifying the needs of the community for the agency's services.

Standard 2: Procedures are in place for modifying or developing the service in liaison with other managers and agencies.

Standard 3: Staff are deployed in relation to identified needs and local and nationally agreed priorities.

Standard 4: Written policies exist stating which clinical procedures and interventions are acceptable for use by the service, bearing in mind issues such as current values, ethnic and gender concerns, ethical codes, effectiveness and cost benefit.
Standard 5: Procedures are in place for participation in contracting processes, and for negotiating adequate and appropriate budgets.

Standard 6: An overview of training in the field of addictions for non-specialist staff is provided by the agency.

Monitoring systems might include a checklist for each patient/user (yes/no) that each standard has been carried out, surveys of other agencies, audit of the nature of the user/patient group, the fit between services provided and assessed population needs.

C OUTCOME (i.e. the changes in a user’s/patient’s current and future health/well being or social gain which are attributable to contact with the care organisation and system)

All services should ensure that staff monitor and audit the outcome of their interventions; they should use service specific systems to monitor and evaluate the effectiveness, efficacy and efficiency of the help they provide.

In most cases this will involve the routine use of standardised and objective assessment measures which can demonstrate changes in target areas of intervention.

These assessment measures may include recognised tools such as problem rating scales, questionnaires or measures developed by individual services appropriate to the needs of their user/patient groups.
Possible techniques include questionnaires, rating scales, structured interviews, observation, record-keeping and laboratory investigations.

Outcome evaluation should focus on identified and negotiated treatment goals, rather than standardised criteria of success. This entails an assessment of individual patient's/user's needs and a definition of the goals of intervention. It is against these objectives that outcome can be monitored.

The assessment of needs (and therefore the stated targets of intervention) will need to be multidimensional and may include, for example:

- physical health
- social functioning
- legal status
- level of substance use
- harm reduction
- psychological well-being

and other measures of health gain.

A quality service should record routinely and at least on an annual basis both the number of initial contacts and the number of assessments undertaken, and strive towards maximising the number of client contacts.

C1 Standards at the level of the worker with patient/user interface.

Standard 1: For each patient/user, a level of achievement is recorded against each agreed goal.
Standard 2: The patient's/user's level of satisfaction with the setting/intervention process/administrative process is identified.

Standard 3: Co-ordination of the complementary work of other services/staff involved with the individual has been carried out.

Standard 4: An analysis is carried out as to whether the same outcomes could have been achieved in a more efficient or effective way.

Standard 5: A system is in place for the routine follow-up of all patient's/user's

C2 At the agency with worker interface.

Standard 1: The services provided by its staff as a whole are measured against targets for the service (such as health gains, lowered consumption, reduced risk behaviours).

Standard 2: The quality of work of other staff, carers and relatives of users/patients is enhanced by the teaching and supervision provided by workers.

C3 At the level of the agency's interface with its wider system.

Standard 1: The value base and business of the service reflects local needs and service agreements.
Standard 2: The contracted and/or agreed range of services reduces the burden of work on other services as well as producing health and other gains for the patients/users.

Standard 3: Patients/users achieve their desired outcomes in the most effective and efficient manner.

Standard 4: Non-specialist staff who are working with problem drinkers or drug users are supported and/or supervised by the agency.

Standard 5: The importance and value of drug and alcohol service's contributions to services in general and their ability to meet the population's needs are made known to planners, managers and purchasers of services.

Monitoring systems might include sampling of patients'/users' notes, outcome evaluation studies of groups of patients/users, surveys of changes in behaviours in the general population, surveys of Accident and Emergency Departments and admissions to other health care services etc..

D  CONGRUENCE (i.e. the level of harmony that exists between the patient/user of the service and the worker providing that service; between the agency and the worker etc.)

D1  Standards at the level of the worker with patient/user interface.
Standard 1: Each member of staff checks out with each patient/user whether they share and accept the values on which their work is based (e.g. an
abstinence/harm reduction or harm limitation model, religious/medical/other model, legal or punitive control etc.).

Standard 2: All patients/users are given an explanation of the purpose of assessment and its usefulness. Any exceptions to this are discussed at a meeting of the full multidisciplinary team.

Standard 3: All patients/users take part in decision making about goals and choice of treatment methods.

Standard 4: All patients/users are given a clear communication of appropriate treatment options.

**D2 At the agency with worker interface.**

Standard 1: An explicit and public statement is available that describes the agency's business and values.

Standard 2: There is a clear description of the services provided and whom they are provided to (i.e. a service agreement or contract).

Standard 3: Priorities and objectives are stated.

Standard 4: The skills available are congruent with the services offered.

**D3 At the level of the agency's interface with its wider system.**

Standard 1: The services provided are congruent with those relating to other levels of the organisation, and with what is known about the needs and nature of the local population and potential service users.
Standard 2: The specific objectives of the service reflect nationally agreed and locally contracted objectives.

Standard 3: The interventions and approaches used are congruent both with nationally agreed practise and professional guidelines on good practice.

Monitoring systems: Where appropriate (1) a checklist (yes/no) is completed by the worker during an audit period (e.g. one week in every six months) for each patient/user (2) a survey of patients/users is conducted as to whether or not these occurred (3) a survey might be conducted of referrers to the service, more senior levels of management or feedback from purchasers obtained.

E QUALITY ASSURANCE PROCESSES (i.e. the systems that exist within a service for ensuring the continuing development of quality services, including monitoring and evaluation processes)

E1 Standards at the level of the worker with patient/user interface.

Standard 1: For all dimensions of work, clear, locally agreed and relevant standards exist.

Standard 2: Time is allocated formally for the regular monitoring of performance of staff against these standards.
Standard 3: Records are organised for each patient/user to allow retrospective analysis of a worker's success in meeting the standards for process and outcome elements.

Standard 4: A process is in place to check a worker's professional and technical competence and interpersonal style (e.g. peer review, clinical audit).

Standard 5: Systems are in place and used for obtaining information on the level of satisfaction with the service received, both from the patient's/user's perspective and that of the referrer's.

E2 At the agency with worker interface.

Standard 1: Time and resources are allocated within the agency for auditing services provided.

Standard 2: Training of staff is provided at a basic level in quality assurance and audit methods.

Standard 3: Procedures exist for monitoring whether time and other resource allocations are in line with agreed priorities and assessed needs.

Standard 4: Channels of communication exist within the service for feedback of audit and for implementing changes indicated by audit.

E3 At the level of the agency's interface with its wider system.

Standard 1: Opportunities exist for peer review and audit by outside services.
Standard 2: Research findings, new literature and outside "models of good practise" are used to influence the services provided.

Standard 3: The agency contributes to the quality assurance and audit procedures of other service providers.

Standard 4: An annual report is written which includes information on costs, volume and quality of services provided.

Monitoring may be by a checklist of statements, attendance records of staff at audit meetings, examples of change resulting from audit, audit reports from outside or written by the agency on other services.

10.0 GENERAL QUALITY FACTORS WHICH PURCHASERS SHOULD EXPECT ALL PROVIDERS IN THE STATUTORY, NON-STATUTORY AND VOLUNTARY SECTORS TO FOLLOW

It is probable that most purchasers of services will assume that the following expectations will be carried out as a matter of course. It is probably worthwhile, however, to specify as a minimum requirement that the provider service has read and agreed with these expectations as there have in the past been isolated examples of abuse of service users and staff.

10.1 Patient/Client Issues
- Users of a service, admitted voluntarily, should not be detained against their will.
• Users of a service should not be the subject of research without their fully informed consent.
• Patients/Users of services should be informed of any established rules relating to his/her behaviour whilst attending the service.
• If there are any charges made direct to the patient/client for the service, the patient/user of the service must be told of these charges and the total cost to him/her of the treatment programme before admission.
• Users of the service have access to their personal file within guidelines established by the managing body.
• Users of the service should be free from any form of abuse including verbal and physical abuse, and they should not be subject to internal body orifice searches without their fully informed consent.
• Users of the service should not be subject to medical procedures, including investigative procedures, without their fully informed consent.
• Users of a residential service should be able to communicate by mail and telephone.

10.2 Staff Issues
• Equal opportunities in employment are developed so that staff are recruited fairly and impartially.
• An induction and initial training programme is provided for new staff.
• Each member of staff has a job description
• Regular and frequent supervision of staff is provided to assist in reviewing the work of the staff member and in identifying additional training.
• The service should ensure that sufficient staff are available to provide an adequate staff/client ratio; optimum caseloads should be determined locally.
10.3 Service Issues

- The service should have a commitment to networking and inter-agency liaison.
- Must have clear and measurable quality standards.
- Must carry out regular monitoring, evaluation and review.
- Included in this monitoring, the service should provide figures to establish output such as levels of attendance, bed occupancy, enquiries and distress calls answered etc. as appropriate to that service.
- The service should have an operational policy which includes confidentiality, equal opportunities, and maintaining standards. The policy on confidentiality must be realistic and clearly articulated to both staff and clients so that they know its scope and limits.
- The service should have a business plan which describes the current services and details of any planned development.
- Clear grievance and disciplinary arrangements should be provided so that users and staff of the service may have any complaints satisfactorily dealt with.
- All services should ensure that the accommodation they provide is adequate for the service which they are offering; that proper and appropriate hygiene and safety standards are applied; and that they develop access to resources which allow clients to achieve their treatment goals. Different types of service will need different arrangements.

10.4 Additional requirements of services purchased from the non-statutory and voluntary sector

The interests of the clients will be best served by organisations which follow the requirements below. Such requirements already exist for statutory organisations.
• A managing body is in place with a formal constitution.
• The membership of the managing body should include people with a range of relevant experience to allow it to enhance the work and the development of the service, monitor its finances and provide effective and efficient management.
• The managing body should meet regularly and should formally review the work of the service.
• Income and expenditure should be monitored regularly through the year.
• The managing body should have clear guidelines for approving expenditure.
• Appropriate insurance, which may be required by law, should be obtained.
• The accounts of the organisation should be independently audited annually.
• It complies with current employment, anti discrimination and financial legislation.

11.0 REFERENCES

Department of Health (1994) Across the divide - building community partnerships to tackle drug misuse"


3.2 Examples of marketing materials

3.2.1

SOUTH THAMES REGIONAL HEALTH AUTHORITY

REGIONAL DRUG AND ALCOHOL TEAM

Prospectus 1995-96

Centre for Addiction Studies
St George's Hospital Medical School
London SW17 0RE
1.0 Posts within the Regional Drug and Alcohol Team

2.0 Introduction

3.0 Historical development

4.0 The development of the RDAT's roles

4.1 Acting for the RHA
4.2 Developing an overview of activity and need
4.3 Quality and standards
4.4 Research
4.5 Strategy development
4.6 Information gathering and exchange
4.7 Health of the Nation
4.8 Special projects
4.9 Purchaser development
4.10 Education
4.11 The Substance Use Database

5.0 Critical Mass of the RDAT

6.0 Summary of recent RDAT work

7.0 Draft work plan 1995-96

8.0 New roles in a new NHS
The following is a brief overview of the document. The Prospectus describes the Regional Drug and Alcohol Team (RDAT) as a highly specialist team of experts in the field of Addictive Behaviour, based within the Centre for Addiction Studies at St George’s Hospital Medical School. This is a centre of excellence for teaching, research and clinical provision of a wide range of services for patients with addictive behaviours. The Centre for Addiction Studies contains one of the country’s largest and most comprehensive academic and clinical services, with an international reputation for its courses, its service-related research, and its policy and strategy development work.

The Prospectus outlines the roles and responsibilities of the RDAT; it gives an overview of the historical development of RDAT, its staffing and the services it provides. Because of its region-wide perspective, the team is able to provide specialist advice to purchasers and commissioners of services. This includes advice on the development of local services throughout the region, both statutory and non statutory and guidance on funding arrangements, needs assessment, audit and quality assurance. It provides expert advice, support and training for provider services. In addition the team has a number of statutory responsibilities within the region. It is multidisciplinary and has adopted a broad based approach which covers both drug and alcohol issues.

The team’s role and activities have developed significantly since the late 1980’s, influenced mainly by demand and the changing nature of the health service. It no longer provides a direct treatment service, and the emphasis of its work has shifted to needs assessment, quality assurance and purchaser development.

The Team will continue developing models for the purchasing of specialist drug and alcohol services, for example for:
- performance review
- needs assessment
- service specifications
- strategic purchasing
- standard setting, clinical audit and quality assurance
- specific guidance on clinical issues.

The Teams' development of models of good practice in the above areas includes methods for the evaluation and monitoring of provider services as part of the performance review role. The team facilitates the exchange of information on examples of good practice and service developments around the region, nationally and internationally. This sharing of information is becoming even more significant as the issues surrounding quality become more important. Quality and standard-setting for substance misuse services is another complex area because of the variety of problems experienced by substance misusers, the multi-faceted and sometimes conflicting goals of treatment and the variety of agencies that may be involved with any one client. This is an evolving subject; the RDAT's links with an academic institution have helped, but this work is still in its developmental phase. All purchasers and providers, statutory and non-statutory, are demanding more assistance in this field. The team has developed guidelines for providers and purchasers in this area. The guidelines are informed in part by the clinical expertise within the Team, its work in assessing and advising on the management of difficult clients, as well as the more structured, organisational contact team members have with District Substance Misuse Advisory...
Committees, Health Authorities, other specialists within the region and providers.

The team also advises on developing outcome measures for providers and purchasers.

The Team has developed an agreed programme of research on substance misuse prevention, treatment, epidemiology, audit methodology, aetiology, and early detection and intervention, as well as public health, personal health and social problems associated with substance misuse. It has also developed studies of the complex social variables involved in substance misuse in support of the Regional strategies. Individual research projects are subject to the Medical School's standard procedures and overheads charged, as for other internal units and departments.

The team provides assistance region-wide on research and has a database of all research activities in the region.

The team assists with strategy development in Health Authorities as well as the region-wide strategies for drug and alcohol misuse. These strategies/frameworks are multi-agency and are aimed at developing appropriate local strategies as well as assisting in the development of healthy alliances. The team has also helped in the development of a region-wide, multi-agency substance misuse prevention strategy.

The Team, with its regional, national and international links, aids information exchange and promotes examples of good practice, and has developed a variety of vehicles for information dissemination. Its co-ordinating function for needs assessment, including its responsibility for the South West Thames Substance Use Database, allows the Team to identify developing patterns and trends which could be overlooked by more local monitoring. The team
will continue to utilise a variety of mechanisms, such as reviewing services, discussions with purchasers, etc. to develop a network of information collection, analysis and dissemination.

The team uses a variety of mechanisms for information dissemination ranging from informal contact to:

- publishing an annual report
- a quarterly Substance Use Bulletin which started in 1992
- the periodic publication of a service directory
- the Substance Use Database and associated reports
- circulation of training and education information
- the quarterly drug and alcohol training forums

In addition the Team facilitates the Quality Assurance and Audit Forum which meets bi-monthly, the Regionwide Substance Misuse Advisory Group, the quarterly Drug and Alcohol Workers Forum and the Annual Consultative Day for District Substance Misuse Advisory Committees and Purchasers. The Team will assist in the formation of information exchange between the new Drug Action Teams proposed in the Green Paper "Tackling Drugs Together".

The team facilitates Health of the Nation work by raising awareness of the contribution that substance misuse services can make to attaining the targets through treatment, advice and information and through health education and health promotion work. Substance misuse services have always been active at secondary and tertiary levels of health promotion, and are increasingly recognising the contribution, through collaborative work with other services, that can be made in the primary prevention area.

The Team assists in the setting of locally appropriate targets, linking elements related to substance misuse in all key areas.
Needs Assessment for Alcohol and Drug Services

Accurate and objective needs assessment is essential for the delivery of high quality preventative and treatment services to problem drinkers, drug misusers, and those affected by someone else's substance misuse.

And the increased demand for accountability at all levels in services to the public, together with responding to the challenges of the many recent changes in the NHS, Social Services and the way services are being changed to meet the needs of the community, make it more important than ever before that public money is used to purchase the best possible services available.

The Centre for Addiction Studies is able to offer needs assessment consultancy to purchasers and providers of services and those responsible for the development of services.

The Centre for Addiction Studies' special unit for needs assessment provides:

- reviews of current services
- quantitative evaluation of the nature and extent of substance misuse
- recommendations on service planning, training and development
- assessments of the likely ability of patient's to benefit from different types of services
- evaluation of outcome and consultancy on methods for measuring outcomes
- quality assurance guidance and methods for auditing standards
Who we are

The Centre for Addiction Studies is one of the largest and foremost centres of expertise in treatment, research, teaching and consultancy in the field of addictive behaviour. It provides specialist treatment to a population in excess of 3.5 million, it is the European co-ordinating centre for research in 14 countries across Europe, and there is a long history of overseas development and consultancy contracts to other countries as well as work for the WHO, the United Nations and the European Union.

Its staff, which number in excess of 80, provide numerous full and part time courses both at undergraduate and postgraduate level. The well established courses for General Practitioners and for Prison Medical Officers are unique in the country, and its multidisciplinary courses have recently been extended to include a two year part-time or one year full-time MSc in Addictive Behaviour approved by the University of London.

The Centre's special unit for needs assessment has for several years been contracted to conduct reviews of services both in the United Kingdom and abroad. Its consultancy work includes national reviews and needs assessment as well as local advice for purchasers and providers of services.

The unit is staffed by experts in the fields of clinical practice, epidemiology, policy development and planning, with leading professional staff from social work, non-statutory and voluntary agencies, clinical psychology, psychiatry, nursing, and public health, with access to other medical, health, social and criminal justice consultants as required.

The Centre for Addiction Studies is a non-profit making organisation and is a part of St. George's Hospital Medical School, London. The fees charged are for reimbursement of the staff costs and expenses with an overhead charged for the Centre's administration and other running costs.

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The increasing priority given to alcohol and drug services is highlighted in the Health of the Nation targets and the Government's strategy document on drug misuse "Tackling Drugs Together". These developments, including the setting up of Drug Action Teams throughout England and Wales, have provided an exciting challenge for purchasers and providers of services to develop high quality preventative and treatment services to problem drinkers, drug misusers, and those affected by someone else's substance misuse.

The Centre for Mental Health Services Development is able to offer specialist training and consultancy to Drug Action Teams, purchasers and providers of services and those responsible for the development of substance misuse services.

The Specialist Team for Drug and Alcohol Services Development provides:

- a process to assist Drug Action Teams achieve the targets described in "Tackling Drugs Together"
- a process to assist Health Authorities, GP Fundholders, Trust and Local Authorities, together with users and carers, in the design of a strategic plan for community-based services, in partnership, where appropriate, with independent service providers.
- ideas and examples of established and emerging models of practice in order to inform local decision making

- assistance in specifying the key tasks in implementation of community based services by local purchasers and providers, and identifying key issues that have been barriers to progress, further analysing and exploring resolutions through a programme of research and educational events

- reviews of current alcohol and drug services

- methods for the evaluation of the nature and extent of substance misuse

- recommendations on service planning, training and development

- assessments of the likely ability of patient's to benefit from different types of services

- evaluation of outcome and consultancy on methods for measuring outcomes

- quality assurance guidance and methods for auditing standards

**Who we are**

The Centre for Mental Health Services Development (CMHSD) is a unique independent centre which works for the advancement of community care for a range of service user groups including those with problems associated with drug and alcohol misuse. Located within the academic context of the Division of Life Sciences at Kings College London, CMHSD has been carrying out developmental work since its launch by the Minister of Health in April 1991.

Its mission is simply stated:

- To help authorities with the planning and implementation of comprehensive, locally based services by providing high quality consultancy assistance.

- To contribute to the development of national policy both from a base of experience in the development of local services and from a research and policy analysis programme on mental health management and development.

The Centre's Specialist Team for Drug and Alcohol Services Development has a Consultant Team that brings together clinical innovators, experienced providers and purchaser managers, and leaders in the service's user movement to work collaboratively with clients. Its consultants are experienced in conducting reviews and needs assessments for drug and alcohol services.
both in the U.K. and abroad, as well as providing training and development expertise and more recently facilitating implementation of the recommendations of "Tackling Drugs Together" with Drug Action Teams.

The Team's Consultants are experts in the fields of service user involvement, clinical practice, epidemiology, policy development and planning, with leading professional staff from social work, non-statutory and voluntary agencies, clinical psychology, primary health care, psychiatry, nursing, and public health, with access to other medical, health, social and criminal justice consultants as required.

The Centre for Mental Health Services Development is a non-profit making organisation and is a part of Kings College, London. The fees charged are for reimbursement of the staff costs and expenses with an overhead charged for the Centre's administration and other running costs.

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3.3 Examples of Consultancy Reviews

3.3.1

TIME FOR CHANGE

A report on the further development of services for problem alcohol and drug misusers in the Maltese Islands

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The Centre for Addiction Studies
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Foreword

This report is based on work begun in 1980 with the visit of Professor A.H. Ghodse, St. George's Hospital Medical School, to Malta at the request of the Maltese Government. At that time there were few specialist services in Malta to help those with problems related to drug or alcohol misuse. Following recommendations made then and from subsequent visits in 1987 and 1990, the services have expanded; there is a reported need, however, that "treatment and rehabilitation services provided by the state need immediate updating and change in order to strengthen the present service, while other desired services, still missing, need to be introduced" (Report on a three year plan, The Planning Team for Drug and Alcohol Dependence Services, 1993).

In August 1994 a third review by St. George's Hospital Medical School was commissioned by The Planning Team in order to help evaluate the organisation of services and to make recommendations on how services could be further developed in order to achieve a goal of providing comprehensive and high quality services to these patient groups. The present report describes the findings and recommendations from that review, in consultation with the main team in England at the Centre for Addiction Studies (here after referred to as "The Centre"), headed by Professor A.H. Ghodse, Professor of the Psychiatry of Addictive Behaviour. The visiting team consisted of Mr. P. Davis, Consultant Clinical Psychologist and Specialist in Addictive Behaviour, and Dr. S. Rawaf, Director of Public Health, Honorary Senior Lecturer, and Chairman of the Substance Misuse Advisory Committee for Merton and Sutton Health Authority.

Before and during the visit numerous documents and reports were made available to the Team. A review and briefing meetings in London were held to examine the objectives of the visit and to evaluate the methods employed. All
of these sources of information, together with recommendations from the 1980, 1987 and 1990 visits, were used as a basis to the present report; this report should therefore be seen as a development from previous work and should be read in the context of these and not in isolation. In particular, the report makes reference to other documents where appropriate rather than duplicating information.

1.0 EXECUTIVE STATEMENT

1.1 Services for problem drug and alcohol misusers in the Maltese Islands show many positive elements. The staff of the treatment centres and helping organisations have done much to develop their services in this field, despite the apparent shortage of trained staff, sometimes poor working conditions and poor support services. There is a clear commitment to see positive changes introduced, and a willingness to learn.

1.2 There is, however, an apparent fragmentation of services with no evidence of any co-ordination of planning or direction as to future development. The services do not appear to be working in a complementary fashion. This lack of co-ordination is particularly problematic in this field because of the heterogeneity of needs of these various client and patient groups, and the recognised need for multi-agency and multi-disciplinary work, as well as the influence on and impact from a wide spectrum of Governmental Departments, national organisations such as may be involved in drug control or education; and the considerable importance in the major role of the Church in reducing the harm caused to the individual, his or her family, and the community at large.

1.3 This lack of co-ordination has lead to services being developed in a well intentioned but ad hoc manner. As is the case in most Nations, services have evolved through the influence of individual personalities and interests, which
has meant that some models and types of services have developed but with large gaps in services where there has been no "champion". There has been no attempt to base services on assessments of needs; rather they have been based on assumptions or a misunderstanding of alternative methods and approaches.

1.4 What planning and co-ordination that has occurred has itself been over influenced by the providers of existing services.

1.5 The following recommendations from the Centre for Addiction Studies are proposed to help remedy these problems and to help Malta make a move forward towards providing a higher quality of service to these client groups, their families and as a result to the general population.

• The creation, as already planned, of an Agency for Drug and Alcohol Services might be a positive step at this stage for the purpose of co-ordination of the existing services and for facilitating future developments. The Agency should be formed as a matter of urgency. It should, however, have a role which is clearly distinct from that of the providers of services, and it should not itself attempt to fulfill any management responsibilities for the therapy or prevention services. Rather, its roles will be in the development of a strategic approach, the identification of the needs of the population, establishing service specifications (i.e. agreeing with the providers what their work, responsibilities and budget will be), monitoring of these agreements, managing the process of change, identifying a programme of research and development, and developing a strategy for training. It will be the "umbrella" organisation in Malta, able to take an overall and objective view of services. It will allocate budgets through its agreements with the providers, but the providers will maintain responsibility for their own management. The Agency will negotiate and monitor a work programme with all of the services, but will not manage the
process of service delivery, simply the outcome of services with regards the contracts.

- The Agency should remain accountable to a higher interdepartmental authority which acts to set national policy. This policy making authority should continue to give a framework for the work of the Agency and act to monitor the Agency's work.

- The Agency should include a new unit to develop a strategy for prevention.

- The Department of Psychiatry should be represented within the new Agency.

- The providers of services should be reorganised to fulfill the following principles:

  (1) Community based (but with access to residential and hospital services)

  (2) Multidisciplinary in staff composition

  (3) Multiagency collaboration and liaison throughout all the services

  (4) Flexible in approach, offering a variety of interventions to meet the diverse needs of individuals and the general public

  (5) Working within agreed quality standards, service specifications and contracts where funded by the Agency.

- Specifically, it is proposed that in the short term (within the next year) the following changes can be introduced:
(1) A new programme to be provided by the inpatient unit at St. Luke's General Hospital which will offer an improved physical environment and therapeutic programme.

(2) the continuance of the out-patient drug dependency clinic at St. Luke's but with multi-disciplinary input and written operational policies.

(3) in-patient alcohol detoxification beds should be identified. Consideration should be given to this being either at St. Luke's or possibly within Santa Maria but on a separate ward from the drug detoxification ward. These beds should not be at Mount Carmel Hospital.

(4) the resources currently given to the Alcohol Rehabilitation Unit at Mount Carmel Hospital should be transferred to form the core of a multi-disciplinary Community Drug and Alcohol Team. There are advantages in basing this team at Santa Maria but providing services from a variety of accessible sites.

(5) the identification of one or more clinicians to take clinical responsibility within the statutory drugs and alcohol services.

- in the medium term (within the next two years) the Community Drug and Alcohol Team will become the main statutory provider of treatment services but with no reduction in other services, working as part of the inpatient and outpatient services. It is proposed that Santa Maria should become a "National Addiction Centre" for Malta providing a base for treatment, research and training. Provision for inpatient longer term rehabilitation of detoxified problem drinkers (currently provided at Mount Carmel Hospital) might also be included at Santa Maria.
• Throughout all of the services and at all levels there is an urgent need for training in order to effect the required changes. Training should proceed at three levels:

(1) a series of workshops provided by experts from outside Malta.

(2) secondment of selected key staff to be trained at a training institute outside of Malta; these key staff will themselves then become responsible for training within Malta.

(3) Visiting consultants to be seconded from abroad to supervise and provide continuing support and training to staff as follow up to the other training.

A formal educational link with an academic institution, either from England, Italy or other European Centre, would be helpful.

• Santa Maria in the longer term (over two years) to be promoted as a centre of excellence for training, attracting students from countries further afield.

• Voluntary and non-governmental services currently providing services need to be strengthened and given greater financial security. This strengthening would be helped by entering into agreements for the provision of services negotiated with the new Agency. Clear service specifications need to be drawn up with outcome indicators and a review of performance conducted by the Agency.

• a programme for an epidemiologically-based needs assessment should be commissioned by the Agency.
The introduction of these organisational and service changes will undoubtedly require active management of change in order to make them a success. This management of the process of change should include consultation and the agreement of all of the "players". The need to utilise all of the goodwill and existing expertise should be recognised.

2.0 INTRODUCTION

2.1 This report is a continuation of work begun in 1980 with the visit of Professor A.H. Ghodse to Malta. At that time there was little awareness of any drug or alcohol misuse on the island, and few services existed to meet what little demand there was. During the 1980's this awareness increased to the extent that by 1987 an urgent need had been identified for specialist services in drugs but to a less extent in the alcohol field.

2.2 As a result of subsequent reviews (in 1987 and 1990) by Professor Ghodse a number of recommendations were made and since then some but by no means all of these have been taken up. Specifically, in the non-statutory sector the Caritas Service has further developed into a major provider of prevention, treatment and rehabilitation for problem drug users; and in the statutory sector a detoxification unit was established in the General Hospital with a rehabilitation unit at St. Mary's Hospital, again for problem drug users. A nine bedded inpatient rehabilitation unit for problem drinkers which also provides day and outpatient therapy was developed at a large psychiatric institution (Mount Carmel Hospital). In addition a number of smaller initiatives were developed both in the statutory and non-statutory sector.
2.3 In 1993 concern was expressed at government level that services were not working as effectively as they should. A working group was set up to evaluate treatment services in the drug and alcohol sector, and the report from this group identified numerous problems in the organisation and running of these services. The Report concluded that services in the statutory sector needed updating and further developing in order to fill the gaps in services provided. The Report went on to conclude that "in every sector and every structure, professional standards are lacking. This deficiency appears to be primarily due to a lack of organisation and the foundation of services around charismatic personalities. A lack of continuous, in-depth training was also clear". (Evaluation Report, August 1993, Paragraph 3.2.4.3). Similar experiences to this have of course occurred in many other countries.

2.4 The Centre for Addiction Studies at St. George's Hospital Medical School was invited to contribute to proposals for how improvements to services might be made, and in order to provide this consultancy a visiting team from the Centre was invited to Malta from the 1st. to the 8th. of August 1994.

2.5 The Centre used several methods of working:
- using as a framework the document "Quality Assurance in Substance Misuse Services" which was being developed by Paul Davis.
- meetings in London between the Centre's staff, including a two day visit to the centre by Mr. J. Gerada from Malta.
- reviewing unpublished reports and documents, as well as published literature on this subject.
- meeting the planning team in Malta on a daily basis in order to "feedback" on progress, seek clarification when necessary and to ensure "joint ownership" of the constancy work and findings.
- meeting the majority of service providers and those indirectly involved where possible. A brief review of each service was conducted by interviewing staff (and where possible some of the patients/clients). At
these reviews the same format was applied vis.(1) a description of each service (2) identification by staff of perceived gaps/deficiencies/problems (3) identification by staff of plans and their "vision" for future development.

2.6 The Centre relied heavily on existing reports and recommendations both from previous visits and those originating in Malta. It is therefore important to read the present report in the context of these others, and not in isolation.

2.7 The Centre's aims and objective were as follows:

- to identify areas of strength and examples of good practice in existing services
- to identify areas of deficiency
- to make recommendations on the ways services and their organisation could be improved
- to give a time scale to the introduction of these changes
- to modify successful management and service delivery approaches used in England with respect to differences found in the Maltese Islands.

2.8 The Centre was influenced by many of the changes in thinking and approach found to be particularly successful in the National Health Service of the United Kingdom. These included the "split" between the "providers" of services (that is those responsible for the delivery of patient care) and the "purchasers" of these services. Following on from this, it is necessary for service providers to be accountable for their service to the purchaser, and not themselves. Service specifications (i.e. a description of the service to be bought with quality of service indicators as well as quantitative amounts or levels of the service clearly identified) follow this change, as does the introduction of monitoring and evaluation conducted by the purchaser as opposed to the provider. There is a "philosophy" of contracting for services which is fundamentally different from the old system - targets and outcomes
which are quantifiable are required with performance reviews conducted outside the service provider.

2.9 It is recognised that this model to be entirely successful requires a change throughout the entire Maltese system, and that any changes will need to be introduced gradually over a period of years rather than months, but at the same time the Centre believes that these principles will improve the likelihood of effecting the necessary changes.

2.10 The limitations of this report need to be understood. Apart from establishing within the new agency a Prevention Unit, the Centre has not attempted to include recommendations on the types of responses necessary for the prevention of substance misuse. Prevention is arguably a higher priority than treatment and rehabilitation. Nor does this report focus on aspects of public health and the public at large, supply reduction or legal/governmental aspects of control and influence on consumption.

3.0 THE NEED FOR NEEDS ASSESSMENT

3.1 In order for services to be properly planned and commissioned to do the necessary work it is essential that the nature and extent of the problems are known, that the types of responses are adequately understood and evaluated, that the client or patient groups are able to benefit from these interventions, and that the community at large places a priority on the provision of these services over other competing demands.

3.2 By conducting a scientifically based needs assessment the purchaser of services can be better informed as to the types and levels of services
required rather than being influenced solely by subjective or biased opinion as to need. In addition, trends can be identified which allows for better planning of services.

3.3 The Centre noted that there have been some attempts at needs assessment but that these have been largely provider lead and focusing on areas of interest to that organisation, or alternatively have been restricted because of a poor quality of the data available.

3.4 A comprehensive needs assessment would include the following:

1. An epidemiologically-based needs assessment

   - a definition of the problem under consideration (drug/alcohol misuse)
   - an outline of the major sub-categories (such as levels of problems/dependency).
   - an estimate of the range of incidence and prevalence rates.
   - a summary of the services available - both in terms of types of care and the care setting.
   - a summary of the known effectiveness and cost-effectiveness of the services.
   - a derivation of a range of models of care based on the incidence/prevalence rates together with what is known of the effectiveness and cost-effectiveness of services.
   - a view on outcome measures, targets, information requirements, and research priorities.

2. A comparison of the Maltese services with those of other nations
3. An analysis of the needs as expressed by all of those involved in these services

Those involved will include policy makers and those responsible at Governmental level for assessing priorities and allocating budgets, advisors and experts in the field, G.P.'s, clinical staff, representatives of users of the services, other organisations directly or indirectly involved.

This last point needs also to include what is known as "consumer acceptance and population approval", which recognises that although a need may be present it might not be appropriate or acceptable within a given culture or population.

3.5 Various elements of these approaches have to some extent already been addressed in the work of the Planning Team, and within the present report, but the gaps in the needs assessment procedure should be filled.

3.6 An urgent priority is in improving the epidemiological data available. At present there is no agreed data collection system even at the level of agency activity. This could be easily remedied by the introduction of a common data set agreed by all of the agencies seeing patients/clients, something which was welcomed by the agencies and which could potentially be of great benefit to them all. A database modeled on the Regional Substance Use Database used in England and Wales would be appropriate with some additions and modifications (for example the Substance Use Database developed and used by South West Thames Region, given as an Appendix).
3.7 A second and again relatively easily achieved epidemiological study would be the collation and analysis of data from existing agencies (a multi-agency enumeration) which has already been attempted but which requires the help of an epidemiologist to complete satisfactorily. It is recommended that an epidemiologist from Public Health in Malta be commissioned to conduct this project. This would be different from the procedure described in 3.6 above in that data would be collected from all possible sources (including police, general hospital, the courts, social services etc.) and not just those agencies seeing patients for treatment of their substance misuse.

3.8 A medium term target for improving the epidemiological information would include an attempt to estimate the size and needs of the "hidden" populations of problem drinkers and drug users, i.e. those not known to any of the services or agencies used in the multi-agency enumeration study described above. The methods employed for this could include variants and combinations of "capture-recapture" and "snowball" or "nomination" techniques, which may be particularly appropriate for use in Malta because of its advantages firstly of being an island, secondly its size, and thirdly because of its culture (where people tend more to know of one another than in Western/Northern European countries.

3.9 A second medium term target would be the development of tools for the assessment of the needs at the individual client/patient level, as well as the needs of the non-users or non-problem drinkers who are affected by someone else's drug use/drinking. Such tools would be used for identifying responses or the development of services, but would also form part of the outcome evaluation component of needs assessment.

3.10 Whilst not wishing to pre-empt the findings of the fuller needs assessment outlined above, it is likely in the opinion of the Centre that the
range and types of services to match these needs will include the following core principles:

- community based (but with access to residential and hospital services).
- multi-disciplinary in approach.
- multi-agency collaboration/liaison.
- flexible in approaches, offering a variety of approaches to meet the needs of individuals and the needs of the family and the community at large.
- although the impact of AIDS has been to move drug services towards harm reduction services, this should be seen within the context of a movement towards abstinence as the eventual aim, i.e. harm reduction is an interim stage within an overall treatment programme.

- adopt dimensions of quality which can be audited and which are designed to ensure that the services are
  - accessible
  - available
  - appropriate
  - equitable
  - effective
  - cost-effective

3.11 The model for achieving the desired mixture and range of services will need to be "multi-dimensional" with each dimension representing a continuum.

The suggested dimensions are:
The setting-

Residential...............Non-residential

The Organisation

Governmental...............N.G.O.

The patients/clients

Substance specific...............Combined
  Age specific...............All ages

The primary goals

Abstinence based...............Harm reduction

Level of substance use

  Experimental / Recreational...............Dependent

Level of intervention

  Secondary prevention...............Tertiary prevention

  Engagement / Early intervention services...............Stopping / staying stopped
3.12 These dimensions when put together provide a matrix for a comprehensive range of services onto which existing services can be placed and gaps identified.

4.0 CURRENT SERVICES AVAILABLE AND SUGGESTIONS FOR CHANGE

4.1 This section describes the Centre's evaluation of those services visited in August 1994.


It is advantageous for addiction services to be based at least in part within a general hospital. These advantages include:

- better liaison with other hospital departments which will be involved in the treatment of drug and alcohol patients, such as obstetrics, general psychiatry, child health, general medicine, genito-urinary medicine etc.

- an increased status for the substance misuse services, as well as other advantages for the staff of being part of a larger organisation.

- increased acceptability by the patients - the general hospital provides a less stigmatised and more anonymous setting in which to receive treatment.
1(a) **In-patient detoxification**

Four beds for detoxification (predominantly from opiates) are available. In practice these are male beds (although the original plan allowed for either, but not both, sexes to be treated). It was reported that a waiting time of up to six months exists. Assessments are conducted by a doctor and nurse.

The physical environment is totally inappropriate in that the ward is poorly furnished and lacks basic comforts; it does not meet the minimum standards necessary to provide a therapeutic environment. There is no privacy for patients and little opportunity for recreational or diversional pursuits.

The majority of patients who remain with their treatment are then transferred to Unit A at Santa Maria Hospital where their detoxification is continued. It was reported that there is no rationale for when transfer is made other than bed availability at Santa Maria. Patients travel daily from Santa Maria to St. Luke's to receive their methadone whilst completing their detoxification, which may take a further month.

1(b) **Out-patient detoxification for men and women**

Methadone is dispensed daily on a reducing basis always with an aim of detoxification. Assessment is by a doctor and nurse. Self-referrals are accepted, as are G.P. and police/court referrals. There are no written policies but in general a maximum daily dose of 35 ml's. of methadone mixture is given, reducing by 2 ml's every two days. Occasionally dihydrocodeine is used in place of methadone.

On first contact with the clinic patients are given a physical examination and a drug history is taken. A week later after toxicology results are known the methadone detoxification is started. Patients attend daily but only to receive
methadone; there is little opportunity for counseling or other therapies. They are seen weekly for an assessment by a doctor.

1(c) Both the in- and out-patient services suffer from the poor physical environment, low staff morale, low retention rate and high turnover of staff, lack of staff training, no career development prospects because the service is not part of a larger organisation, a lack of clarity, no uniformity and no consistency of procedures. The staff do not receive specialised training, and are not part of any rotation scheme.

The clinics cater predominantly for opiate and poly drug users. The outpatient clinic sees 90 to 100 people daily for dispensing of methadone and with a staff of five full time nurses and three part time doctors it is clear that little is offered to the patients other than the methadone. Social workers, clinical psychologists, and counsellors who have worked in the unit in the past have stayed for only short periods.

The in patient beds are for men only, while the out patient unit is for both sexes. There is no written policy for the management of pregnant users, but there was reported to be good liaison with the Department of Obstetrics and Gynaecology in the general hospital.

2 Santa Maria Hospital

This hospital consists of two ward areas, modeled on The Regional Inpatient Treatment and Research Unit in London. At Santa Maria there is Unit A which is an eight-bedded ward for men who are still undergoing a detoxification programme (predominantly for opiate withdrawal); and Unit B which is a twenty-bedded ward for men who have completed detoxification.
Both Units suffer from a lack of formal or written policies on the purpose, goals or procedures to be followed; the "why's and how's" of the therapeutic content need to be specified.

The physical environment was, in marked contrast with St. Luke's Hospital, pleasant and provided a therapeutic environment. Despite under staffing (only four full time nurses and four doctors for both Units), there appeared a good level of staff morale. There is a noticeable absence of disciplines other than medical and nursing staff. Training of staff was identified as a high priority.

3 Caritas

This non-governmental organisation provides a range of services from outreach, early intervention and prevention through to long term residential rehabilitation. The programmes offered are well documented and staff (17 full time and 2 part time) are trained in the therapies and programmes used. Three settings are used for different stages of the overall programme, with a total capacity of 100 residents. Outside professional staff (between 15 and 20 ) are used on a consultancy basis as and when necessary. Outcome is evaluated by an agency commissioned by Caritas.

The main problem encountered by Caritas is in its lack of guaranteed longer term funding.

Although this organisation has much to commend it, there is a need to recognise that the therapies and approaches offered are based on one model of addiction prevention and treatment (described as the "DATA" model adapted to the Maltese culture). Such an approach ignores alternatives which may be more appropriate to the needs of many people with a drug or alcohol problem.
In addition there seemed to be little joint working or co-operation with other treatment services.

Caritas provides one important element of the necessary services and as such should be contracted to provide these services by the proposed agency, with service specifications and outcomes agreed and monitored by the Agency. This contractual arrangement would provide greater financial security for Caritas and help to maintain its independence.

4 OASI

This non-governmental organisation on Gozo bases its programme on the Minnesota Method and is in the process of expanding its premises and range of services. Its plans cover the full range of services for addiction problems including preventative work with young people, inpatient detoxification, residential rehabilitation (for 24 people), and day care, all within the framework of a Minnesota 12-step approach.

Like Caritas, this is an excellent organisation which is well run, the staff are trained and supported in their work and the attitudes of staff and the physical setting make for a potent therapeutic milieu. There seemed to be good liaison with the statutory services offered on Gozo. It needs to be recognised, however, that it provides one of many necessary elements of a service and that it would not be in the best interests of the patients to be so restricted for choice of services.

Again it is important that a contract be established in order to specify what is required from Oasi so that financial security is provided for Oasi while at the same time allowing for complementary services also to be developed on Gozo.
5 Mount Carmel Hospital - the Alcohol Rehabilitation Unit

This is a nine bedded post-detoxification unit which in addition provides outpatient treatment for between 10 and 30 people per day. Referrals are received mainly via the four Consultant Psychiatrists in general adult mental health, although there is provision for G.P. and social services referrals as well as self-referral.

The unit was started in 1985 with a multi-disciplinary team consisting of a psychiatrist, clinical psychologist, social workers and nurses. The psychiatric input in recent years has been lost, but the remainder of the team has continued. At one time the unit offered sessions in settings outside the hospital, but because of problems in obtaining suitable group therapy rooms all sessions are now within the hospital.

The unit operates a "user friendly" therapeutic programme which is flexible and individually tailored to meet the needs of each patient. The staff are trained and supervised in the diverse therapeutic approaches offered, and the staff appeared well motivated with good morale. The therapy approaches taken by staff are to be commended as a model for other units. The Team functions as a team, and its members are keen not to see their model upset by what they consider "a disease or medical model" which they fear would be the consequence of involving psychiatry more in the Unit.

Patients requiring detoxification are admitted under a Consultant Psychiatrist into general acute psychiatry beds either at St. Luke's or Mount Carmel. There seemed to be little communication between the Unit and the Consultant Psychiatrists. The relationship was noticeably one of mutual suspicion with little understanding by either of each other's role. A referral is made to a psychiatrist in the case of detoxification or where the Team identified a psychiatric need. Referrals to the team are seen by the psychiatrists as a
"black box" where there is no further involvement from psychiatry unless requested.

The Team has a number of plans including:

- leaving the hospital setting and using community bases.
- providing drop-in and "social care" such as diversional activities and social clubs.
- providing 24-hour crisis intervention including a telephone help-line.
- providing training to non-specialist staff.
- offering a specialist alcohol problems clinic within the general hospital jointly with medical staff, acting as a liaison service with the general hospital and general psychiatry.
- focusing more on preventative work and early intervention, offering outreach services and particularly targeted at younger people.

The Team is clearly a valuable asset. It is recommended that:

1. the team is moved away from the hospital setting and into the community. This team could form the basis for a new Community Drug and Alcohol Team based at Santa Maria but delivering services in a variety of community settings. It would need to be increased in staff numbers.

2. there needs to be a better relationship with the Department of Psychiatry, and indeed a greater involvement of psychiatry in the team's work. This would be facilitated in the short term firstly by the team's integration with the drug services and secondly by mutual agreement on the necessity for starting a dialogue.

3. the team has experienced clinical staff who could be utilised more effectively by taking on a greater role in training of staff. Again this would be helped by being based within Santa Maria which will become the centre for training.
Other services at Mount Carmel Hospital

Some patients with alcohol and/or drug problems are compulsorily admitted to Ward 10 which is for disturbed patients. The facilities on this ward are inappropriate for treatment of drug or alcohol dependency. It is recommended that admission under the Mental Health Act is always the responsibility of the Consultant Psychiatrist and the mental health team (it was reported that patients were sometimes admitted directly on the order of the court), and that transfer of drug and/or alcohol patients be made to an appropriate unit at the earliest possible time.

Detoxification of alcohol dependent patients also takes place on Ward 2 (an admission ward). As a general principle it is preferable to avoid the "double stigma" of having an alcohol problem as well as being in a psychiatric hospital; it is recommended that the proposed community team develops programmes for community detoxification, and in cases where inpatient detoxification is essential, that this should be at St. Luke's Hospital in designated detoxification beds.

Prison services for problem drug and alcohol users

The medical doctor in charge of treatment for these prisoners is trained in addictive behaviour in England and worked within the addiction services in Malta before moving to prison work. He is seconded from the Health to the Interior Department.

Of the 170-180 total prison population, approximately a third are estimated to be in prison because of drugs or drug related offences. The doctor assesses all inmates, and offers a methadone detoxification for those dependent on opiates. People on detoxification mix with other prisoners, and there is no
help beyond the physical detoxification. A proposal from the doctor for a specialist unit for detoxification with a follow-up unit for post-detoxification help is probably unrealistic, although programmes (which are not necessarily linked to a specified physical area) are needed.

Good links exist with self-help groups who come into the prison to run groups. The relationship with other drug and alcohol services was reported to be good. Voluntary testing for HIV applies but there is no provision for specialist counseling services.

It is suggested that the remit of the new statutory services, and particularly the proposed Community Drug and Alcohol Team, should include regular input to the prison both for preventative work as well as treatment.

In addition, General Practitioners and hospital doctors and health professionals should receive training and support from the new specialist services.

5.0 ORGANISATIONAL ASSESSMENT

5.1 The need has already been put for an agency taking overall responsibility for:

- agreeing service specifications, quality standards, performance reviews, monitoring and evaluation of individual services
- needs assessment in the sense outlined in an earlier section
- developing a strategy for service development
- managing the change process
- developing a strategy for training and taking overall responsibility for implementing this
- managing the allocation of budgets
• developing a research and development strategy
• developing a prevention strategy

5.2 The Agency will need to be separate from the providers of services, i.e. there is a distinction between the two so that subjectivity and vested interests are less likely to be evident. Accountability will be increased, something which most providers were willing to see happen and who indeed welcomed the prospect.

6 CONCLUSIONS

The existing expertise and goodwill needs to be built upon and strengthened in order to bring about the changes recommended in this report. The main recommendations are in the creation of the Agency as a separate entity from the providers of services, and the movement of services towards ones which are community based, multi disciplinary, flexible in approach, combined drugs and alcohol at an organisational level but not at the point of delivery, offering harm reduction, outreach, prevention as well as treatment services.

It should be emphasised firstly that the need for training and supervision in new ways of working is essential, and secondly that the active management of the change process is crucial for the success of the implementation of these recommendations.

A suitable time frame might be:

Within six months:
1. Establish the Agency, appoint its members and identify its roles and responsibilities.
2. Hold at least one conference for all of the staff of services involved in delivery of services. The aim of this would be to facilitate communication
between services, but also to gather ideas and potential areas of problems from these staff.

3. Hold at least one "users" conference which includes past and present users of services.

4. Collate all currently available information from which a needs assessment can be written.

5. Organise a programme of training for key staff.

6. Establish within the Agency a Prevention Unit.

Within twelve months:

1. All services will have produced written operational policies and a "business plan" which combined with the needs assessment, will help the Agency to negotiate service specifications and funding based on outcomes and to enter into contracts with the services.

2. Transfer of resources identified earlier to Santa Maria so that the Community Drug and Alcohol Team and the training base is accommodated here.

3. Identification of inpatient beds for alcohol detoxification.

4. Appoint one or more clinicians who will take clinical responsibility within the statutory drug and alcohol services.

5. Establish formal training and research links with an academic institute active in this field.

6. Implement the recommendations on establishing an Information Centre made in previous reviews.

In the longer term:

Santa Maria should be promoted as a training centre and centre of excellence; it will be the administrative base for the new community services and provide a structure for career development. It is seen that in the longer
term this venture will be a collaborative one with all of the disciplines and with all of the types of services.

Acknowledgments

The Centre wishes to acknowledge the warm hospitality, friendliness and cooperation shown by the many dedicated and enthusiastic people of Malta and Gozo who contributed to the Visit. In particular, the members of the planning team who all worked so hard and effectively to make the Visit worthwhile are thanked (Mr. J. Gerada, Mr. F. Mifsud, Dr. G Grech, Mr. G. Lewis, Mr. G. Genovese, Mr. A. Maceli); as are the many clinicians, practitioners and service staff both from the Government and Non-Governmental Sectors who are too numerous to mention individually but who nevertheless contributed greatly to the Visit. Finally, the Centre wishes to acknowledge the assistance given by the service users themselves by discussing their experiences of services and making known to the Team their wishes and suggestions for changes to the services.

Appendix A

During its work the Centre received verbal submissions from:

Members of the Planning Team
Magistrate Silvio Meli
Superintendent Daniel Gatt (Drug Squad)
Consultant Epidemiologist
Magistrate David Scicluna
Consultant in Public Health Medicine

Staff of:
Detoxification unit at St. Luke’s Hospital

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Santa Maria Hospital
Department of Psychiatry at Mount Carmel Hospital
Caritas
OASI

Alcohol Rehabilitation Unit at Mount Carmel
Ward 10, Mount Carmel
Corradino Prison

Patients of the above services.
RESPONDING TO NEED

A report on the further development of services provided by the Exeter and District Community Health Service NHS Trust for problem alcohol and drug misusers

From: St. George's Hospital Medical School
Division of the Psychiatry of Addictive Behaviour
The Centre for Addiction Studies
London SW17 0RE
Based on a consultative review conducted by the Centre for Addiction Studies, August 1994

The Review Team in Exeter consisted of:

**Carmel Clancy**  Senior Clinical Nurse Specialist in Addictive Behaviour and European Research Co-ordinator at the Centre for Addiction Studies

**Paul E Davis**  Consultant Clinical Psychologist in Addictive Behaviour and Head of the Research Evaluation and Monitoring Unit at the Centre for Addiction Studies

**Dr Andrew Johns**  Senior Lecturer in the Psychiatry of Addictive Behaviour, St George's Hospital Medical School, and Honorary Consultant Psychiatrist and Addiction Services Clinical Director with Pathfinder Community and Specialist Mental Health Services.

The Review Team was supported at the Centre for Addiction Studies in London by Miss Helen Fraser (Public Health Specialist in Substance Misuse, Merton, Sutton and Wandsworth Health Authority), Professor A.H. Ghodse (Director, Centre for Addiction Studies), Fiona Marshall (Business Manager) and others.
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2 Introduction

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4 Local service provision
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   4.3 Funding Issues
   4.4 Statutory provision
   4.5 Non-statutory provision

5 Identified Problems and Gaps in Service Provision

6 Recommendations

7 References

8 Appendices
   8.1 Appendix 1: Prescribing schedules for detoxification from opiates
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   8.3: Appendix 3: Contributors to the Review
   8.4 Appendix 4: The Centre for Addiction Studies
1.0 EXECUTIVE SUMMARY

BACKGROUND

• This report was commissioned by the Exeter and District Community Health Services NHS Trust, as a means of:

  • evaluating the need for psychiatric services in this speciality

  • advising on the roles and responsibilities of a Consultant Psychiatrist specialising in this field.

  • advising on the mechanism for communication and the relationship between psychiatric specialities providing services to substance misusers.

  • assessing the need for service developments in a wider context for problem drug users

  • identifying good practice which would match these needs

  • and to issue guidance on the implementation of these changes

• Although the report focuses on the needs of problem drug users, services for problem drinkers are also considered because of their overlap and inter relationship.
• The review was conducted by an independent organisation in order to provide objective advice; it is acknowledged however that much work on needs assessment has already been carried out both by the purchasers and providers of services and this has been included in the present report where ever possible. The co-operation and encouragement of all those who contributed to the review is gratefully acknowledged.

• The review in Exeter took place on 10, 11 and 12 August 1994, and consisted of visits and meetings covering a variety of purchasers and providers of services from health, the non statutory and voluntary sectors, social services, probation, police, and prisons, as well as with users of services. A list of those consulted is given in Appendix 3.

• The multi disciplinary review team in Exeter was assisted in the production of the report by additional invited experts from the Centre for Addiction Studies in London. The document "Quality Assurance in Substance Misuse Services" by Paul Davis was used as a framework for assessing the Exeter services and as a basis for the recommendations arising from the review.

PRESSURE FOR CHANGE

• The need for change in the statutory service provision for drug and alcohol users has now become urgent for a number of reasons which include:

  • concern over the quality of medical care in the absence of supervision from a Consultant Psychiatrist.

  • a lack of direction or strategy for these services.
inequity of service provision to the population served

differences in practice and policy between Exeter and other parts of the Country, in particular the existence of a high number of stimulant users and a history of prescribing for this group of drug users.

In addition a number of agreed factors in the way services are delivered need to be applied. These include:

1. Interagency planning and liaison is essential.
2. Specialist statutory services cannot be solely responsible for the total provision of care for drug and alcohol misusers. Primary care and generic mental health teams have an important contribution to make.
3. There is a need to develop the statutory services whilst recognising the areas of contribution and skills of non-statutory service staff.
4. Service provision needs to be community focused, readily accessible and offering a broad range of treatment provision including access to outpatient, inpatient and rehabilitative care.
5. There needs to be an awareness that "treatment" covers a broad range of interventions and is not restricted to detoxification.
6. Quality of care issues should be central to service provision and there is a need to develop protocols for clinical practice, measuring clinical activity and outcome, ensuring appropriate training and supervision.
The review highlighted many examples of good practice which are to be commended and which should be built on by the new services. The non statutory agency, Exeter Drugs Project, offers some services which are a model of good practice. The core functions of this agency need to be protected during the advised changes in the statutory sector.

The main recommendations from this review are:

- that the Chairman of the Health Authority should in conjunction with the Director of Public Health ensure that the Exeter and North Devon Drug and Alcohol Advisory Committee (DAAC), should as a matter of urgency, produce a multi agency strategy for the care of Drug and Alcohol misusers in this locality.

- the advised models of service delivery for alcohol and drugs need to be applied throughout the district. These models have three elements which encompass different levels of service delivery according to need. For alcohol these elements are:

  1. General Practitioner with specialist Community Psychiatric Nurse/Community Mental Health Team support. This element is already in place in most of the areas served, and will serve the needs of the majority of problem drinkers referred to the statutory sector. With these patients the Drug and Alcohol
Resource Team provides advice to the specialist CPN/CMHT but not direct treatment.

2. General Practitioner with Drug and Alcohol Resource Team support. The G.P. retains medical responsibility whilst DART provides other components of treatment including advice if necessary from the Specialist Addictions Consultant Psychiatrist. This is for a small proportion of patients only, who require specialist multi disciplinary intervention additional to that provided by the CPN/CMHT.

3. Specialist Addictions Consultant Psychiatrist in conjunction with DART. This is for an even smaller proportion of patients, who will have more severe or complex needs which warrant direct specialist Consultant Psychiatrist intervention together with specialist multi disciplinary help.

For drugs these elements are:

1. General Practitioner with Exeter Drugs Project direct support.
2. General Practitioner with DART direct support.
3. Specialist Addictions Consultant Psychiatrist and DART, working in conjunction with EDP for some patients.

For drugs, the Specialist Addictions Consultant Psychiatrist is advisory both to EDP and the G.P. For patients who are well stabilised, or are relatively non problematic, it is possible for care to be wholly the responsibility of the G.P. and the Community Mental Health Team although this in practice is likely in only a small number of cases. Unlike with alcohol, it is not advised that the Specialist C.P.N. or the CMHT routinely treat problem drug users without advice from DART and the Specialist Addictions Consultant Psychiatrist.
• the Drug and Alcohol Resource Team should be the main statutory specialist provider of services to problem drug users. It is recognised that the main providers of direct interventions with problem drinkers however will be the Primary Health Care Team (PHCT) together with the Community Mental Health Team which includes a Specialist C.P.N. for alcohol. DART will in the main provide support, supervision and training on alcohol to the CMHT/Specialist C.P.N. and PHCT.

• in order to provide the necessary level of care, a full time specialist post of Consultant Psychiatrist in Addictive Behaviour (drugs and alcohol) should be created. The post holder will be expected to act as "champion" for the addiction services, and will be the main source of advice on drug/alcohol misuse issues to the Exeter and North Devon Community Health Service NHS Trust and an important source of advice to the Exeter and North Devon Health Authority, to the FHSA and to Social Services.

• with regard to drug-misusing patients, the Consultant will have responsibility for the clinical care of the majority of such patients attending statutory services and shared responsibility or a clinical advisory role for those patients who remain with their General Practitioner or General Psychiatric Consultant.

• with regard to the Exeter Drugs Project, the Consultant should have an advisory role.

• with regard to alcohol misusing patients, the Consultant will have direct clinical responsibility for a smaller proportion of patients attending all statutory services and a proportionately greater role in advising Consultant colleagues and General Practitioners.
the report gives a number of guidelines on prescribing policy. It is strongly recommended that uniformity of policy across the district be adopted. With regards amphetamine prescribing, it is advised that no new patients are prescribed, allowing eventually for local practice to be consistent with national guidelines on good practice. It is recognised that this will require gradual implementation and that in the first few years at least some G.P.'s will require particular attention from the Consultant in providing advice and support.

many of the other developments and suggestions for change in this report are dependent on the appointment of the consultant psychiatrist, and therefore the adoption of the advised roles and responsibilities for this post by the Trust should be seen as a priority for action.

the senior position held in the past by the Specialist Clinical Psychologist in Addictions and the contribution made by this profession should not be diminished by the proposed changes. The Chief Executive of The Trust should ensure the job description of the Clinical Psychologist post is revised. The main components of the post should be the development and provision of specialist psychological interventions, staff training and supervising psychological interventions as applied by other professionals, volunteers and other staff, as well as taking the lead on service related research, audit, monitoring and evaluation. The reformed post should be effected as a matter of urgency. The specialist nature of work with these patient groups necessitates a dedicated post which can not be provided by clinical psychologists in general adult mental health.
2.0 INTRODUCTION

In April 1993 the Exeter Health Authority merged with the North Devon Health Authority to form the Exeter and North Devon Health Authority. The new Health Authority has responsibility for purchasing health care for a population of 459,000 (1991 census) in a largely rural coast-to-coast area covering 4,613 Ksq. The greater part of the population is concentrated in the south of this area, in the city of Exeter and its environs.

Exeter and District Community Health Service NHS Trust is the provider of statutory psychiatric services for a population of 318,000 in an area coterminous with the boundaries of the former Exeter District Health Authority i.e. from Okehampton to Axminster and Exmouth to Tiverton, centred on the city of Exeter. This area has, according to the 1991 Census, a relatively small proportion of ethnic groups. It is a popular area for retirement, some 21% of the total population being 65 years and over (compared with the national average of 15%). There is reported to be a significant transient population, for example people seeking seasonal work and those looking for cheaper accommodation. There is also reported to be relatively high unemployment in parts of the area whilst others enjoy relative affluence (Exeter Central for example has a Jarman Score, a measure of health care needs related in some areas to the prevalence of illicit drug use, of 35 whilst parts of North Devon have scores of 1; the average for England and Wales is set at zero and a negative value indicates less deprivation than the national average). The economy of the district is based predominantly on agriculture, horticulture and tourism, with some development of service and light industry.
The proportion aged between 15 and 34 years (the age range most frequently involved with substance misuse services) is 27% compared with a Regional average of 27.9% (OPCS mid-1991). Exeter and Channings Wood Prisons are situated within the district served by the Trust. Referrals from the prisons account for most of the "out of Region" work conducted by the substance misuse services.

3.0 THE NATURE AND EXTENT OF PROBLEM

DRUG AND ALCOHOL USE

The misuse of drugs, including alcohol, is a major preventable cause of death, illness and unhappiness. It is estimated that as many as 30% of general hospital beds are occupied by people with illnesses directly attributable to alcohol misuse (Tomlinson report, 1992); and drug misuse is a major contributory factor in each of the key areas of the Health of the Nation, including HIV transmission, mental health (both as a cause and a consequence) and suicide, deaths from cancer, cerebrovascular disease, chronic liver disease, injuries and accidents. Alcohol misuse alone is associated with 65% of serious head injuries, 35% of road traffic accidents, 33% of divorces, 30% of domestic accidents, and 30% of cases of child abuse (figures quoted in the RDAT Annual Report, 1994).

3.1 ALCOHOL

There has not been a local Household Survey conducted from which levels of use can be estimated in different risk of damage categories. Estimates made
from national General Household Survey research (1990) extrapolated to this area indicate the following:

Table 1: Alcohol consumption categories (units per week) by sex, extrapolated to the estimated adult population (125,000 men and 139,000 women) served by the Exeter and District Community Health Service from data on drinking behaviour as described by OPCS 1991 for Great Britain

<table>
<thead>
<tr>
<th>Category</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non drinkers or very occasional</td>
<td>21,250(17%)</td>
<td>50,040(36%)</td>
</tr>
<tr>
<td>Low or moderate drinkers (up to 14/21 units)</td>
<td>71,250(57%)</td>
<td>75,060(54%)</td>
</tr>
<tr>
<td>&quot;Fairly high&quot; (up to 22/35 units)</td>
<td>16,250(13%)</td>
<td>9,730(7%)</td>
</tr>
<tr>
<td>&quot;High&quot; (up to 36/50 units)</td>
<td>8,750(7%)</td>
<td>2,780(2%)</td>
</tr>
<tr>
<td>&quot;Very high&quot; (more than 36/50 units)</td>
<td>8,750(7%)</td>
<td>2,780(2%)</td>
</tr>
</tbody>
</table>

(Units for women are given first)

A speculative conversion of GHS unit-based categorisation of drinking levels into categories of problem levels (Edwards & Unnithal 1994) suggests the following:

Table 2: Estimated numbers of adults who drink over safe levels (more than 14 units for women, 21 units for men) categorised according to severity of problems experienced:

<table>
<thead>
<tr>
<th>Category</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(misuse without problems or dependence)</td>
<td>16,250(13%)</td>
<td>9,730(7%)</td>
</tr>
<tr>
<td>Category II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(misuse with problems but not dependent)</td>
<td>8,750(7%)</td>
<td>2,780(2%)</td>
</tr>
</tbody>
</table>
Category III  
(misuse with problems and dependence) 8,750(7%) 2,780(2%)  
Clearly there may be differences between Exeter and the data from national surveys, and the conversion of consumption into severity of problem is speculative, but these figures nevertheless in the absence of a local needs assessment, provide one useful way of assessing the likely prevalence of various kinds of alcohol related problems in the community. When taken with additional indicators (such as alcohol episodes reported to the Regional Drug Problem Database, Hospital Patient Administration Information, liver cirrhosis deaths, Accident and Emergency data, alcohol related offences, etc.) then it is likely that a more accurate picture of need will be built up.

Referrals to treatment services are another indicator of need, and agencies' activity levels are discussed more fully in the section on service provision. Briefly, DART, the Drug and Alcohol Resource Team, received a total of 301 new referrals during the period 1 April 1993 - 31 March 1994, of which 170 (56.5%) were for alcohol only. 48 admissions (34 individual patients) to acute psychiatric wards, Wonford House and Cedars, with a primary diagnosis of alcohol problems (ICD9: 303) took place between 1.1.93 -31.12.93. The non-statutory agency INSIGHT, which is an alcohol specific service, reported for its Exeter Advice and Counselling Service 420 contacts during 1.4.93 to 31.3.94.

The South West Drug Problem Database does not collect data routinely on alcohol.
3.2 DRUG MISUSE

Patterns of drug-misuse in this locality have a number of distinctive features. In addition to the misuse of opiates and benzodiazepines seen elsewhere in the country, there has for over a decade, been a high level of amphetamine manufacture and misuse. By contrast, cocaine misuse is uncommon. With regard to route of administration, injection rates for all drugs are high.

For illicit drugs the Regional Drug Problem Database is probably one of the best indicators of service use. The database collects information on all clients and patients seen in specialist substance misuse agencies, and, although to a less extent, from generic services such as G.P.'s and probation officers.

The Database information from Exeter and District agencies for a 6 month reporting period up to 31 March 1994 is as follows:
### Table 3

**Returns to Regional Database from Exeter Agencies - All Client Contacts (n=285)**

<table>
<thead>
<tr>
<th>Clients' District of Residence</th>
<th>Total</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bristol and District</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Somerset</td>
<td>9</td>
<td>3.2</td>
</tr>
<tr>
<td>Cheltenham and District</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Gloucester</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Cornwall and Scillies</td>
<td>8</td>
<td>2.8</td>
</tr>
<tr>
<td>Exeter</td>
<td>169</td>
<td>59.3</td>
</tr>
<tr>
<td>North Devon</td>
<td>4</td>
<td>1.4</td>
</tr>
<tr>
<td>Plymouth</td>
<td>13</td>
<td>4.6</td>
</tr>
<tr>
<td>Torbay</td>
<td>12</td>
<td>4.2</td>
</tr>
<tr>
<td><strong>Out of Region</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trent</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Wessex</td>
<td>3</td>
<td>1.1</td>
</tr>
<tr>
<td>West Midlands</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>North Western</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Wales</td>
<td>6</td>
<td>2.1</td>
</tr>
<tr>
<td>Scotland</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Unspecified Thames</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>District</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>323</td>
<td>81.4</td>
</tr>
<tr>
<td><strong>Missing</strong></td>
<td>53</td>
<td>18.6</td>
</tr>
</tbody>
</table>
Nearly all of the "out of Region" reports are of people referred by one of the prisons.

### TABLE 4  Number of Individual Users Starting Agency Episodes by Sex and Age (n=264)

<table>
<thead>
<tr>
<th>Age</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>% of Total</th>
<th>Rel. Cum %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 15 years</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td>15 - 19 years</td>
<td>30</td>
<td>17</td>
<td>47</td>
<td>17.8</td>
<td>19.3</td>
</tr>
<tr>
<td>20 - 24 years</td>
<td>71</td>
<td>11</td>
<td>82</td>
<td>31.1</td>
<td>50.4</td>
</tr>
<tr>
<td>25 - 29 years</td>
<td>44</td>
<td>14</td>
<td>58</td>
<td>22.0</td>
<td>72.4</td>
</tr>
<tr>
<td>30 - 34 years</td>
<td>29</td>
<td>8</td>
<td>37</td>
<td>14.0</td>
<td>86.4</td>
</tr>
<tr>
<td>35 - 39 years</td>
<td>10</td>
<td>1</td>
<td>11</td>
<td>4.2</td>
<td>90.6</td>
</tr>
<tr>
<td>40 - 44 years</td>
<td>12</td>
<td>3</td>
<td>15</td>
<td>5.7</td>
<td>96.3</td>
</tr>
<tr>
<td>45 - 49 years</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>1.5</td>
<td>97.8</td>
</tr>
<tr>
<td>50 - 54 years</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>0.8</td>
<td>99.3</td>
</tr>
<tr>
<td>55 - 59 years</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0.0</td>
<td>100.0</td>
</tr>
<tr>
<td>60 - 64 years</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>65 or more years</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>205</td>
<td>59</td>
<td>264</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing*</td>
<td>5</td>
<td>1</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No sex or age/age group</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>201</td>
<td>60</td>
<td>285</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* gender recorded but not age or age group

---

"3 The Nature and Extent of Problem Drug and Alcohol Use"
**TABLE 5**  
Number of Users Starting Agency Episodes by Main Drug and Whether Injected.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Total</th>
<th>% of Total</th>
<th>Number Injecting</th>
<th>% Clients Injecting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroin</td>
<td>44</td>
<td>15.4</td>
<td>35</td>
<td>75.5</td>
</tr>
<tr>
<td>Methadone</td>
<td>15</td>
<td>5.3</td>
<td>8</td>
<td>53.3</td>
</tr>
<tr>
<td>Morphine</td>
<td>3</td>
<td>1.1</td>
<td>2</td>
<td>66.7</td>
</tr>
<tr>
<td>Other Opioid</td>
<td>6</td>
<td>2.1</td>
<td>3</td>
<td>50.0</td>
</tr>
<tr>
<td>Amphetamine</td>
<td>81</td>
<td>28.3</td>
<td>52</td>
<td>64.2</td>
</tr>
<tr>
<td>Ecstasy</td>
<td>14</td>
<td>4.8</td>
<td>0</td>
<td>(                   )</td>
</tr>
<tr>
<td>Cocaine</td>
<td>8</td>
<td>2.8</td>
<td>2</td>
<td>25.0</td>
</tr>
<tr>
<td>Crack</td>
<td>4</td>
<td>1.4</td>
<td>0</td>
<td>(                   )</td>
</tr>
<tr>
<td>Other Stimulant</td>
<td>1</td>
<td>0.4</td>
<td>1</td>
<td>100.0</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>12</td>
<td>4.1</td>
<td>0</td>
<td>(                   )</td>
</tr>
<tr>
<td>Other sedative</td>
<td>1</td>
<td>0.4</td>
<td>0</td>
<td>(                   )</td>
</tr>
<tr>
<td>Solvents</td>
<td>3</td>
<td>1.1</td>
<td>0</td>
<td>(                   )</td>
</tr>
<tr>
<td>Other Volatile Inhalant</td>
<td>1</td>
<td>0.4</td>
<td>0</td>
<td>(                   )</td>
</tr>
<tr>
<td>Alcohol</td>
<td>12</td>
<td>4.2</td>
<td>0</td>
<td>(                   )</td>
</tr>
<tr>
<td>Cannabis</td>
<td>26</td>
<td>9.1</td>
<td>0</td>
<td>(                   )</td>
</tr>
<tr>
<td>Lysergide</td>
<td>5</td>
<td>1.8</td>
<td>0</td>
<td>(                   )</td>
</tr>
<tr>
<td>Anti-depressants</td>
<td>1</td>
<td>0.4</td>
<td>0</td>
<td>(                   )</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
<td>3.9</td>
<td>2</td>
<td>18.2</td>
</tr>
<tr>
<td>Poly drug use</td>
<td>6</td>
<td>2.1</td>
<td>3</td>
<td>50.0</td>
</tr>
<tr>
<td>Missing</td>
<td>31</td>
<td>10.9</td>
<td>0</td>
<td>(                   )</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>285</strong></td>
<td><strong>100.0</strong></td>
<td><strong>108</strong></td>
<td><strong>37.8</strong></td>
</tr>
</tbody>
</table>

---

3 The Nature and Extent of Problem Drug and Alcohol Use
Figures indicate that over 50% of the clients attending Exeter agencies with substance related problems are 24 years of age or younger. There are approximately 4 males to every 1 female presenting for help. Ethnicity is reported mainly to be UK White, a total of 170 (62.5%). Main drug of use is amphetamine, followed by heroin and methadone, with over 50% injecting amphetamine and almost 80% injecting heroin. 53% of clients report injecting methadone. Of those injecting (98 missing data), 21% are reported to have shared injecting equipment compared with 44% who report never sharing.

The South West Drug Problem Database Manager reports that the number reported to the Database from Exeter has increased over the last three years, but that the bulk of reports are from the non statutory services. For the Region as a whole, 9.3% of reports are from Exeter (9.6% of the Region's general population is resident in Exeter). Region wide the majority of drug users are opiate users, but Exeter accounts for 50% of the Region's total amphetamine users reported to the Database. Only one other District in South West Region was reported to have a significant number of amphetamine users. It is reported that the majority of amphetamine users in Exeter inject their drugs, are younger than the average reported Region wide, and are more likely to share injecting equipment than other illicit drug users.
Other sources of routinely collected data include the Home Office Index (doctors are required to notify suspected or confirmed opioid and cocaine dependent users), the NHS Patient Administration System, mortality data, and law enforcement statistics which include seizure information, arrests and probation data. The Home Office data for South Western Region is as follows:

**TABLE 6: Home Office Notifications 1.1.93-31.12.93**

<table>
<thead>
<tr>
<th>DHA</th>
<th>New Notifications</th>
<th>Re-notifications</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exeter and North Devon</td>
<td>67</td>
<td>87</td>
<td>154</td>
</tr>
<tr>
<td>Bristol and District</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Cornwall and Isles of Scilly</td>
<td>37</td>
<td>39</td>
<td>76</td>
</tr>
<tr>
<td>Plymouth and Torbay</td>
<td>134</td>
<td>179</td>
<td>313</td>
</tr>
<tr>
<td>Gloucester</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Somerset</td>
<td>48</td>
<td>43</td>
<td>91</td>
</tr>
<tr>
<td>Other Within Region</td>
<td>528</td>
<td>423</td>
<td>951</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>814</strong></td>
<td><strong>771</strong></td>
<td><strong>1585</strong></td>
</tr>
</tbody>
</table>

* The Home Office figures for these Health Authorities are not available, presumably because of boundary changes making them unreliable. It is assumed that the "Other Within Region" category is mainly made up of notifications from the Bristol and Gloucester Health Authorities.
Referrals to treatment services are another indicator of need, and agencies' activity levels are discussed more fully in the section on service provision. Briefly, the Exeter Drugs Project received 540 new referrals for treatment during 1992/93. This represents a 173% increase since the service opened in 1987. The statutory service DART’s Annual Report for 1993/94 reported 301 new referrals, approximately a 25% increase over 1992/93.

Data on drug offenders recorded during the 1988 - 1992 for Devon and Cornwall give an indication of the predominance of cannabis as the most common illicit drug encountered by the police:

Table 7 DEVON AND CORNWALL DRUG OFFENDERS 1988-1992

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroin</td>
<td>40(13)</td>
<td>29(3)</td>
<td>26(3)</td>
<td>33(8)</td>
<td>45(11)</td>
</tr>
<tr>
<td>Cocaine</td>
<td>11(2)</td>
<td>9</td>
<td>9(3)</td>
<td>4(1)</td>
<td>15(1)</td>
</tr>
<tr>
<td>LSD</td>
<td>23(10)</td>
<td>25(3)</td>
<td>61(25)</td>
<td>53(21)</td>
<td>72(16)</td>
</tr>
<tr>
<td>Ecstasy</td>
<td>14(2)</td>
<td>17(2)</td>
<td>4</td>
<td>42(22)</td>
<td>110(28)</td>
</tr>
<tr>
<td>Psilocybin</td>
<td>30</td>
<td>27(2)</td>
<td>25(1)</td>
<td>26(2)</td>
<td>18(5)</td>
</tr>
<tr>
<td>Amphetamine</td>
<td>158(34)</td>
<td>119(26)</td>
<td>143(19)</td>
<td>132(25)</td>
<td>307(54)</td>
</tr>
<tr>
<td>Cannabis Resin</td>
<td>665(85)</td>
<td>1070(128)</td>
<td>1092(108)</td>
<td>1163(94)</td>
<td>1198(90)</td>
</tr>
<tr>
<td>Cannabis Herbal</td>
<td>34(4)</td>
<td>74(20)</td>
<td>77(12)</td>
<td>43(5)</td>
<td>99(10)</td>
</tr>
<tr>
<td>Cultivation of Cannabis</td>
<td>40</td>
<td>43</td>
<td>54</td>
<td>64</td>
<td>96</td>
</tr>
<tr>
<td>Cannabis</td>
<td>1015 (150)</td>
<td>1413(184)</td>
<td>1491(171)</td>
<td>1560(178)</td>
<td>1960(215)</td>
</tr>
<tr>
<td>+39%</td>
<td>+6%</td>
<td>+5%</td>
<td>+26%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 6</td>
<td>years</td>
<td>+93%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Bracketed figures indicate number of Drug Trafficking Offenders
Information from Devon Probation Services indicates from sample research that 72% of offenders supervised by the Probation Service have experimented with a wide range of drugs. Devon Probation Service supervise at any one time about 500 offenders in Exeter and East Devon area. Additionally there are about 300 offenders on Community Service Orders. Over 40% admitted to currently using illegal drugs; with 26% injecting drugs.

The main difficulty with assessing numbers is that illicit drug users are by and large a "hidden" population; their activity is illegal and often carries considerable stigma. More subtle techniques are sometimes employed therefore, in particular capture-recapture (a method borrowed from ethology which involves counting the overlap in samples of known size in order to calculate the total population size) and "snowballing" (borrowed from social scientists this requires following up nominated acquaintances of drug users who in turn nominate acquaintances and this chain is followed, getting ever bigger, until "the trail dries up"). It is suggested that a local and more thorough needs assessment will give a more accurate picture than that described above. In general, it is recommended (RDAT Annual Report, 1994) that a combination of sources is used, each providing different pieces of the jigsaw from which an impression can be built up. A good "multi-method" or combination approach would probably consist of:

- public health data
- an analysis of data routinely collected by agencies in regular contact with drug misusers.
- a case register to provide a best estimate of the prevalence of "visible" problem drug use
- an application of capture-recapture techniques to different samples of drug misusers e.g. drug misusers in contact with specialist treatment
services; drug misusers known to the police; drug misusers identified through HIV-testing schemes.

- an interview study of drug misusers identified through "snowballing".
- an estimate of the resource cost of drug misuse to the community.
- a questionnaire study of the general population/schoolchildren/young people.

Quantifying the drug and alcohol problem can be used as a basis for initial planning of services, although it must be recognised that there are complications to take account of, particularly when the problems associated with substance misuse can be as diverse as a relatively minor health or social problem all the way through to the person who presents with long term and severe health care needs such as might be seen in a chronic alcoholic or a pregnant, HIV positive heroin injector. The required size and composition of the services needed can only realistically be estimated by existing services monitoring demands on their service, with input and throughput activity audited and including outcome measures in their audit.
4.1 Historical Perspective

In 1979 the Addiction inpatient unit in Exminster closed. This had specialised in the treatment of problem drinkers but included a small number of drug users. In its place a Community Alcohol Team (CAT), one of the first in England, was started. This was a multidisciplinary team led by a Clinical Psychologist (Professor Jim Orford), four Community Psychiatric Nurses, and input from a consultant psychiatrist with a special interest in addiction (but with no designated sessions for this). The non statutory alcohol services in Exeter shared premises with the CAT and worked in close association with the team.

The CAT developed a model of service delivery which has since become known as the Exeter model, and which developed an international reputation for the Exeter alcohol services. The model was one of the specialist team working with the patient's General Practitioner who was responsible for the alcohol detoxification in the patient's home. The CPN visited the patient daily to supervise and monitor the detoxification and to provide additional support. Programmes lasted from a few days to a few weeks. The patients undergoing detoxification covered the full range of severity of alcohol dependency. Long term outcome evaluation research was funded by the Department of Health. The results of this have been very favourable, highlighting the effectiveness of home detoxification over out or inpatient programmes, the considerable gains in cost effectiveness of this model, and its greater acceptability to the patients. In addition the Team developed a role of training and education for non specialist
workers which again was described as innovative and a model of good practice in the national context.

The post of clinical psychologist, who was responsible for the outcome evaluation research, was taken by Dr Tim Stockwell, another respected alcohol specialist with an international reputation. Towards the end of the 1980's the CAT split up; the specialist CPN's moved to working with the sectorised Community Mental Health Teams, but still with a brief of providing a specialist addiction service. The remaining members of the CAT were based in Exeter itself and continued their work but not to the sectors outside Exeter City. Thus two types of service delivery evolved, one for Exeter City, the other for remaining sectors. Dr Stockwell left and was replaced by Dr Sue Willoughby who left in 1992 since when the post has remained "frozen". The freezing of this post was partly a result of underfunding of the regrading of Psychology Posts which was a nationally agreed exercise but which was given no additional money. The psychology post with CAT was the first to become vacant and was not chosen for any other reason. Because the funding of posts has still not been resolved, the underfunding grows larger each year as psychologists move up the pay scale which was not budgeted for, and thus it is unlikely that this post will be filled until the purchase of psychology has been resolved. This is despite a review of psychology by the Trust Board, which recommended that this post be reinstated as a priority for action. The result of this has been that the CAT (now renamed the Drug and Alcohol Resource Team, DART) has been short of staff and without the "charismatic" leadership provided previously. Moreover, during the middle to late 1980's, the non statutory alcohol service, INSIGHT, separated from CAT and has remained relatively independent since then, and so the partnership and joint working was also lost. In recent years the remit of the Team has widened to include drugs as well as alcohol, but because of the Team's history as an alcohol
team, together with skills and training being predominantly in alcohol, the team has continued to provide primarily an alcohol service.

During the 1980's awareness of drug problems other than alcohol increased. As part of government strategy for tackling drug misuse, and fired by the growing threat of transmission of HIV amongst injecting drug users, services for problem drug users were started. The pump priming money for this emphasised HIV prevention and harm reduction. The non statutory Exeter Drug Project (EDP) was the main agency developed, and because of the lack of statutory provision this service evolved as the major drug treatment service in the District. A Consultant was appointed with sessional responsibility for Drug misuse services. Prescribing amphetamines at EDP commenced at this time. With the departure of that Consultant for a post elsewhere, there was an 18 month period during which a Clinical Assistant undertook the statutory specialist service prescribing.

In 1990 Dr Miles was appointed as Consultant Psychiatrist with responsibilities for drugs, alcohol and general psychiatric rehabilitation. There were 5/11 WTE or 5 sessions available for drug and alcohol work. With regard to Alcohol misuse, it did not prove feasible for the Consultant to work within DART. As it was found that few drug users attended DART at that time, Dr Miles sited the prescribing element of her work within the non-statutory EDP and there were additional junior medical sessions which accompanied her post.

When Dr Miles took up her post, she inherited a population of approximately 50 stimulant users who were being prescribed dexamphetamine sulphate on a "maintenance" basis. An additional 10, approximately, were being prescribed both methadone (for opiate dependency) and dexamphetamine; and a further 50, approximately, were opiate dependent people who were prescribed methadone. She continued this practice and took on further patients. Following internal
concern largely related to prescribing costs, a decision was taken in 1992 not to commence any "new" stimulant prescribing within the statutory drug services i.e. the prescribing service in Exeter Drug Project. The number of patients receiving prescribed amphetamines in this service stabilised at about 30.

However, a number of local General Practitioners who have taken on drug-using patients are prescribing oral dexamphetamine sulphate on a "maintenance" basis.

An unknown number of patients in both EDP and primary care settings, receive prescriptions for dexamphetamine in conjunction with maintenance prescription of methadone.

With the departure of Dr Miles in December 1993, the prescribing clinic provided at EDP has been continued by a clinical assistant without specialist consultant psychiatrist cover. In addition there has been a move toward GP prescribing for drug users, and this has been without any input from a specialist Consultant Psychiatrist.

4.2 District Drug (and Alcohol) Advisory Committee:

The District Drug Advisory Committee was disbanded prior to 1990 with the result that since that time there has been no forum for assessing need, coordinating service activity, ensuring multi-agency co-operation or generating a district substance misuse strategy.

In July 1992, Dr M Owen (Consultant in Public Health Medicine, Exeter Health Authority) circulated a document entitled "Drug Services - A Forward Look" for
later presentation to the Joint Purchasing Group. This document is an analysis of the health impact of drug problems with practical recommendations for a multi-agency response, but there is no mention of a DDAC.

An Exeter and North Devon DDAC has recently been established but has not yet met. This will report to the Joint Purchasing Forum. The Joint Purchasing Forum has commissioned the DDAC to form working groups to report on Drug issues by December 1994 and Alcohol issues by 31 March 1995. Group 1 will work on "Primary Prevention of Drug and Alcohol misuse", Group 2 on secondary prevention, Group 3 on "Joint approaches to the Case management of Drug and Alcohol misusers", Group 4 on "Tertiary level intervention", Group 5 on Training and Group 6 on Criminal Justice issues. Each group has the remit of reporting to the Joint Purchasing Forum on appropriate strategies relating to purchasing.

4.3 Funding issues:

As with many substance misuse services, it is often difficult to disentangle what sources of funding are used for the various elements of the services. The following is intended to provide an indication of potential sources should a breakdown of funding be calculated at a future date.

Alcohol service funding is included in each Health Authority’s mainstream funding. Some new developments are beginning to be funded with heath gain money as treatment and advice, heath promotion and education in substance use and misuse are significant methods by which a population’s health can be improved. It is important to note that alcohol related targets occur in four of the five key areas of Heath of the Nation.
Drug misuse finance is a complex area and has become more convoluted over the years due to “one off” allocations, earmarked money and differently tagged allocations. There are three main sources of funding for drug misuse: Mainstream allocations; Drug misuse money under HC(86)3; and Drugs/HIV money. In addition Pharmacy based needle exchange schemes EL(92)49 money is available. The Department of Heath made £1.4 million available in 1992/3 to the fourteen RHAs in England and Wales to expand needle exchange schemes within pharmacies. This money was divided between the regions according to the populations aged between 15-34. In 1993/4 this sum was increased to £2.67 million. The money was not intended to replace funding for existing projects, but rather to increase the number of community outlets for the exchange of injection equipment.

An allocation is in addition made towards methadone prescribing costs. The allocations for Methadone are calculated from the returns requested by the Department of Heath. Each Regional Pharmaceutical Officer is requested to write to each district pharmacist, obtaining the details of the amount of methadone dispensed in the first six months on FP (10) HP and FP(19)HPAd prescription forms. Details of general practitioner prescribing or other ways of dispensing methadone are not requested by the Department of Health. The cost of the total amount dispensed in each Region is then used to determine the regional allocation; there is no request for information on the actual dispensing costs which can be considerable if the recommendations in the “Drug Misuse and Dependence: Guidelines on clinical management” (DHSS 1991) are followed and methadone is dispensed on a daily basis.

With regard to concern within the Trust over prescribing costs for statutory drug-misuse services, in 1993 the Trust developed a proposal to contract with a private pharmacy chain for community dispensing at reduced rates with
consumption on the pharmacy premises. These proposals were not effected for a number of reasons, including the inability of the pharmacy chain to proceed.

Specific grant for making payments to voluntary organisations providing services for alcohol and drug misusers (LAC(92)6) is another possible source of funding presumably taken up by some of the services in the Exeter area. The specific grant for voluntary organisations was repeated for the fourth successive year for 1994/95. The original system only allows for each bid to be funded for three years. Local Authorities were invited to apply for grants on behalf of voluntary organisations in their area, with 30% of the contribution being made up from other sources. Local Health Authorities were to be involved in the discussions. Comments on the bids were also to be submitted by the Regional Alcohol Coordinator and/or the Regional Drug Advisory Committee, or the local Health Authority. The system remained the same for agencies applying for continuation of existing bids, but there were significant changes for new bids. The concept of outcome funding was introduced, agencies bidding for money to undertake specific activities with specified expected outcomes to each project. This concept was initially received with alarm, partly due to the very short time scales in which to reframe the bids, but some very useful projects have been developed, focusing on the results of a project rather than the process involved.

4.4 Statutory Services

4.4.1 Primary care provision:

General Practitioners appeared to have a high level of willingness to work with patients misusing alcohol and also to for clinical collaboration with members of the DART team.
With regard to problem drug users, one General Practitioner working in a relatively deprived part of the city took an active interest and was treating about 30 patients long-term for oral and intravenous prescription of controlled drugs. This doctor did not feel able to take on any more problem drug-users though many approached him for treatment.

Staff at Exeter Drugs Project reported that they found local General Practitioners to be willing to undertake joint working of patients, and about 20 had agreed to take over prescribing regimes following concern within the Trust over increased prescribing costs.

The South West Drug Workers Forum and Dr Miles have produced Guidelines for General Practitioners working with problem drug-users but this has yet to be adopted or circulated by the FHSA.

4.4.2 Drugs and Alcohol Resource Team (DART)

The DART Annual Report for 1992-3 contains a statement or "philosophy of approach" which emphasises the team's commitment to multidisciplinary working, providing a range of services, delivering a prompt response and undertaking work with the families of patients. The aims of treatment range from avoiding harm to supporting abstinence. The Team provides a direct treatment service for Exeter City residents but not to other localities outside Exeter; these areas are served by the specialist CPN's who work within the Community Adult Mental Health Teams. DART provides (in theory) training and supervision to these CPN's, although because of vacant posts and reduced staffing this has not proved possible.
The staffing establishment comprises a Social Worker (1 WTE), Senior Occupational Therapist (0.5 WTE) and a Community Psychiatric Nurse (1 WTE), a Centre Secretary (1 WTE) plus in the last year, time limited input from a Systemic Therapist. The post of Consultant Clinical Psychologist has been vacant since June 1992; this post was designated as Clinical Manager for DART. The part-time (11 hours) secretarial post has been vacant since March 1993. These staffing shortages have caused DART considerable difficulty and it is reported in the 1992/3 Annual Report that there has been a decline in quality of care as assessed by target quality standards.

DART saw 301 new patients in 1993/4 of whom 36% were female. The main problem substance was alcohol (57%), illicit drugs (21%), tranquillisers (6%). The main sources of referrals were general practitioners (38%), "self" (15%), Consultant Psychiatrists (13%) and then a wide range of other sources.

DART aims to offer patients short-term work which may take the form of home detoxification, couple or family work, specific occupational therapy interventions and relapse prevention strategies. Also offered is a Relapse-Prevention Group, Tranquilliser Group, Probation Service Alcohol Education Group and a one-off Drink-Drive Rehabilitation Group. The team Community Psychiatric Nurse takes a special interest in patients with drug-related problems and maintains a working link with the Exeter Drugs Project.

Training has been provided for residential and probation workers, Community Psychiatric Nurses, occupational therapy supervisors together with training placements for a range of disciplines.
The Drugs and Alcohol Resource Team (DART) is based on the first floor of a building shared with a Community Mental Health Team, a setting that was reported to be off-putting for some patients of DART.

There are a number of management and other issues which need to be resolved. DART has identified a need for proper management of service development, caseload management, staff supervision and for closer liaison with primary health and non-statutory services.

4.4.3 Community Psychiatric Nurses Specialising in Addictions

Four specialist CPN's have responsibility for substance misuse, working in different teams and following slightly different models of service delivery.

One CPN is based with the Community Mental Health Team in Okehampton. The post holder sees both generic mental health patients and problem drinkers but not other problem drug users. A generic mental health Consultant Psychiatrist provides medical supervision for the alcohol work.

Two CPN's work full time with alcohol referrals, one based with The Community Mental Health Team in Axminster and the other in Tiverton, again supervised by generic mental health Consultant Psychiatrists.

One CPN is based full time with the specialist Drug and Alcohol Resource Team and provides an alcohol and drugs (but not generic mental health) service to patients in Exeter City with medical supervision from the patient's G.P.
These four CPN's are trained in alcohol but not drugs work. Monthly supervision meetings with DART were in the past held but this ended when the Consultant Psychiatry post became vacant.

4.4.4 General Psychiatric Services:

A number of Consultant Psychiatrists offer inpatient detoxification from drugs or alcohol if indicated and provided that the patient is from the appropriate catchment area. With regard to detoxification from opiates, a range of options are available including the use of methadone, clonidine and other medications. There are no designated beds for detoxification and referrals to the specialist in addictions Consultant Psychiatrist in the past had to be referred to a catchment area Consultant for admission.

It was suggested that problems related to the misuse of alcohol and drugs contribute significantly to the “out-of-hours” demands on general psychiatric duty services.

4.4.5 Prison Medical Services:

Exeter Prison has a turnover of 9500 men/year, at least 30% of whom are estimated by Prison medical staff to have problems related to the misuse of drugs or alcohol.

The Prison medical staff have protocols for the management of benzodiazepine dependence, but not for opiate or stimulant dependence. There is daily forensic medical input and also an alcohol counsellor supported by HIV funding. The
Prison Medical team anticipate that a CPN will be appointed. The next priority is to secure funding for a Forensic Occupational Therapist.

An Alcoholics Anonymous group meets in the prison. Hepatitis B screening is offered by prison medical staff. The NHS-Genito Urinary Medicine team liaise over HIV counselling by trained counsellors. The results of testing are made available to prisoners on a confidential basis.

The prison medical staff wish to strengthen clinical links with statutory NHS services, and would welcome improved arrangements for the aftercare of drug/alcohol misusing prisoners and links with drug/alcohol treatment teams.

The non statutory agencies for alcohol (INSIGHT) and drugs (Exeter Drugs Project) both have counsellors working with prisoners.

4.5 Non Statutory Services

4.5.1 Exeter Drugs Project (E.D.P.)

Exeter Drugs Project's origins lie in a volunteer run helpline set up in 1984 to provide help to illicit drug users. By 1986, the Project had obtained funding from the South West Regional Health Authority and premises from the local Health Authority. Today, in 1994, the Project is the largest single agency offering treatment and support to illicit drug users and is funded to serve the catchment area of the former Exeter Health District.

E.D.P. aims to be an accessible, confidential service offering information, advice and counselling to illicit drug users, their friends and relations, and to other
professionals working with drug-users. In its 6th Annual report it is stated that "our fundamental aim is harm-minimisation, that is to reduce the potential harm associated with drug use, both to the drug user and the society of which she or he forms a part".

Workers at the Project adopt no single model of practice with respect to drug use, preferring to draw from a range of approaches and to work with clients towards client-identified goals. In practice this means that abstinence is not the only objective. Emphasis is given to other methods of reducing the harm associated with the client's drug use, supporting any healthier step a client is able to make. This might involve working with the client to establish greater understanding of, and hence control over her or his drug use, as well as providing accurate and confidential advice about safe administration and other healthcare issues.

The Project has seven full time staff including a Director. The majority of staff are from relevant professional backgrounds including social work, community psychiatric nursing, and youth and community. Ex drug users are also used as counsellors. Training and staff support and development within the agency is reported to be good. Training for other agencies such as Probation and NACRO is provided and courses are organised in collaboration with the Regional Drug Problem Team. In addition to these staff there is a 4 session Clinical Assistant funded by the Trust offering a prescribing element to E.D.P.'s work.

The Project operates out of Exeter and District Community Health Service NHS Trust premises based in Dean Clarke House, Southernhay East, Exeter. Although accessible for the majority of clients, disabled access is not available. Opening times are Monday - Friday from 10.00 - 1.00pm and 2.00 -5.00pm with the exception of Wednesday when it is closed all day and Tuesday afternoons
which are only open for women. The services provided are comprehensive and include skills training groups, motivational interviewing, relapse prevention and individual counselling, in addition to the prescribing clinic, needle exchange, advisory and advocacy work.

In addition to offering services from their office base, E.D.P. offers a community response to clients requesting home detoxification, detoxification with General Practitioners and work with inmates in local prisons. Client activity for 1992/93 (1993/94 data not yet available) showed; 540 new clients referred, of whom 79% were male and 21% female. Approximately 130 clients are receiving services from EDP at any one time, one fifth of whom are in receipt of prescriptions from EDP. Pregnant drug users are seen by EDP who liaise with the hospital medical services as well as the client's G.P. On ethnic breakdown of new referrals, 302 were White (including UK, Irish and European) compared with 2 who were Black (including UK & African - Caribbean); this data is representative of 56% of total client population. The primary drug used by EDP clients in 1992/93 was reported as:
The Exeter Drugs Project’s commitment, energy and advocacy on behalf of illicit drug users is reflected in their current service provision. In the absence of a comparative statutory service it has been called upon to bridge the gap. Not only has it provided a much needed service, the Project has been instrumental in many innovative initiatives, both locally and nationally and continues to go from strength to strength.

It is however acknowledged in the relative absence of development of statutory provision, that EDP has had to take on a range of tasks which are inappropriate and beyond its remit. These include providing ad hoc supervision to the clinical assistant, advising GPs on medical aspects of the care of problem drug-users and the production in draft form of a “Prescribing Policy”. The draft “Prescribing Policy” urgently needs to be reviewed with input from a Consultant Psychiatrist with specialist expertise in the management of drug-misuse, and in the light of the recommendations given in this document.
There have also been local concerns about specific aspects of prescribing such as the prescription of amphetamines and the relatively unsupervised nature of clinical contact for some drug-users receiving prescribed treatments.

### 4.5.2 INSIGHT

INSIGHT Alcohol Services exist to take and promote action which is effective in reducing the incidence of alcohol-related problems in the community. The original service was set up in 1961 (SW Council for Alcohol) and INSIGHT evolved from that service in 1991. The organisation has gone from strength to strength and in addition to a Director and secretarial assistant, it now has two counselling services; Exeter and District Advice and Counselling Service and North Devon Counselling Service, and two residential services; 87 Magdalen Road and Henley Road. In January 1994, a three year pilot project was funded by Exeter and North Devon Health Authority for a Prison worker; offering support and advice, around the use of alcohol, to young men under the age of thirty who are serving sentences or on remand in Exeter and Channings Wood Prisons.

Table 8: Exeter Advice and Counselling Service: Referrals for April 1993 - March 1994

<table>
<thead>
<tr>
<th>Initial Contacts</th>
<th>420</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counselling</td>
<td>241</td>
</tr>
<tr>
<td>Advice &amp; Information</td>
<td>179</td>
</tr>
<tr>
<td><strong>Counselling</strong></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>171</td>
</tr>
<tr>
<td>Women</td>
<td>70</td>
</tr>
<tr>
<td>Drinker</td>
<td>204</td>
</tr>
<tr>
<td>Relative/partner/friend</td>
<td>37</td>
</tr>
</tbody>
</table>
Source of Referrals to Exeter Advice and Counselling Service 1993-1994

- Other: 9
- Significant Other: 14
- GP: 7
- Hospital: 9
- DART: 1
- Exeter Drugs Project: 6
- Community Mental Health Team: 12
- Probation (Community Team): 2
- Probation (Prison Team): 65
- INSIGHT Residential: 10
- Self: 116

Locality of referrals to Exeter Advice and Counselling Service April 1993 to March 1994

- Exeter: 151
- Exmouth: 26
- Honiton: 3
- Tiverton/Cullompton: 4
- Crediton/Okehampton: 14
- Channings Wood / North Devon: 3
- Torbay (Including NHS): 32
- Plymouth: 6
- Other: 2

4 Local Service Provision
5.0 IDENTIFIED PROBLEMS AND GAPS IN SERVICE PROVISION

Introduction

- Exeter and North Devon covers a large geographical area which is predominantly rural, making over reliance on centralised services inappropriate.

- There is a high level of health care need for problem drug and alcohol users, and this is added to by the relatively high level of stimulant misuse and the history of prescribing of stimulants to problem drug users.

- The "centre of excellence" status developed for the community alcohol services may have inadvertently contributed, in part, to a neglect of the services to other substance misusers, and proved (for reasons specific to this locality) not to be a sustainable model once the charismatic innovators of the alcohol service had left. This model was further weakened by the need to redeploy the specialist Community Psychiatric Nurses into the developing Community Mental Health Teams.

General issues

- There is now a confusing mixture of methods of service provision which vary in several ways, for example according to the substance (non statutory for drugs and alcohol vs. statutory for alcohol only), and the geographical area

5 Identified Problems and Gaps in Service Provision
(DART covers Exeter City whilst specialist CPN's from the Community Mental Health Teams cover the rest of the district).

- the absence of a strategy or advisory group has also contributed to services being developed in an ad hoc manner. In addition there has been a lack of public health pressure to see the services gain a higher profile. The Public Health Department has a mandatory role in monitoring infectious diseases including HIV, Hepatitis B and C, and problem drug use itself in the sense that this impinges on all of the key targets described in the strategy document "Health of The Nation", yet other areas of health gain have been prioritised. This has been compounded by the "hands off" approach by the main provider unit, including the Division of Psychiatry.

- HIV/AIDS money and other possible sources of "pump priming money" have not been used to best effect.

- The relatively unusual pattern of drug use in this area requires special understanding and a different response than would be the case in other districts.

**Statutory Services**

- For the reasons already given the statutory sector provision is variable, there is no consistency across the area served. There is uncertainty about the role of DART and the specialist CPN's.

- Unfilled posts have hindered service development.
• There is an overlap in the delivery of care between agencies which is confusing and ad hoc; for example prescribing is sometimes located within the non statutory agency, sometimes the statutory, and sometimes with the Primary Health Care Teams.

• Access to inpatient treatment is variable and not satisfactory as treatment is generally not by addiction specialists and the type of response varies.

• Specialist services for problem drinkers are relatively less available to those who live outside the City area.

• There appears to be an inappropriate distinction made between treatment and care.

• The Consultant Psychiatrist post was hindered by its part time nature and good relationships not being established with DART. This, together with the fact that the post was for drugs and DART was predominantly alcohol, led to the Consultant basing the prescribing service within the non statutory service, which in turn has led to the present siting of the Clinical Assistant in this agency. The Clinical Assistant is effectively unsupervised and is professionally isolated.
6.0 RECOMMENDATIONS:

6.1 Drug and alcohol misuse services: the need for a local strategy

Recommendation 1

"The Chairman of the Health Authority should in conjunction with the Director of Public Health request that the Exeter and North Devon Drug and Alcohol Advisory Committee (DAAC), should as a matter of urgency, produce a Strategy for the care of Drug and Alcohol misusers in this locality."

The production of this strategy should be purchaser led but should involve contribution at Senior Officer level from at least the following agencies: the Exeter and District Community Health Service NHS Trust, the Division of Psychiatry and Department of Psychology, the Department of Public Health Medicine, the FHSA, the Drug and Alcohol Resource Team, the Devon and Cornwall Constabulary, Probation Services, Social Services, Exeter Drug Project, Insight, HIV/AIDS service providers and Health Education. Input from service users, relevant consumer groups and self help organisations should also be sought. The advised Strategy should be used to inform purchasing intentions, and in particular, the Joint Purchasing Forum.

The advised Strategy should deal with the following issues:-

i) Needs assessment, monitoring of service usage, quality of care and outcome measurement, including surveys of the needs and views of service-users.
ii) Prevention (it is acknowledged that the DDAC prevention sub-group is reporting on this to the Joint Purchasing Forum).

iii) the relative contributions of primary care, the statutory sector and the non-statutory sector in providing care for the health and social care needs of drug and alcohol misusers.

iv) Criminal Justice issues.

The following principles may be found useful in influencing the strategy:-

1 - Interagency planning and liaison is essential.

2 - Specialist services cannot be solely responsible for the total provision of care for drug and alcohol misusers. Primary care and generic mental health teams have an important contribution to make.

3 - There is a need to develop the statutory services whilst recognising the areas of contribution and skills of non-statutory service staff.

4 - Service provision needs to be community focused, readily accessible and offering a broad range of treatment provision including access to outpatient, inpatient and rehabilitative care.

4 - There is a need for leadership and guidance from a Consultant Psychiatrist with special expertise in the management of drug and alcohol misuse problems. This should be a full-time appointment.

5 - There needs to be an awareness that "treatment" covers a broad range of interventions including assessment, psychological therapies aimed at motivational change and relapse prevention, family therapy, skills training and help in effecting life style changes, detoxification, stabilisation, methadone maintenance and a range of goals associated with harm-reduction.

6 - Quality of care issues should be central to service provision and there is a need to develop protocols for clinical practice, measuring clinical activity and outcome, ensuring appropriate training and supervision. These protocols should
be drawn up with the advised Consultant Psychiatrist and senior members of other disciplines in the statutory and non-statutory sector. It should be recognised there are a number of prescribing practices in this locality which do not conform to good clinical practice and that changes in prescribing policy are necessary.

6.2 The model of service delivery for alcohol misusers

Recommendation 2

"It is recommended that the following model of service provision for alcohol-misusers should be adopted. This has three elements i) General Practitioner with specialist CPN/CMHT support ii) General Practitioner with DART support, iii) Consultant Psychiatrist in conjunction with DART. The level of care received should relate to the complexity and severity of the clinical problem. The three elements of this model should be applied throughout the district.

1. General Practitioner with specialist Community Psychiatric Nurse/Community Mental Health Team support. This element is already in place in most of the areas served, and will serve the needs of the majority of problem drinkers referred to the statutory sector. For these patients the Drug and Alcohol Resource Team provides advice to the specialist CPN/CMHT but not direct treatment.

2. General Practitioner with Drug and Alcohol Resource Team support. The G.P. retains medical responsibility whilst DART provides other components of treatment including advice if necessary from the Specialist Addictions
Consultant Psychiatrist. This is for a small proportion of patients only, who require specialist multi disciplinary intervention.

3. Specialist Addictions Consultant Psychiatrist in conjunction with DART. This is for an even smaller proportion of patients, who will have more severe or complex needs which warrant direct specialist Consultant Psychiatrist intervention together with specialist multi disciplinary help.

With regard to alcohol misusing patients, the Consultant will have direct clinical responsibility for a smaller proportion of patients attending all statutory services and a proportionately greater role in advising Consultant colleagues and General Practitioners.

**6.3 Services for drug-misusers**

**RECOMMENDATION 3**

"It is recommended that the following model of service provision for problem drug users be adopted. This has three components I) General Practitioner with EDP support ii) General Practitioner with DART support iii) Consultant Psychiatrist and DART".

The role of Exeter Drugs Project would be to concentrate on counselling, advisory and advocacy work, in addition to offering a range of specific interventions, some in conjunction with statutory services. The role of the statutory services would be to offer multidisciplinary assessment and management of drug-users, in particular those with severe problems or complex needs e.g. patients with dual-diagnoses, some pregnant drug/alcohol users,
HIV+ individuals or those with physical health care problems and those with particularly severe or problematic dependency. The statutory services should also offer a satellite-clinic within Exeter Drugs Project.

For drugs, the Specialist Addictions Consultant Psychiatrist would be advisory both to EDP and the G.P. For patients who are well stabilised, or are relatively non problematic, it is possible for care to be wholly the responsibility of the G.P. and the Community Mental Health Team although this in practice is likely in only a small number of cases. Unlike with alcohol, it is not advised that the Specialist C.P.N. or the CMHT routinely treat problem drug users without the advice and support of the Specialist Addictions Consultant Psychiatrist and DART.

With regard to drug-misusing patients, the Consultant will have responsibility for the clinical care of the majority of such patients attending statutory services and shared responsibility or a clinical advisory role for those patients who remain with their General Practitioner or General Psychiatric Consultant.

The Drug and Alcohol Resource Team should be the main statutory specialist provider of services to problem drug users. It is recognised that the main statutory service providers of direct interventions with problem drinkers however will be the Primary Health Care Team (PHCT) together with the Community Mental Health Team (CMHT) which includes a Specialist C.P.N. for alcohol. DART will in the main provide support, supervision and training on alcohol to the CMHT/Specialist C.P.N. and PHCT.

The advised Consultant Psychiatrist and the DART team would comprise the main statutory resources. DART should assess those individuals with drug-misuse problems who are self-referred, referred by GPs, Social Services,
Probation Services, General Psychiatric services etc. and draw up an appropriate care plan. Case-management may be undertaken solely by DART, or in conjunction with General Practitioners and/or Consultants in General Psychiatry. With regard to Exeter Drug Project, the Consultant should have an advisory role.

Arrangements for the clinical care of individuals who currently receive a prescription from the Clinical Assistant at Exeter Drug Project require review. The Consultant Psychiatrist should take on responsibility for their medical care. It is recommended that the Consultant Psychiatrist and members (including junior medical staff) of DART undertake regular satellite clinics within Exeter Drugs Project. Some form of joint Care-plans will need to be devised in which the Consultant retains medical responsibility for prescribing and medical issues, whilst other aspects of care are undertaken by Exeter Drugs Project staff or DART, as appropriate. As a first priority, the Consultant will need to review the treatment of those Exeter Drugs Project patients on a prescription and any other individuals requiring medical assessment. For some prescribed patients, it may be appropriate to transfer their care back to the DART team base and/or community settings in conjunction with the General Practitioner.

It follows from this approach that problem drug-users may prefer to attend Exeter Drug Project, others will attend the DART. Whatever the setting in which they present, all individuals should receive a standardised assessment, including (for Exeter Drugs Project attendees) DART assessment in the satellite clinic. Those individuals who require a prescription as a component of their care, will attend the Satellite clinic at EDP or the DART team base as appropriate.
6.4 Outpatient provision

The present DART base may not be the most appropriate setting for increased clinical activity with drug/alcohol misusing patients.

Recommendation 4

"It is recommended that a more appropriate clinical setting for the DART and Consultant Psychiatrist is identified. This would enable the statutory services to conduct Drug-misuse out-patient clinics on a regular basis. Such an outpatient setting will need to be easily accessible and contain adequate space and provision for counselling, physical examination, group therapy and staff rooms".

6.5 Inpatient provision

Recommendation 5

It is recognised that indications for inpatient treatment of drug/alcohol problems include severity of the illness, concomitant psychiatric problem or associated physical or social problems. The Royal College of Psychiatrists (1992) recommends an average of 3 beds per 100 000/population which would yield at least 9 beds for this District.

"As a first step, consideration should be given to identifying 4 beds for the treatment of substance misuse, preferably in one ward. This is the absolute minimum which could allow for the development of specialist skills by nurses and other disciplines."
6.6 MULTIDISCIPLINARY TEAMS

Recommendation 6

Given the role of the advised Consultant Psychiatrist, that of the Clinical Psychologist will be different from that which previously applied. Nevertheless, this post is an important component of the total multidisciplinary service in both direct interventions with patients and indirectly by advice, supervision and training of others. The clinical psychologist will act to ensure the necessary quality of psychological care not only within DART, but in an advisory capacity across all of the statutory and non-statutory services.

"The Chief Executive of The Trust should ensure the job description of the Clinical Psychologist post is revised. The main components of the post should be the development and provision of specialist psychological interventions, staff training and supervising psychological interventions as applied by other professionals, volunteers and other staff, as well as taking the lead on service related research, audit, monitoring and evaluation. The reformed post should be effected as a matter of urgency. The specialist nature of work with these patient groups necessitates a full time dedicated post which can not be provided by clinical psychologists in general adult mental health".

6.7 THE ROLE OF A CONSULTANT PSYCHIATRIST

Recommendation 7

"In order to provide the necessary level of care, a full time specialist post of Consultant Psychiatrist in Addictive Behaviour (drugs and alcohol) should be
created. The post holder will be expected to act as "champion" for the addiction services, and will be the main source of advice on drug/alcohol misuse issues to the Exeter and North Devon Community Health Service NHS Trust and an important source of advice to the Exeter and North Devon Health Authority, to the FHSA and to Social Services".

The roles and responsibilities of this post are described in greater detail later, and the rationale for a full time appointment is given in various sections of this report. Although the post would be of value to the district as a whole, the post would relate to the Exeter Healthcare District and would not include North Devon.

"An appropriate Job description for the post of a full-time Consultant Psychiatrist with responsibility for Drug and Alcohol-misuse services, should be developed as a matter of urgency".

This individual should have responsibility for:-

1) **District Advisor on Substance misuse.** The post holder will be the main source of advice on drug/alcohol misuse issues to the Exeter and North Devon Community Health Service NHS Trust and an important source of advice to the Exeter and North Devon Health Authority, to the FHSA and to Social Services. The post-holder will also make a leading contribution to the development of the advised District Strategy, and actively participate in the Exeter and North Devon DDAC and other relevant bodies.

2) **Management responsibilities:** the advised Consultant should be Lead Clinician for Addiction Services within the Trust. The Addiction services should also identify a Service Manager to manage the DART and other elements of the

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**6 Recommendations**
statutory services. The advised Consultant and the Service Manager should report to the General Manager.

3 ) **Clinical responsibilities:** the advised Consultant should be responsible for the medical and psychiatric aspects of assessment, treatment and care of patients with drug/alcohol-misuse problems presenting to the Addiction Services and advising on the care of such patients presenting to colleagues in primary care, general psychiatry and to the non-statutory services.

With regard to drug-misusing patients, the Consultant will have responsibility for clinical care of the majority of such patients attending statutory services and shared responsibility or a clinical advisory role for those patients who remain with their General Practitioner or General Psychiatric Consultant. The Consultant will not have clinical responsibility for clients of Exeter Drug Project, unless such care is negotiated and subject to appropriate clinical control and monitoring.

With regard to alcohol-misusing patients, the Consultant will have direct clinical responsibility for a smaller proportion of patients attending all statutory services and a proportionately greater role in advising Consultant colleagues and General Practitioners.

These responsibilities demand a full-time appointment i.e. a Consultant specialising in the Psychiatry of Addiction. In fact this is less than the Royal College of Psychiatrists guidelines (1992) which recommend 0.6 WTE/100 000 population i.e. 1.9 WTE for a population of 318 000.
6.8 Junior Medical staff and training role

Recommendation 8

It is essential that a junior medical staff placement is made available to support the Consultant.

"The present Clinical Assistant post should be ended and a full-time Registrar training position established."

Training approval should be sought from the Royal College of Psychiatrists. Consideration could be given to identifying a supernumerary Senior Registrar position though Regional manpower and Royal College accreditation would be necessary. The advised Consultant should also take a lead role in the training of SHO/Registrars in the Psychiatry of Addiction, and be available for clinical advice as necessary.

6.9 Emergency and out-of-hours service

Recommendation 9

"As a matter of priority, the Consultant should draw up guidelines for the out-of-hours management of drug/alcohol misusers who may present to general medical or psychiatric services."

Such guidelines should include references to assessment, appropriate prescribing interventions and means of accessing statutory services. The guidelines should also refer to the acute management of drug/alcohol users in Accident and Emergency settings. Though the advised Consultant may
participate in the General Psychiatry duty rota, the individual clearly cannot be on call 24 hrs/day. It is suggested that the job of General Psychiatrists in assessing and responding to out-of-hours drug/alcohol misuse problems would be greatly facilitated by the advised Guidelines.

6.10 Forensic Psychiatry

Recommendation 10

"The advised Consultant should, jointly with colleagues from the Probation service, the Police service, Forensic Psychiatry, INSIGHT and Exeter Drug Project, advise the DDAC and the purchasers as to issues relating to the care of problem drug users in the Criminal Justice System. Such advice will need to cover i) arrest-referral schemes and their implications for local services ii) the impact of any proposed court-diversion schemes and in particular, the need for funding to follow any patient referrals iii) guidelines on the joint management of cases together with the Probation service."

The Consultant should, jointly with colleagues in the Prison Medical service, draw up guidelines for the care of drug/alcohol users in custody, including arrangements for the care of such individuals on their discharge from prison. These guidelines should take account of existing services in prisons provided both by the statutory and non statutory sectors.

6.11 Clinical Audit

Recommendation 11

"The advised Consultant should develop systems for clinical audit for statutory drug and alcohol services and together with the Director of the Exeter Drug
Project, develop standardised measures of client/patient activity and outcome measures”.

POLICIES FOR ASSESSMENT AND MANAGEMENT OF DRUG/ALCOHOL MISUSERS

6.12 Assessment

Recommendation 12

“The advised Consultant should, in collaboration with other relevant disciplines, draw up a policy for the assessment of drug/alcohol users presenting to statutory services. Such a policy should contain: recognition for the need for a multidisciplinary contribution, the importance of physical examination including relevant investigations including urine toxicology. It should be recognised that comprehensive assessment is necessary before drawing up care-plans.”

6.13 Prescribing interventions: alcohol misuse

Detoxification from alcohol can carry significant risk of physical and other complications.

Recommendation 13

“The Consultant Psychiatrist should, in collaboration with other relevant disciplines, draw up guidelines for appropriate prescribing in alcohol withdrawal, in order to reduce the chance that any episode of withdrawal is inappropriately managed”
For example, the use of chlormethiazole should be discouraged and the use of a carbamazepine or an appropriate benzodiazepine, encouraged.

6.14 Prescribing interventions: drug misuse

Recommendation 14

"It is recommended that the following considerations should be used to inform the development of a prescribing policy appropriate for the healthcare needs of drug-users in this locality".

The starting point for considering prescribing interventions for drug-misusers is the Department of Health Guidelines (1991). Prescribing interventions should not only be rational, in the sense that they are supported by scientific understanding, but also take cognisance of the patient's individual needs as well having an awareness of the public health impact of such interventions. It should also be emphasised that a drug-users expressed "wants" are not tantamount to "needs".

Prescribing interventions for opiate misusers:-

A range of non-opiate medications may be used for detoxification in outpatient or inpatient settings. Such interventions are suitable for the less dependent-misuser (for details see Appendix 1).

Methadone mixture 1mg/ml BNF is the opiate of choice for stabilisation, detoxification and maintenance prescribing.
Prescription of injectable preparations is not recommended except for well-defined reasons and following specialist Consultant assessment. Valid reasons include short-term provision as a "bridge" to transfer to oral preparations. It is not recommended that General Practitioners should prescribe injectable preparations of any controlled drug.

The prescription of diamorphine should be avoided for the following reasons; it is highly valued by drug-users and liable to misuse (this applies to ampoules and tablet preparations), it has a relatively short-duration of action and once diamorphine prescribing has occurred in a locality a demand is created which is difficult to resist. Patients currently receiving diamorphine prescriptions should be assessed by the specialist Consultant and slowly transferred onto methadone, in an inpatient setting if necessary.

**METHADONE MAINTENANCE PRESCRIBING:**

Methadone maintenance has a recognised role in reducing harm and enabling long-term opiate users to reach stability (Ward, Mattick & Hall 1992, Advisory Council on the Misuse of Drugs 1993, American Psychiatric Association 1994). It is not appropriate for maintenance to be available "on demand" but only following thorough multidisciplinary assessment, taking into account the duration of opiate-dependence, previous response to treatments and the age, personality and social setting of the patient. The components of a methadone maintenance programme should be carefully defined, with consideration of clinic setting, frequency of contact and monitoring, and site of methadone dispensing.

A methadone programme may be run satisfactorily from a Specialist out-patient Drug Dependency Unit setting provided that facilities are available for daily attendance, appropriate opening hours, rooms for individual and group work,
facilities for physical examination and separate toilet facilities. Such a programme may be established in a suite of out-patient rooms provided that they are used only for this purpose.

Within this locality, a re established DART team operating from an outpatient setting would be appropriate for this purpose. It is recognised that a certain number of maintained patients will attend the DART satellite clinic within Exeter Drug Project.

The specialist Consultant should draw up a detailed policy on methadone maintenance treatment dealing with entry criteria, means of monitoring change/progress, sharing the care of selected patients with their General Practitioners.

METHADONE DISPENSING:

There is concern within this locality at the rising cost of prescribed treatment for drug-misusers, largely due to the cost of methadone dispensed from community pharmacies. It has long been recognised that daily collection from community pharmacies has the advantages of dispersing the patient population and convenience for the patient. The disadvantages are cost and potential diversion of the drug. By comparison, centralised daily dispensing minimises diversion but leads to large numbers of patients attending a setting each day - this can facilitate drug-dealing to the detriment of individual patients. The Department of Health Guidelines (1991) state "services should be arranged to avoid congregation of large numbers of drug misusers".

In this locality, a combination of the following is proposed; i) daily dispensing and consumption from a central DART clinic ii) daily dispensing and where possible
consumption in community pharmacies iii) GP prescribing with daily attendance at community pharmacies as ii).

The DART team should establish a central location, perhaps located in the advised outpatient setting, which enables patients to attend daily and to consume their methadone on the premises. Provision will have to be made for making weekend doses available in carry-out form, unless a hospital pharmacy venue can be persuaded to take on this role on a daily basis. Attendance at the central programme is indicated for those patients new to treatment, those detoxifying over short periods who need more intensive support and those who may be chaotic or problematic.

Following demonstrated stability and/or progress in this setting, selected patients may either attend community pharmacies on a daily basis or their care may be shared with the General Practitioner, with again dispensing from community pharmacies.

PRESCRIBING INTERVENTIONS FOR AMPHETAMINE MISUSERS:

It is recognised that amphetamine misuse is a significant problem in this locality and that in response, limited prescribing of dexamphetamine sulphate has occurred. This practice should be reviewed as a matter of urgency. The ability of a doctor to legally prescribe a drug is not tantamount to that being an appropriate or ethical treatment.

Amphetamine prescribing is inappropriate for a number of reasons. The previous experience of prescribing stimulants in this country and other countries was that problems related to misuse worsened. There is no scientific rationale for such an intervention and some evidence to suggest that neurological harm may result.
There has been no thorough published evaluation to demonstrate individual health-gain. The public health impact of such prescribing may well be harmful. (These arguments are presented in more detail in Appendix 2).

**Recommendation 15**

“No new amphetamine prescribing should occur within the statutory drug-treatment services and every effort made to advise General Practitioners of the inadvisability of such practice. Patients currently receiving prescriptions for amphetamines should be reviewed as a matter of urgency by the specialist Consultant and every effort made to persuade those patients to withdraw, with appropriate symptomatic interventions as indicated.

Patients currently receiving amphetamines should be informed it is not Trust/FHSA policy to continue prescribing these drugs. Patients will be given notice that after a determined date, no prescribing can continue. Those patients who require symptomatic help during withdrawal will receive it”

Such a policy would only be effective if fully supported by local clinicians i.e. the agreement of the Trust and FHSA will be needed to lend support to individual doctors. It is recognised that this recommendation will require gradual implementation and that in the first few years at least some G.P.'s will require particular attention from the Consultant in providing advice and support.
7 REFERENCES


Meyer R (1992) New pharmacotherapies for Cocaine dependence...Revisited *Archives of General Psychiatry*, 49, 900-4

Royal College of Psychiatrists (1992) Mental Health of the Nation: The Contribution of Psychiatry

South Thames (West) Regional Drug and Alcohol Team Annual Report 1994. St George's Hospital Medical School, London.


8 APPENDICES

Appendix 1 PRESCRIBING SCHEDULES FOR DETOXIFICATION FROM OPIATES

A range of non-opiate medications may be used for detoxification. These include combinations of e.g. lomotil (diphenoxylate hydrochloride 2.5mg, atropine sulphate 25 mcg) or loperamide (loperamide hydrochloride 4mg) and or a non-addictive sedative such as melleril. A suggested regime is lomotil 2 tablets qds for four days plus thioridazine 25mg bd with 50-75mg nocte for 1-2 weeks and tapered at the end of this time.

Alpha-adrenergic antagonists:

Clonidine may be used in outpatient settings provided that blood-pressure is monitored regularly. Treatment starts with doses of 0.2-0.4 mg per day in divided doses increasing gradually to a maximum of 1.2mg per day in divided doses. Treatment should be stopped if the blood-pressure falls below 90/60. The dose of clonidine may be maintained for 7-10 days then reduced over 2-4 days.

7 References
Lofexidine (Britlofex tablets 0.2mg) may be less sedating and hypotensive than clonidine (Washton et al 1983). The initial dose is 0.2mg bd increased by increments to a maximum of 2.4mg/day. The dose is maintained for 7-10 days until opiate withdrawal symptoms have settled, then reduced slowly over 2-4 days.

The opiate-antagonist Naltrexone may be combined with clonidine for a more rapid detoxification in supervised outpatient settings (for details see Ghodse 1989).

With regard to opiate medications, methadone mixture 1mg/ml B.N.F is the preparation of choice. Tablet preparations are more liable to misuse. Following stabilisation, the majority of patients may be withdrawn over periods ranging from 2-3 weeks to 12 weeks. Longer-term periods of withdrawal should be avoided as such interventions can turn into maintenance by default. Shorter periods of withdrawal are acceptable in an inpatient setting.

Dihydrocodeine (tabs 30mg) is often used in GP settings but its use is not recommended for the following reasons; it is relatively short-acting, it cannot be prescribed on an instalment basis on FP(10)Ad forms and tablet preparations are readily crushed and injected.
Appendix 2: RATIONALE FOR NON PRESCRIPTION OF AMPHETAMINES.

1 Amphetamine withdrawal states:

It is recognised that stimulant withdrawal states are experienced, but they differ fundamentally in severity and course from withdrawal states from other drugs such as opiates, alcohol or benzodiazepines. First, perhaps 2/3 of stimulant users are not dependent and do not take their drugs on a daily basis (Gossop et al 1994). For even regular users, cessation may be asymptomatic or lead to a mild withdrawal state characterised by craving, sleep disturbance, low mood and energy (Gawin & Ellinwood 1988). This state is short-lived and the majority of those who show symptoms will be comfortable within a week. There are a range of symptomatic prescribing interventions which have been proposed to alleviate withdrawal symptoms when they occur (Gawin & Ellinwood 1988, Meyer 1992). For these reasons prescribing amphetamines as an agent of stimulant detoxification is unnecessary and inappropriate.

2 The nature of amphetamine and stimulant misuse

Patterns of stimulant misuse differ very fundamentally from patterns of opiate misuse. It has recently been shown (Gossop et al 1994) that about 2/3 of stimulant (in this case, cocaine) users reported were not dependent on their drug and in particular, did not show regular daily use. It would be wholly inappropriate to prescribe stimulants for such individuals. Second, for even those stimulant users who report daily use, the majority use in this way to induce a state of arousal, which given the duration of action of the drug, is short-lived. Stimulant withdrawal symptoms differ very fundamentally from opiate withdrawal
symptoms, not only in severity but also to the extent that they cue repeated stimulant use.

In other words the effect of prescribing daily amphetamines to an individual who has shown daily use is merely to supplant one source of the drug for another, without leading to stability or health gain.

Appendix 3: CONTRIBUTORS TO THE REVIEW

The Centre for Addiction Studies gratefully acknowledges the co-operation and help given by the many contributors in Exeter and district. The following contributed to this review in Exeter:

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CENTRE FOR MENTAL HEALTH SERVICES DEVELOPMENT
KING'S COLLEGE LONDON

RESPONDING TO NEED

A report on the further development of services for problem alcohol and drug misusers in the Angus District of Tayside Health Board

A Report by Paul Davis, Consultant Clinical Psychologist in Addictive Behaviour

Centre for Mental Health Services Development
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London W8 7AH

3 December 1995
From: The Centre for Mental Health Services Development
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Based on a consultative review of Angus services for substance misusers conducted by the Centre for Mental Health Services Development, November 1995, as part of a wider review of Mental Health Services by Tayside Health Board
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1.0 BACKGROUND

- This report was commissioned by the Tayside Health Board, as a means of:
  
  ⇒ assisting in the evaluation of the need for substance misuse services for Angus residents
  ⇒ identifying how well current services match these needs
  ⇒ identifying good practice which would match these needs
  ⇒ advising on the options for further development
  ⇒ advising on options for taking forward joint strategic work on drug and alcohol services

- The review was conducted by an independent organisation in order to provide objective advice; it is acknowledged however that much work on needs assessment has already been carried out both by the purchasers and providers of services and this has been included in the present report where ever possible. In addition considerable progress has already been made towards joint strategic work, and the suggestions made here are intended to help build on this. The co-operation and encouragement of all those who contributed to the review is gratefully acknowledged.

- The review in Tayside took place on 27 and 28 November 1995, and consisted of visits and meetings covering a variety of purchasers and providers of services from social services, health, the non statutory and voluntary sectors, as well as with users of services. The document “Quality Assurance in Substance Misuse Services” was used as a framework for assessing the Tayside services and as a basis for recommendations for change.
The need for change in the non statutory and statutory service provision for drug and alcohol users has now become urgent for a number of reasons which include:

- the change to a unitary local authority for Angus from April 1996
- recognition that there may be alternative models of service delivery which give better value for money for Angus
- concern over possible inequity of service delivery in Angus and Tayside as a whole which might not reflect need
- the need for a purchaser driven clear direction and strategy for these services

It is worth noting again here the Basic Principles of “Tayside Health for All”, which Tayside Health Board, Tayside Regional Council and the three District Councils including Angus agreed as the foundations to work to:

- Equity - the reduction of inequalities in health
- Empowerment - enabling individuals to realise their full physical and mental potential
- Participation - by communities in decisions affecting their health
- Co-operation - between statutory and voluntary agencies involved in health and social issues to work together to develop common priorities and strategies to bring about improvements in health
- Local Primary Health Care - preventive services at community level

In addition a number of agreed factors in the way services are delivered need to be applied. These include:
1. Interagency planning and liaison is essential.
2. Specialist statutory services cannot be solely responsible for the total provision of care for drug and alcohol misusers. Primary care and generic mental health teams have an important contribution to make, as do the non statutory and voluntary sectors.
3. There is a need to develop the non statutory services whilst recognising the areas of contribution, expertise and skills of statutory service staff.
4. Service provision needs to be community focused, readily accessible and offering a broad range of treatment provision including access to community, outpatient, inpatient and rehabilitative care.
5. There needs to be an awareness that "treatment" covers a broad range of interventions and is not restricted to harm reduction or detoxification; helping people to maintain their health gains and changes is a vital part of substance misuse services.
6. Quality of care issues should be central to service provision and there is a need to develop protocols for clinical practice, measuring clinical activity and outcome, ensuring appropriate training and supervision.

3.0 EXISTING GOOD PRACTICE

The review highlighted many examples of good practice which are to be commended and which should be built on by the developing services. Two examples are given here

- The Tayside Alcohol Problems Service Inpatient Unit at Sunnyside Royal Hospital in Montrose offers a programme which is a model of good practice. This is a highly specialist and unique service which should be protected from any reduction as a result of changes elsewhere in the services.
• The appointment of a G.P. Facilitator by Drug Problems Centre, Dundee Healthcare NHS Trust, in order to implement a policy of shared care between the primary care team and the specialist, is viewed as an excellent service development. The shared-care system is seen as significantly enhancing quality of treatment, and this project will serve as a model for other drug services in England as this is a major recommendation of the Government's recently published White Paper "Tackling Drugs Together; A Strategy for England 1995-98".

4.0 THE REVIEW PROCESS

Prior to and during the Review a number of reports and documents were consulted. These included:

Tayside Health Board Annual Report 1993-94
The Tayside Council On Alcohol Annual Report 1994-95
Tayside Drugs Liaison Committee "Towards A Strategy On Drugs for Tayside" February 1995
Drug Problems Centre "Working Together In The Care and Management of Drug Users". April 1995
Drug Problems Centre "Outreach Clinics In Angus" 1995
Tayside Health Board Alcohol Services Workshop, Workshop Report, 24 November 1994
Tayside Alcohol Problems Service "Workload Statistics 1987 - 1994"
Angus Mental Health Service Development Plan
Tayside Alcohol Problems Service “Broadening The Base of Alcohol Treatment in Tayside”. 1995
Tayside Alcohol misuse Co-ordinating Committee “Report On Integrated Alcohol Services Within Tayside”
Tayside Regional Council and Tayside Health Board “Community Care Plan 1994-1997 (including its two accompanying reports “Analysis of Community Care Information” and “Action Plan”)
Tayside Alcohol Problems Service report on “Existing Service Provision and Redevelopment and Relocation” 1995

The following people contributed in person to the Review:

Elisabeth Hill Tayside Alcohol Development Officer
Dr Peter Rice Consultant Psychiatrist, Tayside Alcohol Problems Services (TAPS), Angus NHS Trust
Neil Fraser Locality Manager, Angus NHS Trust
Robert Peate Principal Officer Adult Care, Tayside Regional Council Social Work Department, Dundee
Andy Ronie G.P. Facilitator, Drug Problems Centre, Dundee
Dena Ajeda Senior Clinical Nurse Specialist and Team Leader, Drug Problems Centre, Dundee
Dr Brian Johnston Consultant in Charge, Tayside Drug Dependency Services, Dundee Healthcare Trust
Karl Stern Manager, Regional HIV/AIDS, Drug, and Alcohol Services, Tayside Regional Council, Social Work Department, Dundee
Service Users TAPS Clients Council
Pam Gowans Charge Nurse, TAPS, Sunnyside Royal Hospital, Montrose
The following sites were visited during the Review:

- Alcohol Inpatient Unit, Sunnyside Royal Hospital, Tayside Alcohol Problems Service
- Tayside Regional Council Social Work Department, Dundee
- Drug Problems Centre, Dundee
- Kandahar House, Dundee
- Abbey Health Centre, Arbroath
- Tayside Council on Alcohol, Dundee

A number of key questions were devised before the Review and formed the basis of discussions with those who contributed in person:

- What are the types of alcohol and drug problems experienced in Angus, what is the size, nature and extent of the problems?
Are there any particularly unique characteristics of Angus or unusual features which will affect the needs of Angus clients and how services need to be delivered?

What are your current services?

What is the non statutory and voluntary sector contribution to Angus?; how do (or could) these services benefit Angus and how do they fit in with the statutory sector services?; how might they be better/further developed?

What are the benefits of the existing services to Angus residents? Are there any alternatives that might give a higher quality of service with better value for money?

What are the advantages/disadvantages of organising services on a Region wide basis?

What are the needs for residential compared with community programmes?

What gaps are there in services (in terms both of types of services and levels of staffing and skills mix)?

What are your hopes/wants/perceived needs for service developments

What fears/rivalries/competitors do you have with regards services for alcohol and drug misusers?

What involvement have service users had in the development and planning of the services?
5.0 ISSUES AND INFORMATION RAISED DURING THE REVIEW
BY PARTICIPANTS

It is not necessary here to give quantitative data on needs assessment, a
detailed description of current services, or to repeat existing plans for
development. These are already provided in detail in the documents described
above.

5.1 Statutory specialist health services for alcohol misusers in Angus
Tayside Alcohol Problems Service

The main specialist statutory services are provided by Tayside Regional Council
Social Services Department Drug and Alcohol Team based currently in Dundee,
and the Tayside Alcohol Problems Service (TAPS) based in Montrose and part
of the Angus Trust. Each provides in addition a Tayside wide service. TAPS
takes a limited number of patients on a “per case” basis from Grampian and Fife
Health Boards.

A 12 bedded inpatient unit specialising in alcohol detoxification and a 19 day
intensive rehabilitation programme is based at The Sunnyside Royal Hospital in
Montrose. This hospital is a psychiatric hospital and is a part of the Angus NHS
Trust taking general psychiatric referrals mainly of Angus residents. As with all
psychiatric hospitals, the move towards community based services has
necessitated a review of its function, and it is possible that it may not continue to
house the alcohol specialist unit although there are no immediate plans for
change.
The inpatient unit is closely associated with TAPS community services, and many of TAPS staff have input to both. All admissions are planned, and all patients are assessed prior to admission by TAPS community staff, normally in the patient's own Health locality. There is a waiting list for admission, partly because each programme takes 19 days with admissions accepted only at the start of a new programme. This inevitably means that crisis admissions are not possible, and on occasions beds are empty because of drop outs and early discharges.

There is a recognition by TAPS that there are insufficient home based treatments, day hospital and community provision. Day Treatment requires a critical mass of patients and so Dundee City has been suggested as the best place to site day facilities, with a recognition that this will serve mainly this area. Other group activities are less feasible in other areas because of transport difficulties, where individual home treatment is seen as a more viable option.

As well as the residential programme, "top up" programmes are occasionally held at Sunnyside for patients considered to be most at risk of relapse. Other services include a Telephone Crisis Line run by inpatient staff for TAPS patients. A recent survey suggested that 15% of staff time is spent answering Telephone Crisis calls. A TAPS Clients Council is held regularly in Dundee and is facilitated by TAPS staff. This meeting provides a voice for service users and "consumer" involvement, and is actively contributing to the development of services, such as a "dry" pub in Dundee for all age groups.

Sunnyside is the central base for all of the health service alcohol staff, apart from the Community Nurses in Perth and Kinross who are employed by the local trust; these Nurses however are supervised by TAPS, and the Consultant Psychiatrist
(Dr Peter Rice) for TAPS assumes clinical responsibility for their patients. Dr Rice is full time (8 sessions) for alcohol Tayside wide.

There is no clinical psychology input to TAPS, and referral of Angus patients with an alcohol problem to clinical psychology in the Dundee Trust is not allowed by the Psychology Department as there is no contract for this. A social worker used to be based within the inpatient TAPS team, but was withdrawn and superseded by the specialist Drug and Alcohol Social Work Team for Tayside.

Training and support for TAPS community and inpatient staff is provided by TAPS at Sunnyside. The community staff for TAPS consist of 1.5 Community Nurses for Angus, 1.5 Community Nurses for Dundee, and 2 Community Nurses for Perth and Kinross. All staff are based at Sunnyside apart from the Perth and Kinross nurses. The Consultant Psychiatrist supervises the work of all of the clinical staff, and he in addition holds clinics in various sites across Tayside including Angus.

The Angus community clinics run by the G Grade nurse are held at Abbey Health Centre (Arbroath) one day per week, a Montrose G.P. surgery 0.5 days per week, Carnoustie 0.5 days per week. The clinics run by the E grade nurse are at Forfar 0.5 days per week. This is supported by a TAPS junior doctor 0.5 days per week. Both nurses in addition provide a domiciliary assessment and treatment service for Angus. These staff contribute as well to the inpatient unit by attendance at clinical reviews, and for example contributing every 3 weeks to a "Sunday afternoon" group.

Detoxification for Angus patients is primarily carried out at Sunnyside in the inpatient programme. TAPS see home based detoxification as highly desirable but not currently feasible without an increase in the number of community staff.
At the moment, home based detox is conducted by the patient's own G.P. with little involvement from TAPS.

There is good liaison between TAPS and the drug team at service provision level. Where there are concomitant drug and alcohol problems it was felt that there is good liaison between the services. In contrast it was felt that where there is co-morbidity of alcohol with psychiatric disorders, liaison was not as good. This is particularly so for Dundee patients where a different trust provides psychiatric services, but is also experienced in Angus where the criterion for which service should take responsibility is on occasions not fully clear. In general, people with a psychiatric illness who require specialist help are referred accordingly, rather than being treated in the inpatient unit.

The advantages of keeping alcohol services under one organisation (TAPS) based around the inpatient unit, were seen as:

A wider professional group is possible
More staff and therefore more flexibility for covering each others work when necessary, specialist skills can be developed, greater supervision and support (both professional and administrative) is possible.
This is the present situation; if it works, why change it? Sunnyside provides a good base, there is good staff morale in the present arrangement, and staff recruitment and retention are good with a feeling of working within a "centre of excellence" highly regarded by many.
In Angus, it is a local service which is accessible and available to Angus people. It is possible for the same staff to provide treatment in the community and in the hospital, therefore giving a "seamless" service.
Residential staff have the opportunity to do some community work, and vice versa.
Fragmentation of the service would lead to poorer communication affecting patient care, and the loss of support would affect staff morale and functioning. If there were no inpatient unit, it was felt that patients would be unable to benefit from other groups run in the community as the inpatient programme trained patients into how to use groups.

The disadvantages were seen as:
The stigma attached to a "mental hospital" base.
Even for some Angus patients, Sunnyside is remote and difficult to reach, particularly by public transport.
Inpatient units are expensive, and may not always provide the best clinical outcomes for the greater number of alcohol dependent patients.
For patients from Dundee, the service is not perceived as "local", it is distant from other services needed by the problem drinker (such as Well Woman, general medical services, housing, leisure etc.), and is seen by some as distant from where the main alcohol problem is (i.e. Dundee).

TAPS staff are aware of the need for local delivery of services, and believe that this is occurring but could be further improved. Far more Dundee patients are seen by the Consultant Psychiatrist and the community team for Dundee than are Angus or Perth patients. The waiting time is shorter for TAPS than it is for the psychiatric services for Dundee. TAPS believes that it provides a community based service for Dundee, and that the perception in Dundee that TAPS is primarily an inpatient service is a misunderstanding.

TAPS does not have good links with the Health Board in terms of influencing planning or the development of services arising from purchaser initiatives.
5.2 Tayside Regional Council Social Services

Tayside Social Services Drug and Alcohol Team

This is based in Dundee but serves the whole Region. The ratio of alcohol to drugs referrals is between two and three to one, and approximately 25% of referrals are from Angus. The staff consist of a manager (Karl Stern), 3 social care officers who give direct care; and four care managers (who are responsible for community care assessments and commissioning). Two of the care managers tend to take more Angus than other area referrals, but in general there is no “sectorisation” of work, although this will change with local government reorganisation. It is planned that Angus will have two care managers and one social care officer.

The Team is separate from TAPS but communication and liaison was reported to be good between the two. Arranging social care rehabilitation immediately following discharge from TAPS inpatient unit was reported to be difficult to arrange on occasions. A residential programme in Dundee (Jericho) is sometimes used for Angus alcohol misusers, but there are no residential projects in Angus itself.

Social Services provide grants (in addition to purchasing services) to a number of non statutory services for alcohol and drug misusers, mainly in Dundee. It was felt that much of the work of the team consisted of purchasing residential social care, largely because of a lack of alternative community services.

The Team provides follow up for many patients from the TAPS inpatient programme, in liaison with TAPS. The Team provides counselling, support and practical help to substance misusers, to complement the TAPS service.
With regards drug services, it was reported that much of the Social Work Team's role concerned injecting drug users. A new service, funded from the joint resource planning group, is planned for women drug and alcohol users who are parents. In addition, a crisis centre for drug users in Dundee is planned. This will be a joint venture between a non statutory sector provider and Social Services, and is a recommendation from the Tayside Drug Action Team.

Social Services provides a statutory service to offenders, many of whom are alcohol or drug misusers. The Courts currently refer to a number of organisations for specialist reports and treatment (particularly the Social Services Drug and Alcohol Team, The Drug Problems Centre, TAPS and Tayside Council on Alcohol). Social Services are in the process of agreeing protocols with the Criminal Justice system in order to clarify criteria for referrals and procedures. A specialist post of drug worker for women on an order has been agreed and will be funded by the Scottish Office. It is expected that the post will be closely associated with the Drug Problem Centre as well as the specialist social work team.

5.3 Non statutory sector provision for alcohol misusers

The main agency is Tayside Council on Alcohol (TCA), based in Dundee but with a region wide remit. This provides many services, but focuses on counselling of problem drinkers and their families carried out by trained and supervised volunteers. At present, the service in Angus is minimal, with one counsellor offering one morning per week in Arbroath. Many more Angus clients, however, attend the counselling service in Dundee. A recent bid put jointly with Barnardos to run a service for children has been put for European Union funding, and if successful will increase drastically the services in Angus. In addition, new
volunteers have been selected from Angus and are in the process of being trained. These are expected to provide a service in Angus.

The service has a full time Director (Frances Claridge) and secretary, with 16 trained volunteer counsellors.

TCA is not integrated with TAPS, with little sharing of information or expertise. The liaison with Social Services Drugs and Alcohol Team was reported to be better.

TCA sees itself as offering more of an educational, early intervention and preventative service than TAPS. Referrals are most commonly self referred. The second highest referral source is the Court, particularly in Dundee. Alcohol counselling and training is provided as well in prisons, including the sole Angus prison (Noranside) where the prison funds TCA to provide 8 counselling sessions per week (each session being between .75 to 1 hour).

It was reported that referrals of problem drinkers from the Criminal Justice system in Dundee are made largely to TCA, whilst in Angus they are largely made to TAPS.

The Tayside Alcohol Development Officer (Lis Hill) has a base with TCA but is funded by the Scottish Office (with a contribution as well from Tayside Regional Council Social Services Department). Since this appointment many developments have occurred. A Council for Voluntary Organisations has now been set up in Angus, and this sector was reported to be steadily growing. A fear was expressed that with the new District Councils, Angus might not automatically
continue funding for TCA as it has been perceived as primarily a Dundee service.

Alcoholics Anonymous is active in Angus. The Scottish Council on Alcohol is responsible for facilitating the local councils, but apart from TCA there are no other voluntary/independent sector organisations for alcohol in Angus.

5.4 Non statutory sector services for drug misusers in Angus

The main agency is the Dundee Drugs and Aids Project, which provides harm reduction work, such as needle exchange in street venues, preventative work with under 16's, work with families and children of drug users, and outreach work with sex workers. The agency reports working collaboratively with the statutory sector, with little unnecessary duplication of roles. No specific services are provided within Angus, but Angus drug users are known to travel to Dundee for help.

The agency is funded mainly by Tayside Health Board, with additional funding from Tayside Regional Council, and "one off" grants from other organisations such as Aids charities. Dundee Drugs and Aids Project is assisting with the setting up of Community Action Teams, one for each of the Districts, and funding has been made available by Tayside Heath Board for a Community Action Team Co-ordinator who will work in the three Districts. In Angus, the postholder (Dr David Bell) will help identify the need for services.

The Scottish Drugs Forum is the co-ordinating forum for voluntary and non statutory sector services for drugs. It employs a Regional Manager (Anne D'Mello) who is responsible for ensuring the development of services and for "pulling together" the services. A Business Plan has been produced, and it is
hoped that this will be integrated with that of the Drug Action Team for Tayside and will help to avoid any obstructions to the development of services resulting from too big an emphasis given to one service provider over another. An emphasis is placed on needs led service developments, with funding of services more geared towards achieving specified outcomes. The Forum is able to help non statutory sector agencies to bid more effectively for funding and to avoid low profile services losing out on funding opportunities.

LADA (Locals Against Drug Abuse) was set up in Angus and operates primarily as a volunteer scheme aimed at primary prevention with younger (under 16) people. The service primarily aims to provide young people with alternatives to drug use, and is not intended for people who are already misusing drugs.

5.5 Statutory Health Services for Problem Drug Users

The Dundee Drug Problems Centre (DPC) is part of a different trust (the Dundee Healthcare Trust) from the alcohol services. DPC is based in Dundee but provides a Tayside wide service. Unlike TAPS, it does not have access to any dedicated or specialist inpatient beds, and so the majority of drug detoxifications are conducted either "home based" by DPC in its prescribing clinic, or by "shared care" arrangements in the community. A small number of inpatient detox's. are carried out by admission to acute psychiatric beds in Royal Dundee Liff Hospital. This was thought to be unsatisfactory as these patients block admission of acute psychiatric patients, although presumably it is unsatisfactory for the drug user undergoing detoxification to be in this setting, for several reasons.

A Consultant Psychiatrist (Dr Brian Johnston) is funded full time (8 sessions) to provide a Tayside wide service. DPC has a Senior Clinical Nurse Specialist (Dena Ajeda) who is the Team Leader. Other staff include a G.P. Facilitator,
clinic and community nurses, two staff grade doctors (giving a total of 9 sessions, mainly in the Dundee base), a clinical psychologist (planned to take up her post in January 1996), and input from the Social Work Drug and Alcohol Team.

The service is for adults (over 16's) and accepts misusers of any drugs including solvents but not iatrogenic benzodiazepine dependent users. In practice many users of the service are polydrug users (opiates, alcohol and benzodiazepines being commonly found) and many are ex or currently injecting drug users. The DPC prescribing clinics have 180 drug users attending walk in/drop in, outreach and outpatients clinics in Dundee.

Dr Johnston has offered specialist input to drug services since 1984. Drug misuse in Dundee has changed from a heroin problem in the 1970’s to more of a polydrug use problem in the 1980’s. The service has expanded and developed with concerns over the spread of HIV and other infectious diseases. It is estimated that there are approximately 1500 injecting drug users in Dundee; DPC sees only a small proportion of these and so there is a fear of being inundated with requests if the service were to reach the full need.

80% of DPC’s intravenous drug users are Hepatitis C positive (according to a Virology Department survey of clinic attenders). The HIV+ rate is 28%. A routine Hepatitis B testing and immunisation programme is not available, although tests will be carried out on request.

DPC has three teams, all based in Dundee and employed by the Dundee Trust, but covering each of the three districts. Dundee Central has two Charge Nurses and one staff nurse. Dundee West and Perth has three Charge Nurses and one staff nurse. Dundee East and Angus has three Charge Nurses and two staff nurses. It is not clear from the information given, how much of this work is for
Dundee East residents, and how much for Angus. The allocation of staff however was reported to have been made on the basis of the size of the drug using population attending DPC from the area covered.

Two clinics are held per week at DPC in Dundee.

Within Angus, a Charge Nurse holds a clinic in Arbroath on one day per week; in Montrose, a clinic is held by a Charge Nurse half a day every week; and in Forfar a clinic is held on half a day per week. There are plans to increase further the number of sessions in Angus. Patients are seen in Kirriemuir on an ad hoc basis. The Nurse will in addition see patients at home on request. All clinics are by formal referral, with no drop in (strictly an appointment system).

In addition, a clinic is held at Noranside Prison, funded as part of the Drug Problems Centre work by Tayside Heath Board. Noranside is an open prison in Angus and prisoners typically go on leave at weekends every four weeks. One session every month is held for one to one counselling and skills training in relapse prevention strategies. It is an over subscribed clinic, each session lasting for at least four hours during which time numbers range from 7 to 9. A Prisoners Support Group is run, and Prison Officers attend courses on drugs run by DPC in Dundee.

There is no formal arrest referral system, but the court frequently refers to DPC from Angus and other districts.

The problems presented by Angus drug users were reported as being essentially the same as those of Dundee users. Users were predominantly injectors, using benzodiazepines, opiates (generally pharmaceutically produced rather than street manufactured or otherwise illicit), with little reported stimulant use
dependency (such as cocaine, amphetamine, or drug problems associated with “dance/rave” cultures such as Ecstasy or hallucinogenic drugs like LSD). Any heroin that is available is reported to be distributed from Aberdeen rather than any more direct supplies. Injecting was said to be common amongst Angus DPC patients, but not sharing of injecting equipment. Recreational drug use was estimated as common but is not a problem presented to DPC in Angus. Recreational drug use is commonly of cannabis, amphetamine, Ecstasy, LSD and alcohol according to DPC.

DPC has recently appointed a G.P. Facilitator to implement a policy of “shared care” between the G.P. and the specialist DPC team. It was reported that a more positive attitude by G.P.’s was present since the late 1980’s and the advent of Aids. The problem for DPC was that more referrals were being made to DPC for treatment which often included a methadone prescription, and most commonly these were long term commitments which meant that DPC quickly became full and unable to take new referrals. This in turn meant that DPC was often left to manage relatively stable patients, whilst the G.P. in contrast was unable to get chaotic and more needy patients seen by the specialist service because of the long waiting list. The solution, that G.P.’s should retain management of those patients who had been assessed and in some cases stabilised by DPC, has been widely accepted by many G.P.’s, although it was reported that G.P.’s in Angus were notably less prepared to take back (or retain) responsibility for prescribing. The concern expressed by G.P.’s has been that patients might migrate to their practice from non prescribing ones.

A recent training event for primary health care staff on “shared care” was attended by 142 staff (43 of whom were G.P.’s). A payment scheme for participating G.P.’s has been proposed, and Prescribing Guidelines for Good Clinical Practice have been issued. Four further training events are planned in
the next few months, two for G.P.'s, one for receptionists and one for practice staff.

Gaps identified by DPC included no services for the under 16's, no outreach prescribing clinics (any Angus patient in need of a prescription has to travel to Dundee unless prescribed by their G.P.) and poor access to a medical and psychiatric assessment as no doctors work on a regular basis in Angus. The latter is a particular problem with regard Angus drug users with concomitant psychiatric problems who do not have easy access to psychiatric assessment within DPC yet cannot be easily referred to Angus psychiatric services by DPC. Similarly it is a problem for any Angus resident not able to travel to Dundee or who is unwilling to attend their G.P. for prescribing or who has a G.P. unwilling to prescribe. It was reported that Arbroath G.P.'s were willing to participate in the "shared care" approach, but that some other areas were not. It is recognised by DPC that a clinic based in Angus which includes medical input is needed on a 5 day per week basis.

A need for education of generic staff was also identified, as was needs for family support, primary prevention with young people, and more services for crisis intervention

A separate Harm Reduction Team is based in the same building as DPC. This Team is part of Dundee Healthcare Trust, and provides a centralised needle exchange scheme for Tayside (although in practice this must only serve Dundee residents). The Team facilitates a pharmacy needle exchange scheme in Arbroath, although this was reported not to be well used. The Harm Reduction Team holds specialist clinics in Dundee which are open to anyone in Tayside, and include clinics for infectious diseases, dietetics, well woman, GUM, and dentistry. The Team in addition provides a "wound care" clinic, telephone
helpline, help for steroid users, and “workshops for sex workers”. Referral of
drug users who are HIV+ can be made to a clinical psychologist at Kings Cross
in Dundee.

The Harm Reduction Team has four Charge Nurses and two staff grade nurses.
Although the Team is accommodated in the same building as DPC, it functions
independently (and on a different floor of the building) and so allows the
seemingly conflicting philosophy (safer drug use behaviours versus help in
stopping) to co-exist.

6.0 SUMMARY OF IMPRESSIONS GAINED FROM THE REVIEW

Areas of uncertainty about the current organisation of services are raised when
considering the quality principles described at the beginning of this report, such
as services being equitable to all those in need, services being locally identified
and owned, making them accessible and available, with an emphasis on
community treatments whenever appropriate and on shared care.

These agreed quality standards for services can not be met by the current
organisation of services. It is difficult to argue:

1. How a drugs service based in Dundee and designed for the needs of
Dundee drug users, can provide the same quality of services in Angus. The
problems may be the same in Angus as Dundee, but this seems unlikely. And
if they are the same, then Angus clients are unlikely to be able to access the
range and quality of services found in Dundee. The current outreach services
are not multidisciplinary. A local understanding of drug problems needs is essential.

2. How a community alcohol service based in Angus can provide the same quality of community services to Dundee and Perth and Kinross, with the same issues as above

3. That Angus residents have a choice of types of services. The non statutory/voluntary sector is not well developed and therefore clients do not have alternatives. And professional statutory services staff are left to conduct many functions which could be carried out at least as well (and for some service programmes are done better) by the independent/voluntary sector.

Furthermore, it is difficult to see how community services for alcohol can be appropriately developed whilst there is so much reliance on an inpatient programme as the "hub" of services.

Despite the efforts of DPC to run outreach work in Angus, the perception, probably real, is that it is essentially a Dundee oriented service meeting the needs of Dundee. Likewise, despite the efforts of TAPS to provide more community services outside Angus than within, the perception, again probably real, is that it is essentially an Angus and institution biased service.

It is difficult to see why the Social Work Team should be as separate as it seems to be from the health teams. Although this arrangement may be seen as the best locally, it seems inevitable that there will be a consequent loss of social work input into the multidisciplinary team discussions. This may affect the approaches taken and perhaps restrict the models of care provided by the health teams.
There is a perception amongst providers of an "arms length" approach taken by Purchasers which is not always desirable. There is a need for specialist professional advisory "machinery" in the planning and development of services.

7.0 OPTIONS FOR CHANGE

7.1 Status quo is not seen as an option; changes are already occurring (e.g. the development of non statutory services). Meeting the needs in Angus necessitates change. The dimensions of change considered need to incorporate
- the non statutory-statutory dimension
- the dimension of segregation-integration of alcohol and drugs services
- regional-local dimension
- one host trust-local trust option.

7.2 Tayside is fortunate to have the expertise of two experienced specialist Consultant Psychiatrists; this resource needs to be preserved for the whole of Tayside, rather than reducing the population size covered. In order to do this, one option would be for each Consultant to keep their existing contracts within their respective Trusts, but for each Trust to have service level agreements between Trusts for recharging for work conducted by the Consultant within another Trust. In the case of Dr Rice, he would preserve his role as Lead Clinician for the Alcohol Inpatient Unit as well as Consultant Psychiatrist for the advised Community Alcohol Teams. In the case of Dr Johnston, he would retain his role of Consultant in Charge for Tayside Drug Services.

7.2 The Consultant Psychiatrists will be expected to act as "champions" for the alcohol/drug services, and will be the main source of advice on drug/alcohol
misuse issues to the provider Trusts and an important source of advice to the Tayside Health Board, to the FHSA and to Social Services.

7.3 The alcohol inpatient unit is well established, offering a unique programme of a high quality. There is a shortage of such units (at least in England, but presumably also in Scotland). By remaining the hub of one Trust’s services however, the development of new services may be blocked. In addition, it is too specialised a unit to be viable for one district alone.

One option therefore is for the unit to remain purchased as a Tayside wide facility, taking referrals according to assessed need from the three districts (and also from other Purchasers). As well as providing an inpatient programme, it should further develop its role as a centre for training and expert advice to alcohol workers. It should not however, serve as a base for community staff working in other areas of Tayside.

7.4 Each District should have its own Community Teams for Alcohol and Drugs. The integration of these into one team would have managerial, professional support, training and clinical advantages, although it is acknowledged that services need to be separate at the point of delivery. The disadvantages of this however are that Consultant Psychiatry input would need to be separate assuming that the Consultants do not incorporate drugs and alcohol into each other’s work. Purchasers may wish to consider the advantages of having integrated Alcohol/Drugs Teams; but it should be recognised that a consequence of this would be that Dr Rice and Dr Johnston would probably need to integrate their speciality across drugs and alcohol too, and start to provide services only within their Trust. Such a change might reduce each Consultant’s specialist expertise.
7.5 Each CAT/CDT should emphasise home based detoxifications and have procedures in place for shared care arrangements with the patient's G.P. The Consultant Psychiatrist's role should be consultative/supervisory rather than direct patient contact. Advice should be readily available to the Team but also for the G.P., particularly for advice on detoxification regimes and management of patients who have co-morbidity of drug and psychiatric disorders. The Consultant Psychiatrist should preserve a limited direct clinical workload with the Community Teams for patients who need a Consultant Psychiatrist, and for training of junior medical staff.

7.6 Patients who require general psychiatry should be referred locally within the same trust as the Community Team.

7.7 The Community Teams should be employed by the local Trust, while the Consultant Psychiatrist post should cover three Trusts. Each Team would need its own Team Leader (any profession, but having a clinical role as well as Leader role).

7.8 Each Community Team should develop its own methods and priorities for service delivery to suit the individual needs of each District, in consultation with the Consultant Psychiatrist and the Purchaser and/or Public Health and the advised reference group. Each service will have to consider innovative day/outreach programmes appropriate to their client groups and the geography of their area.

7.9 The Chairman of Tayside Health Board should in conjunction with the Director of Public Health ensure that the two Advisory Committees for Tayside (Alcohol and Drugs) combine to form a joint drug and alcohol group, made up of senior representatives from each of the commissioning agencies and including
representatives of umbrella organisations for non statutory services. This group should include the two Consultant Psychiatrists as specialist advisors. This group should be informed by (and invite as co-opted members as appropriate) local reference groups (one for each District) covering alcohol and drugs, and consisting of representatives from the provider services.

7.10 Each reference group should be tasked with producing its own strategy proposals for service developments.

7.11 The two Consultant Psychiatrists for Alcohol and Drugs should be responsible for the setting up of the Community Teams, identifying bases, protocols etc., and should report to the reference groups on progress.

7.12 Social Services should nominate a Drug and Alcohol Team member to attend routinely the CAT/CDT clinical review meetings (and not the other way round).

7.13 As a priority, the non statutory sector services need to be further developed. Contracts with Purchasers are needed, preferably contracted on the basis of outcomes to provide services in this field. Ideally these services will be developed alongside the statutory service developments, in order to provide more of a “seamless” service with good interagency communication and avoidance of unnecessary duplication. Wherever functions can be performed by the non statutory sector without compromising quality, funding should go in preference to the non statutory sector. Rivalry and competition will be likely to be reduced if the non statutory sector is working collaboratively with the statutory sector. This should not be done however at the expense of client choice, and so a compromise is necessary in which choice is available along with collaborative interagency working.
7.14 There will always be a need for crisis admissions for inpatient treatment including detoxifications and for alcohol this is not available with TAPS inpatient unit at Sunnyside. It will be necessary for each Community Team to arrange locally for access for inpatient detoxification. It is suggested that follow up should routinely be provided by the Community Team. For alcohol, referral to the intensive inpatient programme at Sunnyside Royal should be the exception rather than the norm, with most relapse prevention interventions occurring in the patient's community and provided by the Community Team. Most detoxifications should be home based, and less commonly should be programmes in local hospitals.

7.15 TAPS inpatient unit at Sunnyside Royal might consider offering a post detoxification programme for all of its patients and examine whether this could reduce the programme length.

8.0 ACKNOWLEDGEMENTS

The Centre for Mental Health Services Development gratefully acknowledges the help given to this Review by all of the people in Tayside listed above. Particular thanks are due however to Lis Hill for arranging the schedule of meetings and for ensuring that the Review ran smoothly with good organisation of transport around Tayside.
Evaluation of the effectiveness of the Consultancy Reviews

The three examples described here were chosen to represent a variety of commissions carried out; each of these had a different purpose and therefore the effectiveness of each report needs to be considered separately.

1.0 'Time for Change (Malta Visit)

The work for the Government of Malta was well received and many of the recommendations have subsequently been implemented. An agency for both drug and alcohol services (which prior to the report were to have been considered separately) was set up with a role that was primarily that of a co-ordinator of provider services, as well as acting as a development agency as proposed. Against the advice of the Report, this agency provides management for some of the provider services, and as a result there is a lack of objectivity when advising on the development of services and funding other services.

Nevertheless, this agency has emerged as the 'umbrella' organisation in Malta, negotiating and monitoring a work programme with all of the services. It has developed a strategy for training, as recommended, which subsequently led to key staff being seconded for training at St George's Hospital Medical School. In addition, a further consultancy visit was commissioned to report on further training needs, which led to courses being held in Malta supervised by me and other consultants.

The Agency is accountable to the advised interdepartmental Government authority. A key appointment was made to a newly created post responsible for the development of a strategy for prevention, as advised. Unfortunately no action has been taken to ensure the inclusion of Psychiatry at a senior level, and services continue to be provided separate from psychiatry.
A major effect of the Report was to encourage the adoption of the five principles for service delivery (community based, multidisciplinary, multiagency collaboration, flexibility in programmes offered, working to agreed service specifications). A consultant from my agency was commissioned to help recruit staff in the UK for secondment to key posts in Malta (a clinical psychologist and a social worker are on fixed term contracts for this). Many of the specific short term recommendations have now been implemented.

The value to the commissioners of this Report was both in its contents and the fact that outside 'experts' were making these recommendations. Before the Report there had been an inability to move the services forward because of rivalries and internal competition, which the Consultancy Visit overcame.

2.0 Responding to need (Exeter Visit)

The 'politics' behind this commission was discovered to be that the NHS Trust, and the Department of Psychiatry within that Trust, believed that control over drugs services, and to a less extent alcohol services, was with other agencies. Their concern was partly over quality control, Trust resources being used without control from the Trust, and a belief that attempts to develop the Trust's services were being blocked because of the way other services had been developed. The Report therefore was well received by the Trust as the majority of its recommendations highlighted the need for development of the statutory services and for the appointment of a Consultant Psychiatrist to lead these developments.

Although these recommendations were accepted in principle by the Trust, funding for the advised post was not made available. Such a post has major funding implications beyond the cost of the post itself (support staff, hospital beds, office and community clinical bases etc.), which the Trust was not able to fund. This was known at the time of the visit. The effect of the Report,
however, has been to provide the Trust, and the Department of Psychiatry, with 'ammunition' to prevent further Health Authority money from being diverted to the non-statutory sector given that statutory service provision was so clearly lacking. Moreover, our comments on quality control over health services provided in the non-statutory sector meant that these services have had to take account of the need for statutory sector involvement. In particular, the recommendations on the treatment of stimulant dependency were implemented, and the guidelines given on the treatment of opiate dependency using substitute drugs have been adopted as policy.

The specific recommendations on the development of a multi agency strategy have been carried out, although these changes are at least as likely to have been the result of the Government's strategy report ('Tackling Drugs Together') as our Report.

3.0 Responding to need (Tayside/Angus Visit)

This Report was commissioned by the Purchasers in Tayside. The dilemma for the Purchasers was whether services could be made more local and community based given their current configuration, and how best to reconfigure the services if necessary.

The Report was well received. The need for change was accepted by the Purchasers and Providers, and led to further consultancy commissions to help implement the recommendations. Since then there has been further development of community based services in that more patients are seen in local settings than before. Each Trust continues to be 'host' for providing different services in each other's areas, but with separate teams allocated to different localities so that a more local service can be provided.

The structure of the services has not changed, but the issues are still being discussed with the intention of eventually implementing one of the
alternatives for change described in the Report. The need for further development of the non-statutory sector services was accepted and has led to a strengthening of these. Follow-up contact with one of the non-statutory services suggested that there was a desire both to develop these services and to involve them more in the strategy development and planning process. Follow-up contact with the Alcohol Inpatient Unit (TAPS) suggested that the threat of fragmenting this Unit has diminished, although the need to site the Unit in a more accessible base is recognised and is under review.

4.0 Conclusions

The three reports each had an impact in different ways. The Malta Report led to further work and the practical implementation of many of the recommendations. Exeter was a Report used more for political reasons than for practical change, whilst the Tayside visit was adopted as part of a longer term project for producing improvements to services.

Without the quality assurance document the development of the consultancy service would have lacked a framework. The Consultancy Reviews revealed, however, a number of issues that were 'lessons learned' and not anticipated before the work was carried out. The main outcome which influenced practice was the unexpected widely divergent purposes for the commissioning of this type of work. The hidden agendas, local rivalries and vested interests of the different parties involved means that in future consultancies might be improved by a 'pre-visit' visit to negotiate the agenda and learn about the local politics. This was done with Exeter but not the other visits.

Another issue was the need to include all stakeholders and not simply the ones chosen by the commissioners. This was problematic in all of the reviews described here, and led to the adoption of including stakeholder meetings in subsequent consultancy reviews. Finally, a lesson learned was
in how to cost the consultancy reviews. In all cases the commissioners had
difficulty in understanding that the real cost had to include overheads, time
for writing the Reports, and costs to the employing organisation of
consultants being taken away from their other work. In addition, in order to
attract consultants to take on this work, benefits other than their ordinary
salary (such as being accommodated in hotels and restaurants above normal
health service entitlements) are essential, but difficult for commissioners to
accept. A more realistic pricing system is therefore needed.
SECTION FOUR

RESEARCH AUDIT

The Measurement of Addictive Dependency

in Pathological Gamblers
Acknowledgements

The kind permission of Dr Henry Lesieur to use the South Oaks Gambling Screen is gratefully acknowledged. The contribution of Drs Colin Drummond (for allowing the Alcohol Problems Questionnaire to inform the Gambling Problems Inventory), Hugh Williams, Reims Klinjsbar (for comments on the dimensions of the Gamblers Dependence Questionnaire and help in preparing the submission for Ethical Committee approval), and to Teresa Mitchell (for assistance in clerical and administrative work, for modifying the South Oaks Gambling Screen for UK use, as well as help in attending some of the GA Open Meetings and help in distributing sets of questionnaires at those meetings attended by her) is also acknowledged. I am grateful to the statistical and methodological advice given by Dr Chris Fife-Schaw, the Research Supervisor for this work.

Thanks are particularly expressed to the many GA Secretaries who were willing to discuss this research at their meetings, who encouraged me to attend their meetings, and who helped in the distribution of the sets of questionnaires. Finally, I am grateful to the many GA members who took the time to complete the questionnaires. The many comments received from them will not be ignored.
ABSTRACT

The Measurement of Addictive Dependency
in Pathological Gamblers

The concept of dependency distinct from problems that are consequences of an addictive behaviour, is well researched and developed for chemical dependencies which have a physiological basis to withdrawal and tolerance. Although the equivalent concept is argued at a theoretical level for behavioural (non chemical) dependencies, the presence of the concept has not been empirically demonstrated. The present study aims to answer the following research questions:

- can the features of dependency be measured in gamblers?
- is there a single factor of dependency common to pathological gamblers?
- is there any evidence that gambling dependency is independent from gambling problems?
- can the validity and reliability of a measure of gambling dependency be demonstrated?

An important aspect of this work was in addition to gather demographic and other descriptive data on what, at least for the UK, is an under researched population.

161 members of Gamblers Anonymous from the South, South West and Midlands regions of England were recruited to the study. A battery of questionnaires was completed designed primarily to measure dimensions of
gambling dependency (the Gambling Dependency Questionnaire), the consequent problems of pathological gambling (the Gambling Problems Questionnaire), level of pathology as measured by an established scale (the South Oaks Gambling Screen, and ad hoc scales measuring patterns of gambling and features of gambling behaviours. The procedure for establishing the content validity of the questionnaires is described, and estimates of construct validity and internal consistency are reported. A factor analysis with oblique rotation produced five factors in the Gambling Dependency Questionnaire, accounting for 63% of the variance. Seven factors, accounting for 65% of the variance, were identified for the Gambling Problems Questionnaire.

It is concluded that the concept of dependency can be identified and measured in pathological gamblers, that this is separate from the consequent problems of excessive gambling, that the concept consists of a cluster of related phenomena, with no one factor alone able adequately, from this study at least, to describe the concept.

The clinical as well as forensic value of assessing degree of gambling dependence is discussed in relation to management programmes as is its use in evaluating treatment outcome. Suggestions for improvements to the questionnaires and for further research are made. The present study is a preliminary investigation of the research questions, requiring further work with other groups of gamblers.
1.0 INTRODUCTION

Anyone who has lived in the UK in the last two years will be aware of the immense popularity of the National Lottery, which since its introduction in 1994 has captured the imagination of the majority of adults (over 60% of adults regularly buy tickets, more on "roll-over" weeks), is alleged to have prompted proposals for deregulation of Casinos and Bingo Halls as a result of pressure from the gambling industry claiming unfair competition, and prompted other major reviews of the Gaming Act of 1968 which will increase access to gambling outlets. The "Government's Deregulation Initiative” includes relaxation in the laws governing the pools industry, and on completion the Initiative will significantly have "normalised" most forms of gambling. Gambling behaviour has undoubtedly changed in the UK, with media claims that we are becoming a "nation of gamblers", supported, for example, by accounts of "scratch card addicts" and "Britain goes gambling crazy" (see, for example The Guardian, 22 August 1995; The Observer, 20 November 1994).

Gambling, of course, is not a new phenomenon; what is new is the scale and the “normalisation” that has taken place. As Griffiths(1995) states, “gambling is one of the few activities that cuts across all barriers of race, class and culture”, and so it is not surprising that with increased access and marketing it has lost its stigma and become the norm, statistically at least. Pathological gambling, by contrast, is reported to be rare (e.g. Griffiths, 1995), although the social, financial and psychological problems attached to the recent gambling changes (particularly the lottery and scratchcards) have yet to be evaluated.

The term “gambling” has been defined by Dickerson (1984) as “risk-taking” with the following additional features:
• there is an exchange of money or something else of value
• winners gain at the sole expense of losers
• exchange is determined by a future event whose outcome is unknown at the time of the bet.
• the result is determined at least in part by chance
• the risk taken is avoidable

Gambling activities are generally (e.g. National Council for Social Aid, 1983) categorised as follows:

1. gaming - the exchange of money during a game (e.g. bingo, roulette, card games, fruit machines etc.).
2. betting - staking money on a future event (e.g. horse racing, election results, "white Christmas").
3. lotteries
4. prize competitions (e.g. crosswords, "spot the ball" competitions) and speculation (gambling on stock markets).

Several terms are used in the literature to describe the rarer "problematic" end of gambling (Dickerson, 1989):

1. Heavy gambling. Dickerson (1984) describes several distinguishing features of the heavy gambler:
⇒ regularly lost more than intended
⇒ regularly "chased" their losses (i.e. continued to gamble in the belief that the chances of winning increase following losses)
⇒ incurred debts
⇒ were likely to know about Gamblers Anonymous
⇒ have tried to stop gambling but found it difficult
The term is probably analogous to “heavy drinker” (Edwards and Unnithal, 1994) and does not have any diagnostic value, but is used as if a continuum exists from “non-problematic” through to severe addiction.

2. Excessive or problematic gambling. This is defined as “gambling that is frequent, at times uncontrolled and has resulted in some harmful effects” (Dickerson, 1989). This definition is, however, perhaps too much of a “catch-all” term which is subjective (frequent and excessive are not defined operationally), and pays no account to the severity of the “harmful” effects (which could range from the trivial to the most catastrophic). These criticisms are seen by Dickerson (and Orford, 1985) as strengths, in that there is no assumption made regarding causes or cures, and the researcher/clinician can decide for themselves whether or not the behaviour is excessive or harmful. Orford (1985) in his book “Excessive Appetites” argues that “excess”, defined as an imbalance of positive and negative outcomes, will differ from individual to individual but is a preferred term as it is “descriptive” rather than “diagnostic”.

Clearly, “problem gambling” will include but is not limited to gambling as an addictive behaviour.

3. Compulsive gambling. This is described as a “popular or layman’s” term (Lesieur and Rosenthal, 1991), but it is the one favoured by Gamblers Anonymous (GA) which in the UK is probably the largest and most active agency for helping people with gambling problems. GA is a self-help group which follows a similar format to Alcoholics Anonymous. For GA, acceptance of the label is the first step towards recovery, and it generally implies that the problem is a condition for which there is no permanent
cure, that has caused distress for the individual and/or his family, and that the gambler has been unable to control the behaviour.

Although Marks (1990) argues similarities between addictive behaviours and Obsessive-Compulsive Disorder (OCD), the term "compulsive" is somewhat misleading in that in the acquisition of the addiction to gambling there is usually strong positive reinforcement not seen in OCD, which is more associated with negative reinforcement. Performing the compulsive behaviour in OCD results in a decrease in physiological and subjective arousal and distress (Salkowskis and Kirk, 1989) whilst most (but not all) gambling is found to increase arousal which is postulated to be a major reinforcer of the behaviour (e.g. Coventry and Brown, 1993). Orford (1985, p.43), discusses the distinctions between "true" compulsions and excessive behaviours in greater detail.

4. Pathological gambling. This term is often used interchangeably with "addictive" or "dependent" gambling. As Griffiths (1995) suggests, "there now appears to be an increased preference among professionals for the term "pathological gambling" to describe individuals with severe gambling problems". This term was adopted in DSM-III-R and it is the only one to be found in DSM-IV, where it refers to a chronic and progressive disorder characterised by at least four of the following (described in Lesieur and Rosenthal, 1991):

(N.B. The "dimensions" for each of these, as quoted by Lesieur and Rosenthal (1991), are given in brackets by each statement)

1. as gambling progressed, became more and more preoccupied with reliving past gambling experiences, studying a gambling system, planning the next gambling venture, or thinking of ways to get money. (progression and preoccupation)
2. needed to gamble with more and more money in order to achieve the desired excitement. *(tolerance)*
3. became restless or irritable when attempting to cut down or stop gambling. *(withdrawal and loss)*
4. gambled as a way of escaping from problems or intolerable feeling states. *(escape)*
5. after losing money gambling, would often return another day in order to get even ("chasing" one's losses) *(chasing)*
6. lied to family, employer, or therapist to protect and conceal the extent of involvement with gambling. *(lies/deception)*
7. committed illegal acts such as forgery, fraud, theft, or embezzlement, in order to finance gambling. *(illegal acts)*
8. jeopardised or lost a significant relationship, marriage, education, job, or career because of gambling. *(family/job disruption)*
9. needed another individual to provide money to relieve a desperate financial situation produced by gambling (a "bailout"). *(financial bailout)*

Interestingly, these dimensions do not explicitly include what for most writers (e.g. Dickerson, 1984) assume is the dominating feature of those gamblers who bet frequently, lose heavily and seek help, namely an experience of an overwhelming urge to bet, with the notion of loss of control central to this.

**Incidence and prevalence**

Unlike with alcohol, measures of "excess" of gambling are unlikely to be of value as the level of gambling involvement does not seem to distinguish those who gamble heavily and regularly as their preferred leisure activity, from pathological gamblers. Epidemiological estimates of the number of pathological gamblers in a population therefore vary, probably because there has been no uniformity in the definition adopted as yet. Thus the numbers in the UK and USA have varied by factors of 6 and 10 respectively (Dickerson,
1984). Typical figures quoted for the adult population (e.g. Dickerson, 1989), for the UK vary from 0.2% (when excessive was defined as betting three times a week or more) to 4% (when defined as “more often than once a week and excluding non-continuous forms of gambling such as football pools”). Obtaining data from helping agencies is unreliable as an indicator as there is a dearth of services, and GA, which currently receives 2000 enquiries per year, does not keep records of numbers of individuals (unpublished Gamblers Anonymous national data, 1995, personal communication).

According to USA population surveys (described in Lesieur and Rosenthal, 1991), “pathological gambling is twice as common among males as it is among females, nonwhites have higher rates than whites, and those with a less than a high school education are more highly represented among pathological gamblers than the general population”. In contrast, treatment data indicate that “females, nonwhites and people under 30 years of age tend to be underestimated in treatment and in GA” (Lesieur and Rosenthal, 1991).

As Griffiths (1995) points out, a further “ten to fifteen people are (adversely) affected by the typical compulsive gambler including spouse, children, relatives, friends and employers”.

If a conservative figure of 1% is used as the incidence of pathological gambling in the adult population in the UK, this would suggest approximately 400,000 people are pathological gamblers. Yet only a fraction of this number are ever seen by the helping services (Dickerson, 1989).

Pathological gambling as an addictive behaviour

In 1980 the American Psychiatric Association formally recognised pathological gambling as a disorder of impulse control (APA, 1980, quoted in Lesieur and Rosenthal, 1991). The diagnostic criteria were redefined in the
revised 1987 version (DSM-III-R; American Psychiatric Association, 1987) introducing the concept of tolerance and withdrawal in relation to gambling. And, as described earlier, the criteria have been further developed in DSM IV (described in Lesieur and Rosenthal, 1991). The striking similarity between the criteria for pathological gambling and for psychoactive substance dependence, together with the fact that lack of control is common to both, has lead to the conceptualisation of pathological gambling as a form of addiction - "a dependence without a drug" (Dickerson, 1989). Orford (1985) presents possibly the strongest arguments for formulating pathological gambling as an "excessive appetite" that shares much with other addictions. Anecdotal accounts from gamblers equate the euphoria and excitement of gambling to the "high" derived from cocaine and other drugs (Blume, 1991). Excess of gambling, as with drugs, is associated with impaired control, an escalation of time and money involvement in gambling and eventual severe disruption of the individual's personal and social life. The literature contains reports of tolerance and withdrawal symptoms from gambling, as well as "cross-addiction" (just under 10% of a sample hospitalised for alcohol/drug dependence met the DSMIII criteria for pathological gambling (Lesieur and Rosenthal, 1991).

As the similarities are large, it is not surprising that researchers and therapists have borrowed heavily from the greater literature that exists on alcoholism (Rankin, 1982). Thus the majority of treatment approaches and settings (reviewed, for example, by Griffiths, 1995) are from the substance misuse literature. The main differences in conceptualisation that seem to exist are the absence of physical withdrawal and physical features of tolerance, and a description of negative emotions (such as frustration and depression) and the belief in "chasing" as the most significant determinants of impaired control in pathological gamblers.
Harmful consequences of pathological gambling

Gambling that results in bankruptcy and legal problems, mental illness, divorce, loss of the home, job and family, might feasibly be thought of as the consequences of a "bad" gambler - the same pathological gambler who is "good" at gambling or who has unlimited financial resources, will not seek help for their pathological gambling. It is probably true to say, however, that pathological gambling in most cases will lead to harm. Dickerson (1989) considers the areas of harm under five headings:

1. Individual mental health. There is a strong link between gambling and affective disorders, particularly depression (McCormick et al 1984; Linden et al 1986). In one study, major depressive disorder was found in 70% of a sample of hospitalised pathological gamblers (Linden et al, 1986). 32% of the study group had a cross addiction to alcohol and 4% were drug abusers. Suicidal tendencies were common on admission and relapses were often accompanied by strong suicidal impulses. Other studies have found attempted suicide in 20% of hospitalised pathological gamblers (Custer & Custer 1978). All of these figures may, of course, be highly skewed by sample bias as the patients were entering a psychiatric setting offering help for problems other than gambling.

2. Relationships. Spouses and children of pathological gamblers have a higher level of psychosocial maladjustment than do those from "non troubled" parents and partners (Dickerson, 1989). Up to 50% of pathological gamblers in one study (Polizer and Morrow, 1980, quoted in Dickerson, 1989) were assessed as requiring marital therapy. A more recent study (Lorenz and Yaffee, 1988), reported that two thirds of spouses of pathological gamblers had obtained loans to pay for basic needs such as food, rent and heating.
3. Financial. Gambling debts are reported as common and high (Dickerson, 1989). There are no current United Kingdom figures on this, but the average gambling debt of male gamblers entering treatment in the U.S.A. ranged from $50,000 to $90,000 (Lesieur, 1988, quoted in Dickerson, 1989).

4. Employment and productivity. As Dickerson (1989) reports, absenteeism is not the only gambling-related problem. Politzer et al (1981, quoted in Dickerson, 1989) estimated that even while at work the excessive gambler may function at only 50% of his/her productivity due to preoccupation with gambling and gambling related problems. It would appear that the thinking of excessive gamblers becomes preoccupied not just with gambling but with the consequent problems as well.

5. Related legal problems/offences. Rosenthal and Lorenz (1992) review the association between pathological gambling and crime. Blaszczynski et al (1988) found that 56% of their sample admitted to a gambling related offence (particularly larceny or embezzlement), and a further 22% to non-gambling related offences (larceny, armed robbery and burglary). According to these authors, 90% of those pathological gamblers who had committed crimes did so as a result of gambling-induced problems.

The concept of dependence and its distinction from problematic consequences

As Rajstrick et al. (1994) comment "the original description of alcohol dependence (Edwards et al., 1977) and then drug dependence (Edwards et al., 1982) seemed to mark an important new contribution to the understanding of addictive behaviour". The idea that a psychobiological dependence constitutes a separate dimension from problems which are consequences of
the addictive behaviour has stimulated much research and debate (see, for example, Heather and Robertson, 1989) but the evidence which has accrued so far appears on balance to support the concept of a dimensional dependence syndrome (Gossop et al., 1995; Edwards, 1986), and the concept now appears in ICD 10 and DSMIV for other substances.

Dependence was described by Edwards et al (1977) as a "state, psychic and sometimes physical, resulting from the interaction between the living organism and the drug, characterised by behavioural and other responses that always include a compulsion to take the drug on a continuous or periodic basis in order to experience its psychic effects and sometimes to avoid the discomfort of its absence". The dependence syndrome is described as consisting of the following (adapted from Davis, 1996):

1. Subjective awareness of a compulsion to take the drug or engage in the particular behaviour. This is sometimes referred to as "craving" for the drug.

2. Increased tolerance/habituation to the effects of the activity unless performed at greater frequency and/or intensity.

3. Increased salience of drug seeking or other behaviour. As dependency develops, simply obtaining the drug or the opportunity to engage in the addictive behaviour assumes increasing importance.

4. Narrowing of the repertoire of the addictive behaviour. The pattern of the excessive behaviour becomes increasingly stereotyped

5. Repeated withdrawal symptoms. When the behaviour is prevented or stops, discomfort and distress are experienced and these may continue for
several weeks if not months, varying of course with the substance and addictive behaviour.

6. Rapid reinstatement of the syndrome following a period of abstinence; tolerance and withdrawal symptoms can reappear within a few days of relapse even after long periods of abstinence.

7. Relief or avoidance of withdrawal symptoms. Using the drug or activity to relieve the unpleasantness of withdrawal can become a strong reinforcer of the addiction.

Not all of these need to be present in every instance of addictive behaviour, but most of them are usually evident to a greater or lesser extent. The key features of the syndrome are a compulsion or strong desire to engage in the behaviour; an overwhelming priority or salience being given to the behaviour; an impaired capacity to control the behaviour; and distress if prevented from carrying out the behaviour. The whole picture has to be taken into account, and the relative contribution of the severity of each criterion considered before labelling a behaviour as an "addiction".

The main argument against this syndrome existing or, if it does, being of any importance, is based on the notion that tolerance and withdrawal phenomena dominate the syndrome and measures of its severity. For example, both Stockwell et al. (1979) with alcohol, and Sutherland et al. (1986) with opiates, omit two elements of the dependency syndrome (salience and narrowing of the behavioural repertoire) as they were too difficult to include in their self report inventories. The apparent domination of withdrawal and tolerance is "tantamount to a disease model and fails to take forward a theoretical basis or liberate thinking on treatment approaches" (Raistrick et al., 1994). As withdrawal and tolerance are arguably easier to observe and measure, other aspects may receive less attention, and as Raistrick et al. (1994) point out,
withdrawal symptoms will be more prevalent among clinic attenders than others and this may also distort clinicians' perceptions of the importance of withdrawal. It is further argued by these authors that the inclusion of tolerance and withdrawal symptoms in the syndrome is invalid as they constitute a separate phenomenon that occur as a consequence of drug taking which may or may not condition drug seeking behaviour.

Whilst the distinction between dependency and problems that are consequences of the addictive behaviour is generally recognised, psychometric measures of each which are independent from one another have not been developed (Gossop et al., 1995). Edwards and Gross (1976) argue that this does not detract from the distinction, suggesting that the concepts are correlated and interrelated but theoretically distinct. This distinction is particularly important to any quantitative measure of pathological gambling, as it is quite possible that severely dependent gamblers could be problem free, whilst non dependent gamblers could have severe problems as a consequence of gambling. Yet, as will be described later, all current measures of pathological gambling rely more on an assessment of the consequences than on the severity of the addiction.

Current measures of pathological gambling

From the clinical and research literature reviewed, the South Oaks Gambling Screen (SOGS; Lesieur and Blume, 1987) is undoubtedly the most commonly used quantifiable questionnaire used for measuring problem and pathological gambling. Other measures used in epidemiological research (discussed by Lesieur, 1994) include the American Psychiatric Association's diagnostic criteria for pathological gambling (e.g. Bray et al. 1992, quoted in Lesieur 1994), and the Cumulative Clinical Signs Method (Sommers, 1988, quoted in Lesieur, 1994). Lesieur (1994) criticises the use of these measures as they are not standardised and their validity and reliability is unknown. A similar
criticism may be made of a more recent instrument, the Gambling Dependent Variables Questionnaire (Echeburua and Baez, 1994, described in Echeburua et al., 1996). This questionnaire consists of five items related to the amount of money, the frequency of gambling, the time dedicated weekly, the patients perception of the seriousness of the time, frequency and money invested in gambling, and finally the subjective need to play. As denial and distorted beliefs are not uncommon features of addictions, the subjective perception items would need validation which is not provided by these authors. The other items may, at least at face value, be specific to that culture (Spain), and moreover only cover a limited number of the features of dependency described earlier.

The SOGS by contrast has been the subject of numerous and rigorous psychometric studies, making the author's claim that it is a validated and reliable instrument for the identification of pathological gamblers seem reasonable. SOGS is a 20 scoring item questionnaire based on DSM III criteria which was cross validated against (the then proposed) DSM III-R criteria. The items cover gambling behaviour, loss of control, the sources for obtaining money and the emotions involved. A score of 5 or more indicates a pathological gambler, while scores of 3 or 4 has been used by some researchers (e.g. Volberg and Steadman, 1988) to indicate a problem gambler at risk. As Lesieur (1994) describes, the SOGS has been adapted for epidemiological survey use in numerous countries, and for clinical and diagnostic purposes in various treatment settings, with data now available on several thousand pathological gamblers.

The main criticisms (discussed in Lesieur and Blume, 1993) of the SOGS in the literature are that it reinforces a dichotomy between social and pathological gamblers, that it probably fails to detect "problem" gamblers who do not have problems in more than one of the dimensions included in the questionnaire, and that because it is a "lifetime"-based measure (i.e. it asks
"have you ever.......?"), it is not able to assess current problems. Of greater interest to the present discussion, however, is that the majority of the 20 scoring questions concern problems that are consequences of gambling, and of these most are of financial debts and financial problems (10 scoring questions concern the borrowing of money and the sources from which it is borrowed). Few questions relate to the concept of dependency. In other words the questionnaire cannot purport to measure dependency. If it is accepted that SOGS is a measure primarily of gambling problems with only a few questions relating to dependency, then it may be concluded that no standardised instrument exists for measuring severity of gambling dependency and (separately) severity of gambling related problems.

Why is it important to develop a questionnaire of gambling dependency, and can dependency be measured in the absence of a physical tolerance and withdrawal syndrome?

Clearly, the development of the concept of dependency in a non-chemical addiction will rely heavily on the ability to measure the concept. No study to date has produced a questionnaire with known psychometric properties other than for alcohol or drug dependency. Amongst the most widely used drug specific dependency scales (according to Gossop et al., 1995) are the Alcohol Dependence Scale (Skinner and Allen, 1982, quoted in Gossop et al., 1995), the Severity of Alcohol Dependency Questionnaire (Stockwell et al., 1979; 1983), the Severity of Opiate Dependence Questionnaire (Sutherland et al., and the Drug Abuse Screening Test (Skinner and Goldberg, 1986). General drug dependency scales are more recent, and include the Severity of Dependency Scale (Gossop et al., 1995) and the Leeds Dependence Questionnaire (Raistrick et al., 1994).
The application of the dependence concept to gambling and the development of an instrument to measure the severity of gambling dependence would allow several areas to be researched, including:

- **research (rather than theoretical) investigations of the psychological nature of dependence.** Currently it is not possible to investigate the nature of psychological dependencies such as gambling in the absence of a valid and reliable tool for determining the condition.
- **research into the natural history and progression of the gambler and the gambling dependency** would be more scientifically grounded than is currently possible. Little is at present known about the development of gambling dependency, or about changes or reinstatement after abstinence.
- **measurement of dependence severity** might be important in matching of type of treatment programme to patient needs. For example, abstinence based programmes such as that of Gamblers Anonymous might be more suited to some, controlled gambling programmes to others, depending on severity of dependence rather than type or severity of problems or other criteria. Similarly, the content of a relapse prevention or behavioural treatment programme might be guided by the influence of the level of dependence.
- **Raistrick et al. (1994) suggest that the specific task of specialist addiction services is the treatment of dependence.** One reason therefore for developing a measure of dependence for problem gamblers might be to evaluate outcome of treatment.

Clearly, research on, and treatment of, pathological gambling is handicapped by the failure to recognise and explore the distinction between dimensions of "dependence" and "problems", and by the lack of any instrument to measure dependence severity which adequately acknowledges this distinction. Gambling dependence cannot be measured by simply adding together a catch-all of items relating to amount of gambling, the financial difficulties,
legal complications, and the social, health, and relationship problems encountered. What is needed is an instrument which is conceptually founded.

Conducting such research presents more problems than with a drug dependency. Firstly, the population is difficult to access. Few treatment centres exist, and problem gamblers tend to be wary of professional help, largely (in the experience of the author) because of their experiences of professionals who are not trained in this field or who might have attitudes that gambling is not worthy of health service time. Another reason for this wariness might be that Gamblers Anonymous has an approach based on self help; there is little value placed within GA on professional help, and as many pathological gamblers are directed towards GA it is not surprising therefore that this value is adopted.

A second difficulty is that the psychological components of dependency tend not to be observable compared to physical withdrawal and tolerance. Furthermore, the characteristics of a non drug dependency may be different from a drug dependency, even where there is no physical dependency to the drug (Raistrick et al. 1994). These authors argue that dependence on all drugs is the same phenomenon, but that it is distinct from non-drug dependency in that the pharmacological properties of psychoactive substances produce sources of reinforcement which may be positive, such as "topping up" the loss of drug effect, an anxiolytic effect, or the relief or avoidance of withdrawal symptoms. The authors go on to suggest that drugs that have a high potency, rapid CNS availability, short half life and a withdrawal syndrome, have a higher dependence forming potential and conclude from this that this central role of pharmacology, and in particular the capacity of drugs to modify this physiological substrate upon which they act, separates drug dependence from non-drug dependencies. Although it is possible to argue that activities such as gambling have a pharmacological effect and thus might operate through exactly the same mechanisms as a
drug dependency, it needs to be acknowledged that the possibility of a qualitative difference exists.

Research Questions

The following research questions were asked:

• can the features of dependency be measured in gamblers?
• is there a single factor of dependency common to pathological gamblers?
• is there any evidence that gambling dependency is independent from gambling problems?
• can the validity and reliability of a measure of gambling dependency be demonstrated?

An important aspect of this work was in addition to gather demographic and other descriptive data on what, at least for the UK, is an under researched population. For reasons given earlier, pathological gamblers are not commonly known to the helping services and research is often small number treatment case studies (as reported in the review in Griffith's, 1995, although the Spanish study reported by Echeburua et al., 1996 used 64 gamblers), or is limited to surveys of incidence based on gambling behaviour rather than dependency criteria. The present study is of members of Gamblers Anonymous, the only group of pathological gamblers which is practicable to study in large numbers in the UK. The present study describes these gamblers from an English population, a group not previously described in detail, and the problems they experience as a consequence of their gambling, as well as contributing to the development of a standardised and validated assessment tool for measuring the severity and nature of gambling dependency.
2 METHOD

2.1 Design of the study

The research is a descriptive study of problem gamblers attending Gamblers Anonymous with a statistical analysis of (1) symptoms of dependency and (2) the problems associated with gambling behaviour.

It was decided to carry out separate factor analyses on the two separate questionnaires in this study and then to compare them statistically. This was because the two questionnaires are new and of unknown psychometric characteristics. Moreover, because of the nature of the questions, they have quite different instructions, are scored differently, and sample a different time period (one asks about the most recent month, the other about the worst six months). Again, the reasons for doing this are to do with the nature of the questions. The intention, however, is that this study will be the first of a series, with future ones based on revised questionnaires developed as a result of the present study. Once the measures are fully developed they can then be more reliably combined into one factor analysis.

2.2 Subjects

The study required a large (sufficient for statistical analysis given the volume of data collected from each subject) sample of problem gamblers. The original intention was to recruit patients who were referred to the author's specialist gamblers treatment and research clinic, but numbers were too small for this (only ten patients were referred during the research period). As no other treatment clinic exists it was necessary to recruit volunteers from Gamblers Anonymous, i.e. self-defined “compulsive gamblers”. It is argued that although an independent mental state examination could not be conducted to assess the nature and level of dependency and suitability for a DSM IV
diagnosis of pathological gambling, this population would nevertheless present the nearest to a clinical population currently possible.

161 GA members completed the questionnaires (152 men, 6 women and 3 cases unspecified).

The methodological problems of conducting this research with this population will be discussed in greater detail later. Ideally, a range of severity of gamblers would be used, from people who gamble occasionally and in a non problematic way, through to heavy but not problematic gamblers, up to the severely pathological gambler. It was felt justified to use the latter group only, for this first study, firstly because the construct being measured (dependency) is unlikely to be present in non pathological groups (just as drug dependency is not present in people who do not have drug problems); and secondly because this follows the same procedure for the development of dependency measures as used in the literature (for example Sutherland et al., 1986, use treatment attenders only in their development of the Severity of Opiate Dependence Questionnaire). This is sound, provided of course that a spread of scores is obtained on the questionnaires used.

2.3 Questionnaires

Three questionnaires and a form for background/demographic data were used.

1. The South Oaks Gambling Screen (Lesieur and Blume, 1987; see Appendix 1)

This has been described already above. Permission to use SOGS was obtained from the author who suggested that the guidance given by Lesieur and Blume (1993) for revising SOGS in different settings be followed,
essentially for modification "in jurisdictions with different forms of gambling or currency". Thus UK forms of gambling and the appropriate terminology were used, together with values changed from dollars to pounds. These changes are for non-scoring items only, the scoring items were not altered other than for slight changes in order to anglicise American terminology and grammar (for example "bounced cheques" replaced "passed bad cheques"). The layout of the original questionnaire was maintained (see Appendix 1).

2. The Gambling Dependence Questionnaire (GDQ, see Appendix 2)

This questionnaire was developed from several sources, following essentially the procedures described by Stockwell et al. (1979), Sutherland et al. (1986), Raistrick et al. (1994), and Gossop et al. (1995), for the development of instruments to measure dependence to substances. Items from the Leeds Dependence Questionnaire (LDQ; Raistrick et al., 1994) the Severity of Alcohol Dependency Questionnaire (Stockwell et al., 1979), the Severity of Opiate Dependency (Sutherland et al., 1986) and the Severity of Dependence Scale (Gossop et al., 1995) that were not already covered, were rewritten for gambling problems, and any additional items thought to be appropriate to the description of gambling dependency described in the literature were included.

This initial set of questions was modified and added to by in-depth interviews with patients referred to a specialist gamblers clinic who had been diagnosed as pathological gamblers, who were asked for their descriptions of dependence phenomena prompted by the clinician. The resultant list was then piloted on a small (10 patients) group of gamblers. The aim was to obtain feedback on the clarity of the questions and how repetitive/distinguishable items were. From this feedback, 22 questions were selected for the questionnaire as seeming to cover all of the features of gambling dependency and which seemed to be understandable to gamblers and not to be obviously overlapping one and other.
Each of the 22 questions was allocated by the author and experienced professional colleagues a "marker" of dependence, i.e. the aspect of dependence it was believed to relate to. Briefly, the operational definitions given (pre study) to the proposed 8 markers of gambling dependence were:

**Pre-occupation and planning around gambling** (Questions 1, 2, 3). The primacy of thoughts about gambling i.e. thoughts of how to obtain money to gamble, where to go/ what to gamble on, and anticipatory plans and actions to ensure the opportunity for gambling later, are noticeable to the gambler and have "obsessive" qualities in that they may be intrusive and sometimes resisted.

**Compulsion to start/ lack of control** (Questions 4, 5, 6). The subjective "craving" and inability to resist the urge or desire to gamble when faced with the opportunity and/or conditioned cues. This includes failed attempts to reduce or stop gambling, particularly with the recognition of significant problems made worse or caused by gambling.

**Compulsion to continue/ lack of control** (Questions 7, 8). The sense of being unable to stop once a gambling "bout" has started.

**Cognitive set/ withdrawal and relief from problems** (Questions 9, 10, 11, 12, 13) The subjective negative feelings when not gambling, the relief from these during gambling, and the belief in the need to gamble in order to cope with everyday life.

**Salience of gambling** (Questions 14, 15, 16). The increased importance given to gambling over other routine or once important activities.
Narrowing of repertoire (Question 17). Gambling in an increasingly stereotypical way.

Maximise effect/ constancy of state (Questions 18, 19, 20, 21). Gambling in a special way in order to maximise the desired effect, increased tolerance to the effects resulting in increased gambling intensity/ frequency, and increasing gambling to maintain the effects.

Cognitive set / Chasing (Question 22). The belief that losing should be followed by increased gambling, for example to realise the perceived increased statistical chances of a win following a loss.

Before starting the 22 scoring items, the questionnaire asks subjects to “think about the most recent month when you were gambling heavily, or in a way that was out of control, or in a way that caused problems of any kind”. Subjects are then asked to indicate how long ago this was, and to describe “on a typical gambling day during that month” how much money, how much time, the type of gambling and the site of gambling. Thus the questionnaire is retrospective for all of the gamblers, but for some this would be recent, for others it would be relatively distant. The GDQ had to be designed in this way as the population contained a mixture of those still gambling and those abstinent. A sample of current pathological gamblers is currently not available in large enough numbers to carry out the desired statistics.

It is arguably an improvement on “lifetime” questions (for example those used in SOGS and some of the questions in SADQ), and is a similar procedure to that used in the Leeds Dependence Questionnaire, other than asking participants to think of their last month of problem gambling rather than asking current alcohol or drug users about their last week.
The GDQ is a 22 item self completion questionnaire. All items are scored 0 (Never or Almost Never)-1 (Sometimes)-2 (Often)-3 (Always or Nearly Always), following the procedure adopted by Raistrick et al. (1994) and by Stockwell et al. (1983), giving a maximum score of 66.

3. The Gambling Problems Questionnaire (GPQ, see Appendix 3)

This is an ad hoc scale developed for this research to measure the consequences of pathological gambling. It was based on descriptions from the literature on harmful effects and problems associated with gambling (e.g. Dickerson, 1989), from similar instruments used for assessing problems from excessive drinking (especially the alcohol problems questionnaire, Drummond et al. 1995, personal communication) and from in depth interviews with pathological gamblers referred to a specialist gamblers treatment clinic.


The GPQ asks the gambler “During your worst 6 month period of problem gambling, how often did you experience the following?” followed by the 22 statements with four response options (No Never, scored 0; Yes, Once or Twice, scored 0; Yes, Occasionally, scored 1; Yes, Frequently, scored 1). Thus each statement scored 0 or 1, following the procedure used for example in the General Health Questionnaire (Goldberg, 1972). Such a simple dichotomous scoring method was chosen as the scale is of unknown sensitivity/robustness, and finer discrimination was not required or justified (and is not used in equivalent scales for alcohol and for drugs; Alcohol Problems Questionnaire, Drug Problems Questionnaire, Drummond, personal
communication). Moreover, as some of the questions on the GPQ had to be asked as "yes/no" questions, a 0/1 scoring seemed most appropriate.

A six month period was considered the best for the types of problems covered. As with the GDQ, this Inventory was piloted on a sample of ten pathological gamblers referred to a specialist gamblers treatment clinic, and feedback obtained on the wording and appropriateness of the items, time-scale used etc.

None of the items in the GDQ were considered to measure directly gambling dependency.

4. Other demographic data collected

In addition to these questionnaires, a data sheet (see Appendix 4) was included in the study to collect demographic information such as age, sex, country of birth, education, occupation and living arrangements. An optional sheet for feedback comments on the questionnaires was also included (see Appendix 5).

2.4 Procedure

Literature was obtained on Gamblers Anonymous which included the names and addresses of all Gamblers Anonymous groups in the Southern Region, Midlands Region, the South Coast and the South West of England. A total of 29 GA groups were identified for inclusion in this study. Following advice from a Southern Region spokesperson on how best to approach GA groups and members, the Secretary of each group was then approached by letter. This explained the nature and purpose of the research, the guarantee of anonymity, and reference to Medical Ethics Committee approval for the study.
The Secretary was asked to seek permission from their group for a researcher to attend an Open Meeting of GA to explain the research and to distribute the questionnaires in person. For many GA Groups this also involved the researcher telephoning the Secretary with further details when asked to do so. Some GA groups preferred the questionnaires to be sent by post for distribution by the Secretary at a subsequent meeting, whilst some preferred a personal visit. Each set of questionnaires was supplied with an information sheet and a “freepost” envelope for its return (with no identifiers of the group or the individual). GA members were asked to complete the questionnaires at home.

All GA Secretaries were re-contacted two to three months later and by telephone when known, to confirm the number of questionnaires that had been distributed through their group. As it is common for members to attend more than one group, and so will have been asked on more than one occasion to take a set of questionnaires and not always from their nearest GA group, GA Secretaries were asked to state how many questionnaires were left in their possession (in those cases where no reply was obtained from the Secretary, it was assumed that all sets sent had been given out to members; this inevitably will not be the case and so the response rate is likely to be an underestimate). From this an approximation of the response rate was calculated.

The order of the three questionnaires (GDQ, GPQ and SOGS) in each set was varied so that each combination occurred an equal number of times, and each group was given an equal number of each combinations randomly assorted. It was hoped that in this way any effects of order of completion of the questionnaires (such as fatigue) would be controlled for.

The instructions given to each participant are give in Appendix 6.
3. RESULTS

3.1 Sample Characteristics

A total of 420 sets of questionnaires were given to GA groups, and of these it was calculated (from the results of the follow up of GA Secretaries described above) that up to 343 were distributed to individual members. 161 were completed and returned, giving an estimated response rate of 47%. As this will undoubtedly be an under estimate of the true response rate (as the figure of 343 is likely to be an over estimate of the real number given to individual gamblers), it was considered sufficiently high to represent the majority of those GA members to whom questionnaires were distributed.

As expected from the research literature on GA membership (e.g., the studies by Brown and his associates, described in Griffiths, 1995), the vast majority of participants are male (152 men, 6 women, 3 unstated), aged over 20 (see Figure 1). This age and sex distribution was consistent with the literature and with the researcher's experience of attending GA Open Meetings.
The majority (80%) gave their country of birth as the UK, four participants were from Eire, and 15 people failed to answer this question. The remaining 14 (9%) were from different other countries (see Figure 2)
71% lived with a partner/spouse and/or children, and 13% lived alone (see Figure 3).

77% were employed/self-employed, 12% were unemployed. The majority of respondents specified their current/usual job, with occupations covering a wide spectrum such as company director, university lecturer, ice-cream sales and cleaner. 25% reported obtaining no qualifications, 35% had GCSE equivalent level examinations, and 38% higher qualifications.
The types of gambling are shown in Figure 4.

The most common single type of gambling was betting on horse racing (107 cases, 67% of the total). A further 19% gave "fruit machines"/"one arm bandits" as their type of gambling, 7% (11 people) gave card games, 4 people gave roulette, and only 2 people reported having a mixture of gambling types.
As expected from the above, the betting shop was reported most commonly as the place where gambling would occur (68%), 9% gambled in casinos, and 20% in pubs/social clubs/arcades (see Figure 5).

![Figure 5](image)

The length of time since last gambling in a problematic way was categorised as follows:

<table>
<thead>
<tr>
<th>Case</th>
<th>1-3</th>
<th>4-6</th>
<th>6-12</th>
<th>1-2</th>
<th>2-5</th>
<th>5-10</th>
<th>11-15</th>
<th>15-20</th>
<th>20-25</th>
<th>26-30</th>
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</thead>
<tbody>
<tr>
<td>Cases</td>
<td>21</td>
<td>28</td>
<td>19</td>
<td>13</td>
<td>19</td>
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<td>17</td>
<td>9</td>
<td>2</td>
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</tbody>
</table>
The remaining descriptive details of the gambling behaviours reported (such as amount of time and money spent on gambling, relatives who gamble etc.) are reported elsewhere.

3.2 Seven Oaks Gambling Screen (SOGS)

Although SOGS is widely used worldwide (Lesieur, 1994) there are no published standardisation data for a UK modification conducted on a sample in the UK. Thus the present research is of interest as a further test, validation and limited standardisation of the SOGS. The main reason for including SOGS, however, was as a check on the GA member’s diagnosis (its use as a screening test is quoted by the authors as its main function), and as a further measure against which the validity of the GDQ could be assessed.

Descriptive statistics for SOGS are in Table 1.

Table 1 SOGS Total Scores

<table>
<thead>
<tr>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>St. Dev</th>
<th>Kurtosis</th>
<th>Skewness</th>
<th>Range</th>
<th>Min</th>
<th>Max</th>
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</thead>
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<td>16</td>
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<td>14</td>
<td>6</td>
<td>20</td>
</tr>
</tbody>
</table>

The minimum SOGS score was 6 (the authors suggest that people scoring 5 or more are pathological gamblers), confirming that the GA sample used are all within this category (although it is acknowledged that this is as measured by SOGS, which itself has not been standardised on a U.K. sample). The mean score was 15 with a standard deviation of 3, demonstrating that the
sample as a whole is skewed towards the more severe end as defined by this scale, but that the sample nevertheless shows a good spread of scores.

A factor analysis was performed on the SOGS scores in order to determine whether one major factor would account for the majority of the variance (following the procedure used by Stockwell et al., 1979). The development of the SOGS is described by Lesieur and Blume, (1987; 1994), and Lesieur (1994), and although extensive reliability and validity studies are presented, there is no description of the factor structure of the test (presumably as it is used as a screening device rather than a measure of pathological gambling). Seven factors were identified with an Eigen value greater than one (the recommended cut off point; Norusis, 1993).

Table 2 Factor Analysis of SOGS

<table>
<thead>
<tr>
<th>Factor</th>
<th>Eigenvalue</th>
<th>Pct of Var</th>
<th>Cum Pct</th>
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<tr>
<td>7</td>
<td>1.13</td>
<td>5.2</td>
<td>59.8</td>
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</tbody>
</table>

An attempt to identify a simple structure in the SOGS by conducting an oblique rotation with Kaiser normalisation (as used by Stockwell et al., 1987)
was unsuccessful (the SPSS Windows Oblimin rotation failed to converge in 25 iterations). As the greatest single factor in SOGS accounted for only 18.4% of the total variance, it seems likely that SOGS is measuring a mixture of dimensions of pathological gambling.

3.3 Gambling Problems Questionnaire (GPQ)

This ad hoc questionnaire was included in part as a validation of the GDQ, since a strong correlation is predicted despite the two being conceptually distinct (see the discussion and the literature review on the separation of dependency from consequent problems in an earlier section).

A full description of the range, types and severities of problems reported in the GPQ by these GA members is to be presented elsewhere, but a summary of the descriptive findings is given below.

The GPQ asked the participants about gambling related problems during the worst six months of gambling. In summary, relationship problems were common with 70% of the sample reporting arguments with partners over gambling, with partners attempting to stop their gambling in 62% of cases, and 41% of partners threatening to leave occasionally or frequently, 38% actually doing so, 24% permanently. Time missed from work was reported by 59% of the sample, with 30% receiving actual warnings about poor performance at work, and 49% claiming to have lost their job or career/educational opportunity because of gambling. Bouts of depression or anxiety lasting for longer than one week occurred in 56% of the sample, and 34% reported suicidal thoughts whilst 62% had physical neglect during this period. Debt was common (93%) of the sample, and 43% reported having to sell or pawn family possessions in order to pay for debts resulting from gambling. Legal problems resulting from gambling were reported by 19% of the sample, although 53% admitted to having broken the law in order to
obtain money for gambling or to pay off debts. 23% reported that they had lost their house/flat/room because of their gambling.

The twenty two items of the GPQ were devised to cover 1. Relationship, marital and family problems 2. Employment, productivity or college problems 3. Emotional / Mental Health problems 4. Financial problems 5. Related legal problems / offences 6. Accommodation problems.

A factor analysis was conducted as for the SOGS. Seven factors were extracted with Eigen values greater than one:

Table 3 Factor Analysis of GPQ

<table>
<thead>
<tr>
<th>Factor</th>
<th>Eigenvalue</th>
<th>Pct of Var</th>
<th>Cum Pct</th>
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Oblique rotation with Kaiser normalisation was performed using SPSS Windows Oblimin (with convergence in 21 iterations). The following Pattern Matrix was obtained:
Table 4 Factor Analysis of GPQ with Oblique Rotation

(n.b. loadings of less than 0.3 have been omitted)

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<th>Question number</th>
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<td>.351</td>
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</tbody>
</table>
The seven factors identified by the Factor Analysis seem to describe the following problem areas:

Factor 1   (Questions 1,2,8 and 9) arguments and letting down friends/relatives, and work performance problems.

Factor 2   (Questions 6 and 7) complaints from your children and attempts by your children to get you to stop.

Factor 3   (Questions 18, 19, 21 and 22) lost touch with friends/relatives, partner/spouse left, lost accommodation.

Factor 4   (Questions 10,11 and 12) bouts of depression, suicidal feelings and physical neglect.

Factor 5   (Questions 3,4 and 5) partner/spouse complained/ threatened to leave/ tried to stop you from gambling.

Factor 6   (Questions 13 and 14) got into debt, had mortgage or rent arrears.

Factor 7   (Questions 15,16, 17 and 20) sold or pawned possessions, stole or broke the law, have criminal convictions, lost job/ career/ educational opportunities.

Cronbach's alpha coefficient of reliability was computed at 0.84, indicating that there is good internal consistency. This measure of internal reliability was used in a similar way by Raistrick et al. (1994) in the development of the Leeds Dependence Questionnaire.
3.4 Gambling Dependence Questionnaire (GDQ)

The main purpose of this research was to find evidence for the concept of dependence in a non-chemical addictive behaviour, gambling. This specially formulated questionnaire, the Gambling Dependence Questionnaire (GDQ), consists of 22 questions reflecting 8 "markers" of dependence (as judged by experts in this field).

As with the other questionnaires, a factor analysis using an oblique rotation was carried out. The factor analysis revealed five factors with Eigen values greater than 1:

Table 5 Factor Analysis of the GDQ

<table>
<thead>
<tr>
<th>Factor</th>
<th>Eigenvalue</th>
<th>Pct of Var</th>
<th>Cum Pct</th>
</tr>
</thead>
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<td>5</td>
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<td>63.2</td>
</tr>
</tbody>
</table>

Thus 63.2% of the total variance is accounted for by these five factors. The first main factor is clearly not sufficiently large to justify the scale as unidimensional, which is consistent with the original formulation of the
concept of dependence (Edwards et al., 1977) consisting of several dimensions.

An oblique rotation with Kaiser normalisation was performed (SPSS Windows Oblimin converged in this case in 11 iterations).

Table 6 Factor Analysis of GDQ with Oblique Rotation

(n.b. loadings of less than 0.3 have been omitted)

<table>
<thead>
<tr>
<th>Question Number</th>
<th>Factor 1</th>
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<td></td>
<td>-.77</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.56</td>
</tr>
</tbody>
</table>

The five factors identified by the Factor Analysis seem to describe the following problem areas (the original "markers" given by a panel of experts is given in bold):

Factor 1  (Questions 10, 11, 12, 13 and 14)  These questions relate to relief from emotional problems and salience of gambling (gambling was more important than anything else you might do).
Factor 2  (Questions 1,2,3,15 and 17)  Pre-occupation and planning around gambling, losing time from work/important activities (salience), gambling on a daily basis (narrowing of repertoire).

Factor 3  (Questions 18, 19, 20 and 21)  Maximise effect

Factor 4  (Questions 6, 7, 8, 9 and 22)  Loss of control and withdrawal, “chasing” of bets (carrying on gambling to win back losses).

Factor 5  (Questions 4, 5 and 16)  Loss of control and salience (lying to friends about gambling)

The factor correlation matrix indicates relatively low correlations between some of the factors.

Table 7 Factor Correlation Matrix for the GDQ following oblique rotation

<table>
<thead>
<tr>
<th></th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 2</td>
<td>.39</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 3</td>
<td>.20</td>
<td>.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 4</td>
<td>.36</td>
<td>.40</td>
<td>.24</td>
<td></td>
</tr>
<tr>
<td>Factor 5</td>
<td>-.19</td>
<td>-.03</td>
<td>-.09</td>
<td>-.09</td>
</tr>
</tbody>
</table>

Clearly, Factor 5 is only poorly correlated with the other factors and therefore there is no statistical justification for summing the scores from all five factors.
to yield a total score for the GDQ (a procedure used for the alcohol questionnaire developed by Stockwell et al., 1979).

As already indicated in the factor correlation matrix, high levels of internal consistency were found between the variables loading on each of the first four GDQ factors. Cronbach's alpha coefficient of reliability was 0.89 for Factor 1, 0.87 for factor 2, 0.83 for Factor 3, and 0.78 for Factor 4. Factor 5 was found to have low internal consistency (alpha of 0.25).

3.5 Validity of the GDQ

The GDQ in its present form is psychometrically imprecise and it needs to have certain questions removed in order to improve the factorial structure, to reduce its cumbersome length, and to enable meaningful interpretation of any single score that can be used to describe the severity of dependency. Nevertheless, the present study and data analysis allows for a limited validation which can be built on in further refinements of the questionnaire. It was stated earlier that the concept of gambling dependence includes a cluster of related features and elements which may not always co-exist for the same individual. As Stockwell et al. (1979) state, "evidence for the validity of a questionnaire must be accumulated from a variety of sources since no other measure against which it is compared can be expected to reflect identical phenomena". The present study allows the construct validity of the GDQ to be assessed by comparing it with other elements of pathological gambling not directly tapped by the questionnaire. The SOGS provides one possibility, as it is heavily biased towards consequent problems (15 of the 20 questions identify these, 10 of which identify the financial consequences, particularly the sources of debt). Secondly, the Gambling Problems Questionnaire was designed specifically to avoid dependency items, and covers a range of problem areas. Correlation coefficients are presented in Table 8. These use the summed scores for the three questionnaires, which as has already been
stated is not strictly valid but from inspection of the factors and questionnaires was thought appropriate for this validation exercise as it would lead to an underestimation of the correlation rather than an overestimation. It was predicted that the GDQ would correlate significantly but not perfectly with SOGS and with GPQ.

Table 8 Pearson correlation coefficients for GDQ, SOGS and GPQ

<table>
<thead>
<tr>
<th></th>
<th>GDQ</th>
<th>SOGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOGS</td>
<td>.60</td>
<td>.60</td>
</tr>
<tr>
<td></td>
<td>(Sig=.000)</td>
<td>(Sig=.000)</td>
</tr>
<tr>
<td>GPQ</td>
<td>.62</td>
<td>.71</td>
</tr>
<tr>
<td></td>
<td>(Sig=.000)</td>
<td>(Sig=.000)</td>
</tr>
</tbody>
</table>

These results are as predicted. As a further test of construct validity, correlation coefficients were calculated between the GDQ and other measures relevant to pathological gambling but not measured by GDQ. In Stockwell's et al. (1979) study, "heaviness" of drinking was used as a (partial) measure of "narrowness" of a person's drinking repertoire, and this (along with other measures) was used to help provide construct validity to the dependency questionnaire. Although there is an obvious similarity conceptually with "heaviness" of gambling, in practice the heterogeneity of types and levels of gambling make it less powerful as a likely concept to correlate highly with level of dependency. Therefore even a low but significant correlation between "heaviness" of gambling and scores on the GDQ might
provide a source of validation. An attempt was made to measure “heaviness” using self reports of:

1. “what is the largest amount of money with which you have ever gambled on any one day?” (SOGS Question 2)
2. “on a typical gambling day, how much money you would have spent gambling?”
3. “on a typical gambling day, how much time you would have spent gambling?

Table 9 Pearson correlation coefficients for GDQ, SOGS Question 2, Money on a typical day and Time on a typical day

<table>
<thead>
<tr>
<th></th>
<th>GDQ</th>
<th>SOGS Question 2</th>
<th>Typical day: Money</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOGS Question 2</td>
<td>.29</td>
<td>.29 (N=160)</td>
<td>.29 (N=160)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Sig=.000)</td>
<td>(Sig=.000)</td>
</tr>
<tr>
<td>Typical day: Money</td>
<td>.15</td>
<td>.48 (N=143)</td>
<td>.48 (N=143)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(N=144)</td>
<td>(N=143)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Sig=.069)</td>
<td>(Sig=.000)</td>
</tr>
<tr>
<td>Typical day: Time</td>
<td>.32</td>
<td>.15 (N=136)</td>
<td>.15 (N=136)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(N=138)</td>
<td>(N=136)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Sig=.000)</td>
<td>(Sig=.091)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(N=132)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Sig=.000)</td>
</tr>
</tbody>
</table>
These results suggest a small but statistically significant correlation exists between GDQ and the "largest amount of money ever gambled in any one day", and with the length of "time spent gambling on a typical gambling day". The amount of "money spent on a typical gambling day" is not correlated with GDQ. It should be noted that these measures themselves have not been validated as measuring "heaviness" of gambling behaviour, but nevertheless might be expected to be indicative.

It is interesting to note that "time spent gambling " is moderately and significantly correlated with "money on a typical day". Future research might attempt to develop the concept of measures of "heaviness" of gambling.

Analysis on a "cut down" scale of the GDQ (e.g. giving means and standard deviations of the first four factors) are not presented as the questionnaire and items will in any event have to be revised in light of this study. It is intended that factor means etc. will be calculated in the next stage of this research series.

4.0 Discussion

4.1 The population sampled

This research set out with several aims, one of which was to gather demographic and other descriptive data on what, at least for the UK, is an under researched population. For reasons given earlier, pathological gamblers are not commonly known to the helping services and research with clinical/pathological patients is often small number treatment case studies. The present study reveals much information on this "hidden" population (summarised in Section 3.3), who from this study might be expected to have a large degree of unmet health and social care needs.
The large male:female ratio was not a surprising finding given that women are known to be underestimated in treatment programmes, including GA (Lesieur and Blume, 1991). The reasons for this are beyond the scope of the present discussion (see Mark and Lesieur, 1992, for a review of this), but the return of only six sets of questionnaires (4% of the sample) from women seemed consistent with the researcher’s experience of the GA meetings attended. Moreover, all of the ten referrals to the specialist clinic for gamblers run during the research period were male. The arguments for not excluding women from the analyses are discussed later.

The results from SOGS indicated that all of the sample fell into the “pathological gambler” category, with scores ranging from 6 to the maximum 20, suggesting that GA does attract gamblers with a range of severities of pathology. It is acknowledged, as was described earlier, that as there is no control group all responses are from one end of the range, and thus this is still a restricted range for analysis. Suggestions for further studies using a broader range of gamblers are given later in this section.

4.2 The Research Questions

The following research questions were asked:

- can the features of dependency be measured in gamblers?
- is there a single factor of dependency common to pathological gamblers?
- is there any evidence that gambling dependency is independent from gambling problems?
- can the validity and reliability of a measure of gambling dependency be demonstrated?
This study has presented evidence for the concept of a dependency syndrome in a non-chemical addiction, namely gambling. The questions for the scale, and the "markers" that the questions were grouped into, were developed from clinical and theoretical knowledge, from scales used for measuring the construct with chemical dependencies, from the diagnostic criteria defined by DSMIII-R and DSMIV, as well as from comments from pathological gamblers. The resultant 22 item scale was completed by 161 pathological gamblers to test its internal structure, and by analysis with the other questionnaires administered a start has been made towards validating the questionnaire and therefore supporting this construct in pathological gambling.

Unlike previous researchers (e.g. Stockwell et al., 1979; Sutherland et al., 1986) developing dependency measures, the decision was taken not to determine the internal structure rigidly in advance by identifying the factors to be considered before statistical analysis had been carried out. Rather, a provisional structure was proposed which then was explored by the factor analysis. In the event, the factors are similar to those proposed, but the questionnaire does need modification in light of the factor analysis.

The factor analysis showed that five factors accounted in total for 63% of the variance, supporting the notion that the questionnaire is measuring a construct (labelled "dependency") made up of a number of factors that alone are insufficient to detect the construct. Thus the first research question ("can the features of dependency be measured in gamblers?") is affirmative. The results go some way to answering the second research question ("is there a single factor of dependency common to pathological gamblers?"). The major factor that emerged from the factor analysis of the data accounted for 37% of the total variance. The comparable results for other studies of substance dependency are:
Stockwell et al. (1979)  Factor 1 = 24% of the total variance.
Sutherland et al. (1986)  Factor 1 = 39%-43% (depending on the method)
Raistrick et al (1994)  Factor 1 = 58%

In the Raistrick et al. (1994) study, only one factor was extracted, with all questions loading significantly on this one factor. The suggestion that there is a cluster of related but distinguishable phenomena, arranged upon a continuum of severity to make up the “dependence syndrome”, can be argued therefore as requiring one major factor (as in the Raistrick et al., 1994 study) or in the way Edwards (1986), Stockwell et al (1979) and Sutherland et al. (1986) do (that “the percentage variance which is accounted for is not the only criterion on which to judge whether a dimensionality is being demonstrated which is in accord with theoretical postulates”; Sutherland et al., 1986 page 490). The present finding (that Factor 1 accounts for 37% of the total variance) is perhaps somewhere between the two.

Raistrick et al. (1994) suggest that the effort put in over a year to establish the content validity of their scale (by “in depth” interviews and pilot studies) paid off in that the factor analysis suggests that their scale “has a strong internal consistency with a single factor, which in turn supports the homogeneity of substance dependence”. The present study, and those by Stockwell et al (1979) and Sunderland et al. (1986), failed to demonstrate a single major factor. Clearly the need to demonstrate this should be clarified both at the theoretical level, and in the analysis of future studies of these dependence scales.

The five factors identified by the Factor Analysis were described in Section 3.4. The term “maximise effect” is used by Raistrick et al. (1994) to describe the substance specific dimensions of withdrawal symptoms and increased tolerance to drugs, and is preferred here as the equivalent features in gambling are not so obviously physiological in nature.
Re-inspection of the questions identified in each factor suggests the following "descriptors" might be applied as being the most pertinent features of each factor:

Factor 1 (Questions 10, 11, 12, 13 and 14) "Relief"

Factor 2 (Questions 1, 2, 3, 15 and 17) "Pre-occupation"

Factor 3 (Questions 18, 19, 20 and 21) "Maximise effect"

Factor 4 (Questions 6, 7, 8, 9 and 22) "Loss of control"

Factor 5 (Questions 4, 5 and 16) There is no obvious interpretation of this factor, which has two "loss of control" items (Questions 4 and 5 that do not load significantly on Factor 4, and Question 16 ("Did you lie to friends, relatives or others about how much you were gambling?") which was placed originally in the "salience" marker.

A further reanalysis of these data might therefore follow the procedure adopted by Stockwell et al., 1979, and Sutherland et al., 1986), in which a principal components analysis was performed on each of the pre selected sections. Items with the lowest loadings in each section were then dropped. Only then was a factor analysis performed (to determine whether one major factor would account for a majority of the variance to comply with the concept of a single syndrome of (in this case) alcohol dependence. An additional procedure for improving the scale would be to remove the questions making up Factor 5 from the analysis as they are difficult to interpret. The low correlations between some of the factors (particularly Factor 5, which could feasibly be error variance) might be improved by taking out the weaker questions from each factor in this way, and would in addition reduce the length of the questionnaire whilst possibly improving its factor structure.
Re-analysis of the GDQ

Separate Principal Components analyses of the identified sub-scales revealed the following:

Factor 1 ‘(Relief: questions 10,11,12,13 and 14)

The Principal Components Analysis showed this Factor to have an Eigenvalue of 3.15 accounting for 63% of the variance. The loadings of each question on this factor are:

<table>
<thead>
<tr>
<th>Question</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>GD10</td>
<td>0.76</td>
</tr>
<tr>
<td>GD11</td>
<td>0.81</td>
</tr>
<tr>
<td>GD12</td>
<td>0.84</td>
</tr>
<tr>
<td>GD13</td>
<td>0.79</td>
</tr>
<tr>
<td>GD14</td>
<td>0.77</td>
</tr>
</tbody>
</table>

Removing GD10 and repeating the Principal Components Analysis revealed the following:

Factor 1 ‘(Relief: questions 11,12,13 and 14)

The Principal Components Analysis showed this Factor now to have an Eigenvalue of 2.67 accounting for 66.7% of the variance. The loadings of each question on this factor are:

<table>
<thead>
<tr>
<th>Question</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>GD11</td>
<td>0.81</td>
</tr>
<tr>
<td>GD12</td>
<td>0.85</td>
</tr>
<tr>
<td>GD13</td>
<td>0.84</td>
</tr>
<tr>
<td>GD14</td>
<td>0.77</td>
</tr>
</tbody>
</table>
Factor 2 ('Pre-occupation': questions 1, 2, 3, 15, and 17)

The Principal Components Analysis showed this Factor to have an Eigenvector of 3.05 accounting for 61% of the variance. The loadings of each question on this factor are:

<table>
<thead>
<tr>
<th>Question</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>GD1</td>
<td>0.85</td>
</tr>
<tr>
<td>GD2</td>
<td>0.80</td>
</tr>
<tr>
<td>GD3</td>
<td>0.86</td>
</tr>
<tr>
<td>GD15</td>
<td>0.67</td>
</tr>
<tr>
<td>GD17</td>
<td>0.71</td>
</tr>
</tbody>
</table>

Removing GD15 and repeating the Principal Components Analysis revealed the following:

Factor 2 ('Pre-occupation': questions 1, 2, 3 and 17)

The Principal Components Analysis showed this Factor now to have an Eigenvector of 2.71 accounting for 67.6% of the variance. The loadings of each question on this factor are:

<table>
<thead>
<tr>
<th>Question</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>GD1</td>
<td>0.86</td>
</tr>
<tr>
<td>GD2</td>
<td>0.83</td>
</tr>
<tr>
<td>GD3</td>
<td>0.86</td>
</tr>
<tr>
<td>GD17</td>
<td>0.73</td>
</tr>
</tbody>
</table>
Factor 3 ('Maximise effect': questions 18, 19, 20 and 21)

The Principal Components Analysis showed this Factor to have an Eiganvalue of 2.42 accounting for 60.4% of the variance. The loadings of each question on this factor are:

GD18 0.69
GD19 0.74
GD20 0.87
GD21 0.80

Removing GD18 and repeating the Principal Components Analysis revealed the following:

Factor 3 ('Maximise effect': questions 19, 20, and 21)

The Principal Components Analysis showed this Factor now to have an Eiganvalue of 2.07 accounting for 69.1% of the variance. The loadings of each question on this factor are:

GD19 0.79
GD20 0.86
GD21 0.84

Factor 4 ('Loss of control': questions 6, 7, 8, 9 and 22)

The Principal Components Analysis showed this Factor to have an Eiganvalue of 2.77 accounting for 55.5% of the variance. The loadings of each question on this factor are:

GD6 0.72
GD7 0.68
Removing GD22 and repeating the Principal Components Analysis revealed the following:

**Factor 4 (‘Loss of control’: questions 6, 7, 8 and 9)**

The Principal Components Analysis showed this Factor now to have an Eigenvalue of 2.58 accounting for 64.4% of the variance. The loadings of each question on this factor are:

GD6 0.74  
GD7 0.83  
GD8 0.80  
GD9 0.83  

These 15 questions were then entered into a Principal Components analysis again with an oblique rotation procedure but now forcing the solution to the four factors previously identified.

Table 10 Factor Analysis of the unrotated GDQ

<table>
<thead>
<tr>
<th>Factor</th>
<th>Eigenvalue</th>
<th>Pct of Var</th>
<th>Cum Pct</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.55</td>
<td>43.6</td>
<td>43.6</td>
</tr>
<tr>
<td>2</td>
<td>1.66</td>
<td>11.1</td>
<td>54.7</td>
</tr>
<tr>
<td>3</td>
<td>1.26</td>
<td>8.4</td>
<td>63.1</td>
</tr>
<tr>
<td>4</td>
<td>0.97</td>
<td>6.5</td>
<td>69.6</td>
</tr>
</tbody>
</table>

Thus 69.6% of the total variance is accounted for by these four factors.
An oblique rotation with Kaiser normalisation was performed (SPSS Windows Oblimin converged in this case in 9 iterations).

Table 11 Factor Analysis of GDQ with Oblique Rotation

(n.b. loadings of less than 0.3 have been omitted)

<table>
<thead>
<tr>
<th>Question Number</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.76</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>.74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>.81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>.79</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>.87</td>
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<tr>
<td>13</td>
<td>.69</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>.54</td>
<td>.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
<td></td>
<td>.86</td>
<td></td>
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<tr>
<td>20</td>
<td></td>
<td></td>
<td>.76</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td></td>
<td>.56</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>.30</td>
<td></td>
<td>.49</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td>.73</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td>.95</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td>.61</td>
</tr>
</tbody>
</table>
Table 12 Factor Correlation Matrix for the 15 item GDQ following oblique rotation

<table>
<thead>
<tr>
<th></th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 2</td>
<td>.30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 3</td>
<td>.30</td>
<td>.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 4</td>
<td>.44</td>
<td>.43</td>
<td>.29</td>
<td></td>
</tr>
</tbody>
</table>

These questions were then entered into a confirmatory analysis of the four factor model (using a Maximum Likelihood Factor Analysis). The four factors were extracted in 8 iterations. The Chi-square statistic = 69.51, with D.F. = 51. The significance level = 0.04. This indicates that the four factor model is not appropriate.

Four-factor model statistics:

<table>
<thead>
<tr>
<th>Factor</th>
<th>SS Loading</th>
<th>Pct of Var</th>
<th>Cum Pct</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.13</td>
<td>40.9</td>
<td>40.9</td>
</tr>
<tr>
<td>2</td>
<td>1.27</td>
<td>8.5</td>
<td>49.4</td>
</tr>
<tr>
<td>3</td>
<td>0.72</td>
<td>4.8</td>
<td>54.2</td>
</tr>
<tr>
<td>4</td>
<td>0.74</td>
<td>4.9</td>
<td>59.1</td>
</tr>
</tbody>
</table>

Observation of the results of this analysis suggests that a two factor model might be more appropriate. Results of this test of fit of the 2-factor model were however highly significant, again indicating that a two-factor model is not appropriate for these data (5 iterations were required, the Chi-square statistic = 196.9, D.F. = 76, Significance = 0.0000).
These reanalyses suggest then that the Gambling Dependence Questionnaire in its present format has a complex factorial structure which has not been satisfactorily described. From the reanalyses it seems that there is no justification for removing questions as this does not improve its structure or clarity.

The present study has allowed the questionnaires to be open to further refinement in the light of these results, and the modified questionnaires might then be used on a broader range of severities of gambling including non-pathological gamblers.

The fact that the questions do seem to be measuring a construct that is found in pathological gamblers, and yet were formed deliberately to avoid asking about the problematic consequences of gambling, suggests that gambling dependency is independent from gambling problems (the third research question). The correlation between the Gamblers Dependence Questionnaire and the Gambling Problems Questionnaire was significant ($r=.62$, $p=.000$), as expected, but not perfect. It is acknowledged that a stronger test of this would be the use of a confirmatory factor model, which would involve a single analysis of the two sets of data, and it is intended to do this in future studies with the tests developed from this one, but using a population with a greater range of severities of gambling.

It is of interest that the questions purporting to measure “salience” (Questions 14,15,16) and “narrowing of the behavioural repertoire” (Question 17) loaded highly in the factor analysis (although not always on the factors predicted). Stockwell et al. (1979) and Sutherland et al. (1986) excluded questions measuring these dimensions as they were thought to be “too subtle for a simple inventory to cope with” and which would be too difficult for subjects to answer. The present study confirms that of Raistrick et al. (1994) that these dimensions are measurable, at least in this client population.
Demonstration of the validity and reliability of the gambling dependency measure

This relates to the fourth research question. As Davidson (1987) states "Establishing the validity of a test is not immediate but occurs incrementally over time as discriminant, construct and criterion data accumulate. Evidence on the validity of any test must be gathered from various sources ....". The current report is therefore to be viewed as the first of a series that are necessary to establish the questionnaires validity and reliability. Nevertheless some evidence is available in the present study.

The construct validity was tested using the well established South Oaks Gambling Screen, the Gambling Problems Questionnaire (an ad hoc scale of problems covering the full range identified in the literature, and from clinical experience and feedback from pathological gamblers), and from measures of "heaviness" of gambling data collected in this study. It is argued that each of these elements are related to the concept of pathological gambling, and are hypothesised to be elements of gambling dependence not directly tapped by the GDQ itself. Comparing the GDQ with these is therefore one way of gathering evidence for the construct validity of the GDQ.

The correlations with SOGS and GPQ were 0.60 and 0.62 respectively, suggesting support for the construct validation of the test.

The comparisons with the measures of "heaviness" of gambling were expected to be weak tests of validity as the measures (amount of time/money spent on a typical gambling day; most money ever spent in a day on gambling) are not analogous to quantities of drugs/alcohol consumed. A heavily addicted "scratch card" player, for example, might spend £50 and take a few hours at most in a week, whilst a non addicted but regular casino player might have a turnover of several thousand pounds per week and spend
numerous hours in the casino. Nevertheless, it is reasonable to assume that in general, the greater the pathology of gambling, the more time and money would be spent. The positive and significant correlations obtained for two of these measures with the GDQ again suggests evidence in support of the construct validity of the GDQ. The third question ("on a typical gambling day, how much money you would have spent gambling?") was not significantly correlated with GDQ, and there is no obvious explanation as to why this is the case. It should be noted that these measures themselves have not been validated as measuring "heaviness" of gambling behaviour, but nevertheless might be expected to be indicative. Future research might attempt to develop the concept of measures of "heaviness" of gambling.

As the association between pathological gambling and psychopathology is recognised (see the review by Dickerson, 1989), a test of convergent validity (as described for example by Raistrick et al., 1994) could easily have been carried out if a suitable scale for this had been included (such as the General Health Questionnaire, used in the Raistrick et al., 1994 study). This was not included here because of the already large number of questions being asked, but might be included in a future study. With the present data it is possible to plot the number of those scoring positive to Factor 4 (Questions 10, 11 and 12 of the GPQ) against the GDQ scores, and this will be carried out in a reanalysis of the data at a future date.

No attempt was made to assess concurrent validity (the closeness of fit of the GDQ with other measures of the same construct), as the questionnaire took items from these other sources (DSMIII-R, DSMIV, and other descriptions of the dependence syndrome (e.g. Edwards et al, 1977; 1982)), and so would be contaminated and not independent from them. An alternative possibility would be to conduct a clinical diagnostic interview and to rate severity of dependence, but because of the anonymity which is a vital component of the GA approach, and because of the geographical spread of the gamblers, this
was not an option here, but could be in a further development of the questionnaire.

The reliability of the GDQ was not adequately assessed in this study. Test retest reliability is a necessary prerequisite for a questionnaire to be of any value where it is argued that it is measuring a stable construct, but it was not possible to assess this with the present sample. A separate study is planned for this, using clinic attenders collected over a longer time period than was possible here.

High levels of internal consistency, as measured by Cronbach's alpha coefficient of reliability, were found between the variables loading on each of the first four GDQ factors, but Factor 5 was found to have low internal consistency (alpha of 0.25).

The individual correlations between the first four factors, however, is low, and is even lower for Factor 5. In order to obtain a questionnaire that is easily scored by summing the questions to give a composite score (for example, as with alcohol and drug dependency measures described above), the changes to the questionnaire outlined earlier in this section may be needed in order to produce this greater consistency.

Finally in this section, the question of identifying a cut off point for GDQ scores, above which a gambler can be said to have a clinical severity of the dependency syndrome, will be possible once the GDQ factorial structure has been improved, and the less useful questions have been removed. From the present research a score of 10 on GDQ corresponded to a score of 6 on SOGS.
The Gambling Problems Questionnaire

Although this scale was devised primarily as a way of establishing construct validity for the GDQ, it is clearly a reliable scale, with a factorial structure that appears to comply with the pre-organised sections, and which itself correlates highly with SOGS and so can be said to have construct validity. As there is no questionnaire currently in use designed specifically for measuring the problems produced by dependent gambling, it would be useful to refine this further in a way described for the GDQ above.

Criticisms of the study and suggestions for further research

Suggestions for improving the questionnaires, and the statistical analyses used, have already been discussed earlier in this section.

Clearly the population sampled (GA members) is not necessarily representative of all pathological gamblers. Indeed there are reasons to suggest that this population, as with Alcoholics Anonymous and Narcotics Anonymous, is distinct in terms of their attitudes and beliefs about their “illness” (see for example the descriptions of the “12 step” programme given by Griffiths, 1995). The reasons for using this group have already been described, and the decision has been vindicated by the large sample accessed and the results obtained. There is a need, however, to conduct further research with other groups of gamblers, including gamblers from a sample of the “normal” population, regular but problem free gamblers, perhaps recruited via betting shops, casinos and the like, “heavy” gamblers who might not be dependent but are experiencing problems, and pathological gamblers seeking treatment or identified in the “heavy” gamblers group.
Such research would allow for stronger tests of construct validity, and it would be possible for the concurrent, discriminant and convergent validity, as well as the essential test-retest reliability study, to be properly tested.

The highly selected nature of the sample within GA members is in addition recognised. The return rate was (conservatively, as discussed earlier) estimated at 47%, and the characteristics of these volunteers may differ from non returners.

Because the sample was of GA members, many of the respondents had not gambled for some time. 50% of the sample stated that they had last gambled (in a problematic way) within the last year, 81% within the last five years, but clearly a number of respondents (19%) were recalling events from five or more years ago. Instead of including all of the respondents, it may have been methodologically sounder to include only those with recent gambling experiences. Further research using current and recent gamblers only will help reduce the “noise” in the data collected and provide more forceful results than those obtained here.

A similar concern might be put about the inclusion of women in the analysis, given their small number. It was believed however that because the female group was too small to test for any differences with the male group, there was no justification for excluding them from the analysis. The analysis took no account of heterogeneity of the group in respects other than gender, for example there are grounds (from personal experience of running a treatment clinic as well as from information from GA members) for suspecting that differences might exist between casino players vs horse race betters vs fruit machine players, and that there may as well be age differences. These issues need to be addressed in future research.
The clinical value of assessing the degree of gambling dependence has still to be established. It seems likely, however, to raise the same controversy and interest as with substance dependencies. For example, it is likely to be relevant to whether a gambler could return to "entertainment" levels of gambling, or whether life long total avoidance (as advocated by GA) is necessary. Other aspects of treatment programmes may also be influenced by the pattern and severity of the assessed dependency. Medico legal issues may also be raised. For example, courts seldom in the UK take into consideration gambling dependency as mitigating circumstances, unlike with drug and alcohol dependency. Yet pathological gambling is a likely cause of criminal offending behaviour in many cases, and the criminal justice system could use treatment rather than punishment as an option as with other addiction related offences.

5.0 Conclusion

In conclusion, the present research successfully accessed a "hidden" population of pathological gamblers. It has provided descriptive information on gambling behaviour, the range and severities of problems experienced, and has contributed to the identification of an area of unmet need in the health of the population.

This study has presented evidence for the concept of a dependency syndrome in pathological gamblers, that this is made up of several dimensions which can be measured with the Gambling Dependence Questionnaire, and that this is to some extent demonstrable as a separate concept from the consequent problems of gambling.

Evidence has been presented of the GDQ's validity in measuring gambling dependence. There needs to be further validity and reliability testing, particularly with other groups of gamblers. Methods for quantifying gambling
behaviour need to be explored to help assist this validation research. The potential use of the GDQ in predicting and evaluating treatment outcome is seen as particularly important.

The Gambling Problems Questionnaire similarly needs further research with other populations of gamblers, but shows promise as a potential measure of gambling problems which with modification could be of value both in assessing the pathological gambler's treatment needs, as well as evaluating treatment outcomes.

6.0 REFERENCES


**APPENDIX 1: SOUTH OAKS GAMBLING SCREEN**

1. Please indicate which of the following types of gambling you have done in your lifetime?
   
   For each type tick one answer: "Not at all", "Less than once a week" or "Once a week or more".

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Less than once a week</th>
<th>Once a week or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td></td>
<td>Bet on horses, dogs or other animals (at the racecourse, track, or with a bookie)</td>
</tr>
<tr>
<td>B.</td>
<td></td>
<td>Bet on sports (football, boxing etc. with a bookie)</td>
</tr>
<tr>
<td>C.</td>
<td></td>
<td>Played cards (or dominoes) for money</td>
</tr>
<tr>
<td>D.</td>
<td></td>
<td>Played dice games (including Poker Dice, Backgammon, or other dice games) for money.</td>
</tr>
<tr>
<td>E.</td>
<td></td>
<td>Went to a Casino (legal or otherwise)</td>
</tr>
<tr>
<td>F.</td>
<td></td>
<td>Did the football pools or bet on a lottery (local or national)</td>
</tr>
<tr>
<td>G.</td>
<td></td>
<td>Played Bingo</td>
</tr>
</tbody>
</table>

360
H. □ □ □ Played the Stock Market

I. □ □ □ Played fruit machines or other gambling machines

J. □ □ □ Played Pool, Darts, Golf or played some other game of skill for money.

2. What is the largest amount of money with which you have ever gambled on any one day?

□ Never have gambled
□ £1 or less □ More than £100 up to £1,000
□ More than £1 up to £10 □ More than £1,00 up to £10,000
□ More than £10 up to £100 □ More than £10,000

3. Do (or did) any of your relatives gamble too much? Please tick any that apply.

□ My father □ My mother □ My brother(s)/sister(s)
□ My husband/wife/partner □ My children

4. When you gamble(d), how often do(did) you go back another day to win back money you lost?

□ Never
□ Some of the time (less than half the time) I lost
□ Most of the time I lost
□ Every time I lost
5. Have you ever claimed to be winning money gambling but were not really? In fact, you lost.

☐ Never (or never gamble)
☐ Yes, less than half the time I lost
☐ Yes, most of the time

6. Do you feel you have ever had a problem with gambling?

☐ No
☐ Yes, in the past, but not now
☐ Yes

7. Did you ever gamble more than you intended to do?

☐ YES ☐ NO

8. Have people criticised you gambling?

☐ YES ☐ NO

9. Have you ever felt guilty about the way you gamble or what happens when you gamble?

☐ YES ☐ NO

10. Have you ever felt you would like to stop gambling but did not think you could?

☐ YES ☐ NO

11. Have you ever hidden betting slips, lottery tickets, gambling money or other signs of gambling from your spouse, children or other important people in your life?

☐ YES ☐ NO

12. Have you ever had money arguments, with people with whom you live, which centred on your gambling?

☐ YES ☐ NO

13. Have you ever borrowed from someone and not paid them back as a result of your gambling?

☐ YES ☐ NO

14. Have you ever lost time from work (or school) due to gambling?

☐ YES ☐ NO
15. If you borrowed money to gamble or to pay gambling debts, from whom or where did you borrow? (Tick "YES" or "NO" for each)
   a) from household/housekeeping money
   b) from you spouse/partner
   c) from other relatives or in-laws
   d) from friends or acquaintances
   e) from banks (e.g. authorised overdraft), building societies (e.g. re-mortgage) or loan companies
   f) from pawn brokers
   g) from loan sharks
   h) you borrowed on a credit card
   i) you went overdrawn (without bank approval)/bounced cheques

   YES   NO

16. Have you cashed in stocks, bonds or other securities (to gamble or pay gambling debts)?

   YES   NO

17. Have you sold personal or family property/possessions (to gamble or pay gambling debts)?

   YES   NO
APPENDIX 2: GAMBLING DEPENDENCE QUESTIONNAIRE

THINK ABOUT THE MOST RECENT MONTH WHEN YOU WERE GAMBLING HEAVILY, OR IN A WAY THAT WAS OUT OF CONTROL, OR IN A WAY THAT CAUSED PROBLEMS OF ANY KIND.

PLEASE INDICATE APPROXIMATELY HOW LONG AGO THIS WAS - TICK ONE BOX.

☐ This last month  ☐ 1 to 3 months ago
☐ 4 to 6 months ago  ☐ 6 to 12 months ago
☐ 1 to 2 years ago  ☐ Over 2 years ago.

Please state how many years ago ______ Yrs

ON A TYPICAL GAMBLING DAY DURING THAT MONTH, PLEASE GIVE US AN APPROXIMATE IDEA OF

How much money you would have spent gambling £ ............

How much time you would have spent gambling ............. Hrs

The type(s) of gambling you would have done .................................................................
(eg. played cards, bet on horses etc.)

The place(s) where you would have gambled .................................................................
(eg. Betting shop, Racecourse, Casino etc)
DURING THAT MONTH

TICK ONE BOX ONLY
TICK THE ANSWER THAT IS MOST APPROPRIATE TO YOU.

<table>
<thead>
<tr>
<th></th>
<th>NEVER OR ALMOST NEVER</th>
<th>SOMETIMES</th>
<th>OFTEN</th>
<th>ALWAYS OR NEARLY ALWAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you find yourself thinking about when you would next be able to gamble?</td>
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<tr>
<td>2. Did you find yourself thinking about obtaining money to gamble?</td>
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<tr>
<td>3. Did you plan your days around having the opportunity to gamble?</td>
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<tr>
<td>4. Did you feel your need to gamble was too strong to control?</td>
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<tr>
<td>5. Did you make repeated failed attempts to cut down or stop gambling?</td>
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<td>6. Did you continue to gamble despite having significant problems which you knew were being made worse by gambling?</td>
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<tr>
<td>7. Did you feel you had to carry on gambling once you had started?</td>
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<tr>
<td>8. Did you gamble larger amounts of money or over a longer period than you intended?</td>
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<tr>
<td>9. Did you feel at all depressed, restless or irritable if unable to gamble, or when trying to cut down or stop gambling?</td>
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<tr>
<td>Question</td>
<td>NEVER OR ALMOST NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS OR NEARLY ALWAYS</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
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<tr>
<td>10. Did you find that once you had started gambling you felt better or had a feeling of relief?</td>
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<tr>
<td>11. Did you gamble to cheer yourself up when you felt low (depressed, anxious, stressed, guilty, etc.) for any reason?</td>
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<tr>
<td>12. Did gambling help you to forget problems for a while?</td>
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<tr>
<td>13. Did you find it difficult to cope with life unless you gambled?</td>
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<tr>
<td>14. Was gambling more important than anything else you might do during the day?</td>
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<tr>
<td>15. Did you lose time from work or other important activity in order to gamble?</td>
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<tr>
<td>16. Did you lie to friends, relatives or others about how much you were gambling?</td>
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<tr>
<td>17. Did you gamble on a daily basis.</td>
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<tr>
<td>18. Did you gamble in any special way in order to increase the sensation which it gave you?</td>
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<tr>
<td>19. Was getting the effects you wanted (such as winning, or getting excited) more important than the particular type of gambling you did?</td>
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</tr>
</tbody>
</table>
20. Did you need to increase the size or frequency of bets to get the desired excitement? □ □ □ □

21. Did you want to gamble some more when the effect started to wear off? □ □ □ □

22. Did losing cause you to carry on gambling (on the same day or another day) to win back the money you had lost? □ □ □ □

THANK YOU FOR COMPLETING THIS FORM. PLEASE CHECK THAT YOU HAVE NOT MISSED ANY QUESTIONS.
APPENDIX 3: GAMBLING PROBLEMS QUESTIONNAIRE

Some people who have a gambling problem describe other problems in their lives which may be related to their gambling. We would like to find out if you have shared any of these problems. Some of the questions may strike you as odd or embarrassing but we hope you will feel able to answer them.

DURING YOU WORST 6 MONTH PERIOD OF PROBLEM GAMBLING HOW OFTEN DID YOU EXPERIENCE THE FOLLOWING? :-

<table>
<thead>
<tr>
<th>No Never</th>
<th>Yes Once or Twice</th>
<th>Yes Occasion - Ally</th>
<th>Yes Frequently</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. You disappointed relatives or friends by cancelling prior arrangements because you preferred to go gambling.</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>2. You had arguments with close friends or relatives about your gambling.</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

IF YOU HAVE HAD NO PARTNER, GO TO QUESTION 6.

3. Your spouse/partner complained about your gambling. | □ | □ | □ | □ |

4. Your spouse/partner tried to stop you from gambling. | □ | □ | □ | □ |

5. Your spouse/partner threatened to leave you because of your gambling. | □ | □ | □ | □ |

IF YOU HAVE HAD NO CHILDREN, GO TO QUESTION 8.

6. Your children complained about your gambling. | □ | □ | □ | □ |

7. Your children tried to stop you from gambling. | □ | □ | □ | □ |
IF YOU HAVE NOT BEEN EMPLOYED OR IN FULL TIME EDUCATION (SINCE YOU FIRST STARTED TO GAMBLE REGULARLY), GO TO QUESTION 10.

DURING YOUR WORST 6 MONTH PERIOD OF PROBLEM GAMBLING HOW OFTEN DID YOU EXPERIENCE THE FOLLOWING?:

<table>
<thead>
<tr>
<th>Question</th>
<th>No</th>
<th>Yes Once</th>
<th>Yes Occasionally</th>
<th>Yes Frequently</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. You missed time from work/school/college because of your gambling.</td>
<td></td>
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<tr>
<td>9. You were worried about poor performance or behaviour at work/school/college.</td>
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</tbody>
</table>

DURING YOUR WORST 6 MONTH PERIOD OF PROBLEM GAMBLING HOW OFTEN DID YOU EXPERIENCE THE FOLLOWING?:

<table>
<thead>
<tr>
<th>Question</th>
<th>No</th>
<th>Yes Once</th>
<th>Yes Occasionally</th>
<th>Yes Frequently</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. You had a bout of depression/anxiety lasting more than one week.</td>
<td></td>
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<tr>
<td>11. You felt suicidal</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>12. You neglected yourself physically.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>13. You got into debt.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>14. Your home/flat/room was under threat due to mortgage or rent arrears.</td>
<td></td>
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</tr>
<tr>
<td>15. You sold or pawned your own or your family's possessions to get money to gamble.</td>
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</tr>
<tr>
<td>16. You stole or otherwise broke the law to get money to gamble.</td>
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<td></td>
<td></td>
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<tr>
<td>17. If YES to question 16, did this lead to legal proceedings?</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
DURING YOU WORST 6 MONTH PERIOD OF PROBLEM GAMBLING

18. Did you lose touch with a relative or friend because of your gambling? □ YES □ NO

19. Did you lose your spouse/partner (temporarily or permanently) as a result of your gambling? □ YES □ NO

20. Did you lose a job or lose a career or educational opportunity as a result of your gambling? □ YES □ NO

21. Did you lose your home/flat/room? □ YES □ NO

22. Did you permanently separate from your spouse/partner? □ YES □ NO

THANK YOU FOR COMPLETING THIS FORM.
PLEASE CHECK THAT YOU HAVE NOT MISSED ANY QUESTION.
APPENDIX 4; OTHER PERSONAL INFORMATION

PLEASE ANSWER A FEW QUESTIONS ABOUT YOURSELF, IT WILL GREATLY HELP THE STATISTICAL ANALYSIS OF THESE QUESTIONNAIRES.

PLEASE TICK THE APPROPRIATE BOXES.

<table>
<thead>
<tr>
<th>SEX/GENDER</th>
<th>COUNTRY OF BIRTH .............................................</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Male</td>
<td>(PLEASE SPECIFY)</td>
</tr>
<tr>
<td>□ Female</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AGE GROUP</th>
<th>LIVING WITH?</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Under 20 years</td>
<td>□ Alone</td>
</tr>
<tr>
<td>□ 20-29 years</td>
<td>□ Self and children</td>
</tr>
<tr>
<td>□ 30-39 years</td>
<td>□ Partner/Spouse</td>
</tr>
<tr>
<td>□ 40-49 years</td>
<td>□ Partner/Spouse and Children</td>
</tr>
<tr>
<td>□ 50-59 years</td>
<td>□ Parents</td>
</tr>
<tr>
<td>□ 60-69 years</td>
<td>□ Friends</td>
</tr>
<tr>
<td>□ 70 years or over</td>
<td>□ Other, Please Specify</td>
</tr>
<tr>
<td>OCCUPATIONAL STATUS</td>
<td>EDUCATION</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>□ Unemployed</td>
<td>□ No qualifications</td>
</tr>
<tr>
<td>□ Employed</td>
<td>□ CSE/O' LEVEL/GCSE</td>
</tr>
<tr>
<td>□ Self-employed</td>
<td>□ HND/City &amp; Guilds</td>
</tr>
<tr>
<td>□ Housewife/househusband</td>
<td>□ 'A' LEVEL</td>
</tr>
<tr>
<td>□ Student</td>
<td>□ Degree/Diploma</td>
</tr>
<tr>
<td>□ Armed Forces</td>
<td></td>
</tr>
<tr>
<td>□ Retired</td>
<td></td>
</tr>
<tr>
<td>□ Voluntary Work</td>
<td></td>
</tr>
<tr>
<td>□ Other,</td>
<td></td>
</tr>
<tr>
<td>Please Specify</td>
<td></td>
</tr>
</tbody>
</table>

CURRENT/USUAL JOB (Please Specify) ...........................................

(If retired or unemployed your last main job or the type of job for which you are applying)
APPENDIX 5 FEEDBACK (OPTIONAL)

We would very much appreciate your comments/criticisms/suggestions concerning these questionnaires. We are particularly interested in the following:

Approximately how long did the questionnaires take to complete?

Did you find the instructions clear?

If so, which questions and why?

Did you object to answering any of the questions?

Have we missed out any relevant questions or important topics?

Was the layout of the questionnaires clear/attractive?

Any of your own opinions/feelings etc., that you would like to add?

This is entirely anonymous. It will not be possible for us to identify you or contact you again. However if we can be of assistance to you, and you wish to contact us, please write to:-

Mr Paul Davis
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GAMBLING RESEARCH - INFORMATION FOR PARTICIPANTS

AIMS OF THE STUDY

The aim of this study is to examine and describe gambling dependence and its associated problems, and to develop new and better ways to assess people referred for help with their gambling problems. The results of the study should contribute to the eventual development of treatments for these problems.

WHAT THE STUDY REQUIRES OF YOU, SHOULD YOU DECIDE TO TAKE PART

You will be asked to complete a set of questionnaires: a gambling screen, a gambling dependence questionnaire, and a gambling problems questionnaire. You will also be asked for some basic facts about yourself, but not your name or any means of identification.

We realise that there are a lot of questions to answer.

However, all the questions are there for a reason.

The analysis of your answers will enable us to shorten the questionnaires to include only the most significant questions.

So please persevere and answer every question.

Please keep all the questionnaires stapled together.

CONFIDENTIALITY

The information from the questionnaires is anonymous and totally confidential. There will be no attempt to contact you again as a result of taking part in this study. If you decide not to take part there will be no further attempt to persuade you to do so.
SECTION FIVE

PUBLICATIONS DURING THE PERIOD OF STUDY 1994-96
Publications and Conference Papers in 1994-96


SECTION SIX

M.Sc. THESIS

The Nature of the Memory Disorder in Senile Dementia
CUED RECALL AND THE NATURE OF THE MEMORY DYSFUNCTION IN SENILE DEMENTIA

A thesis submitted in part fulfilment for the University of Surrey M.Sc. degree in Clinical Psychology

Paul E. Davis B.Sc.

June, 1980
The nature of the verbal memory dysfunction in senile dementia was studied using a cued recall paradigm. It was hypothesised that the memory disorder in dementia could be due either to an inability to establish new items in secondary memory, or to a difficulty in retrieving that information. Miller (1975) found that providing the initial letter of each word at the time of recall increased the performance of a group of presenile demented to the same level as normal controls, concluding that their uncued recall deficit was possibly a result of impaired retrieval processes rather than an acquisition failure. However, it is argued that because the letter cue failed to increase the controls' recall, alternative explanations are equally well supported by this study.

Miller's experiment was extended here in an older age group and using two types of cues - the word's initial letter and its semantic category. It was predicted that if processing, coding, and storage of words are normal in the dement, but that there is a retrieval deficit, then both types of cue would improve the dement's recall to a greater extent than they would with normal subjects. In the latter group, it was predicted that the semantic category of each word would be a more potent cue than an initial letter.

Recall scores of eighteen elderly patients suffering from an Alzheimer-type dementia were compared with those of eighteen non-memory impaired geriatric patients. The two groups were matched for age and reading ability. Three lists of 8 words were presented for learning to each subject, with retention being assessed under three recall conditions (uncued recall, letter cued, and category cued), given in a counterbalanced order across
subjects. As expected, a large difference existed between the groups in their uncued performance. Recall was significantly greater for the demented when letter cued than when uncued, but this increase was only the same as that found for the normal subjects; and therefore this result does not support the suggestion that the memory deficit is due to inadequate retrieval processes in the dement. However, that a cue did improve the dement's recall is regarded as having implications for the management of their memory impairment.

Recall by the normal subjects was greater when cued by the semantic category of each word than when uncued, although there was no difference between letter and category cueing in this group. In contrast, semantic information did not act as a cue for the demented, suggesting that the information was not processed according to this attribute. It is argued from these results that the memory impairment may in part be due to a failure to carry out sufficient processing of the information.

It is concluded that this study emphasises a dysfunction in the processes prior to retrieval, and the results are discussed in relation to this. Some suggestions for further research into the memory disorder in senile dementia are discussed.
ACKNOWLEDGEMENTS

I would like to express my gratitude to my supervisor, Sue Mumford, Principal Clinical Psychologist at Springfield Hospital, London SW17, for her advice and encouragement throughout this research.

I am also indebted to the staff and patients of various units within the Wandsworth and East Merton Teaching District, particularly those of Ward 14, St. James' Hospital, Bolingbrooke Hospital, and of course the Jubilee Unit based at Springfield Hospital. Access to the patients used in this research was readily allowed by Dr. Loic Hemi, Dr. John Kellett, Professor Peter Millard and Dr. Richard Bailey.

Particular thanks are expressed to my sister Pam Wright, who typed this thesis with such impressive efficiency.
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CHAPTER I: Introduction
1.1 GENERAL INTRODUCTION

The extent of neglect of the study of senile and presenile dementias has often been commented on (e.g. Lishman, 1977). The resulting lack of knowledge and understanding is in sharp contrast with the extent and severity of this group of diseases, which together form what is arguably the most significant single problem currently facing the health services (Office of Health Economics, 1979). The urgency of the research needed was stressed by the MRC subcommittee's report on the dementias (compiled by Lishman, 1977), where recommendations were made as to those areas of research that might most usefully be explored. It is evident in their report that the study of the dementias embraces several disciplines and an important role is given to the contribution of the clinical psychologist. Studies of the nature of the cognitive deficits accompanying dementia is one avenue recommended as a priority for psychological research; the experiment described here is consistent with this, and is concerned with the nature of the memory dysfunction in senile dementia.

1.2 RECENT CHANGES IN THE ELDERLY POPULATION

It is well established that in both relative and absolute terms the population aged over 65 years is increasing (see, for example, Arie and Isaacs, 1978). Figures quoted by these authors show that at the turn of this century only 5% of the population of England and Wales was aged over 65 years; since then this proportion has increased, reaching 13% of the total population in 1971. The elderly are currently predicted to form 15% of the population, and this figure is expected to rise until around 1990, after which it will remain steady or drop (figures from the Central Statistics Office, quoted by Post, 1979).
The increase is not simply a proportionate one; more people are reaching the senium (arbitrarily defined as the over 65's) than used to. In 1901, the elderly numbered 1.5 millions, while in 1971 6.9 millions were aged over 65 years (figures from the Office of Population Censuses and Surveys, quoted by Arie and Isaacs (1978). The reasons for these changes in the population undoubtedly include increased longevity due to higher standards of living, better hygiene and increased medical care, but the proportionate increase in addition reflects changes in the size of families during this century. Reduced infant mortality was achieved before the trend toward small families, resulting in a "bulge" in the population that has now reached old age, and which will begin to disappear only around 1990 (Post, 1979).

As Arie and Isaacs (1978) point out, the figures presented above underestimate the size of the problem with regards the burden for the caring services. Breaking down the figures for those aged 65-74 and those over 75 reveals that among the elderly it is the very old (75 years and above) whose numbers have increased most rapidly (from 0.44 to 2.32 millions between 1901 and 1971). Moreover, while the number of those aged 65-74 years will actually decline in the present decade, those aged over 75 will carry on increasing into the next century. Thus the over 75's now account for more than 35% of all old people, but by the end of the century this will increase to 45%. It is, of course, this older group that places the greatest demand on medical and social services, and consequently these services must themselves plan to accommodate this change (Post, 1979). Mumford and Carpenter (1979) discuss this in relation to the psychological services.
1.3 **PSYCHOLOGICAL DISORDERS OF THE ELDERLY**

Older people have more physical illness than do younger (Post, 1979). In addition, ageing is accompanied by an increased prevalence of psychological disorders (Gianturco and Busse, 1978). As with mental illness in younger patients, these may for purposes of description be divided into two broad categories of "functional" and "organic" illnesses. It is important to note that the psychiatry of old age refers to those problems with onset in late life, rather than to psychiatric patients who have reached the senium. Nevertheless, the functional disorders in the elderly are closely related to those in younger patients, and their treatment is often similar. Depression in the elderly is a common clinical syndrome (Gianturco and Busse, 1978), and phobic or obsessional trends may also become clinical problems for the first time in old age (Post, 1979). Bergman (1978) further discusses neurotic disorders in the elderly. Post (1978) describes the other major category under the functional heading i.e. the functional psychoses. Included here are the psychotic depressions, which occur most often for the first time between the ages of 55 and 65; persistent persecutory states, of which Post describes three types; and, finally, disorders collectively termed schizo-affective illnesses.

Whilst our understanding and treatment of the functional illnesses of old age benefits to a large extent from the body of knowledge from general psychiatry, the study of those psychological disorders that are due to damage to cerebral structures benefits little. The study of the "organic" illnesses in the elderly is relatively little developed, yet it is patients suffering from cerebral pathology, particularly the dementias, that are predicted to increase so much in number in the future, and which
present the greatest problems in terms of the devastating effects of the illness. Marsden (1978) presents a review of the range of neurological disorders (affecting higher mental functions) that are associated with abnormal ageing, and these will be considered in greater detail in a later section.

The epidemiology of organic brain syndrome has been studied most thoroughly by Roth and his associates in Newcastle upon Tyne (e.g. Roth, 1973; Kay et al., 1964), and it is their figures that are most frequently quoted. Briefly, 5.6% of all the elderly aged over 65 years were estimated to be severely demented. The prevalence of chronic brain syndrome increased with age, rising from approximately 3% in persons aged 65 to 70 years, to over 20% in those over 80 years. Given that 1 in every 5 of the very old (i.e. the group increasing so much in numbers) may be estimated to be severely demented, the extent of the problem of dementia becomes apparent. Post (1979) argues that a 15% prevalence of severe dementia in the over-75's may be taken as a conservative estimate of the true rate. The majority (6 out of 7) remain in the community (figs. quoted by Arie and Isaacs, 1978) yet dementia is said by these authors to be the main determinant of breakdown leading to institutional care. The biggest sector of social services expenditure is on residential care for the elderly and, of these old people, approximately 50% are reported to have dementia (Arie and Isaacs, 1978). It may be concluded therefore that the problem of dementia is of particular importance within the overall problem posed by the growing number of elderly.

1.4 CLINICAL DESCRIPTION OF DEMENTIA

Although "dementia" is sometimes employed to describe only those progressive and irreversible diffuse structural
brain damage, in practice it is more commonly used purely as a
descriptive label, referring to signs and symptoms rather than
aetiology (Marsden, 1978). It may be preferable therefore to
adopt here this more general usage, i.e. as a label applied to
describe a syndrome of generalised global loss of higher mental
function, irrespective of its cause (Marsden, 1978). Pearce and
Miller (1973) discuss a variety of definitions of dementia, and
suggest that it may most usefully be defined as "a symptom, often
progressive, which is characterised by a decline of intellect and
personality which reflect a disturbance of memory, orientation,
the capacity for conceptual thought, and often of affect".
It is important to note that this syndrome of global disturbance
of higher mental function is in an otherwise alert patient,
thus distinguishing it from delerium. Marsden (1978) further
discusses the distinction between dementia and other syndromes.

Dementias occurring before the age of 65 years are arbitrarily
designated pre-senile dementias, while those above this age
constitute the senile dementias. Because of the tendency for
pre-senile demented patients to be more intensively investigated
(Marsden, 1978), there is a greater body of knowledge about the
younger than the older group. The relationship between the two
is unclear (see Pearce and Miller, 1973), but for the present
purposes it will be assumed that the main diseases associated
with dementia are in many cases similar for both groups. Pre-
senile dementias are uncommon when compared with the frequency
of senile dementias, and it is this older group that is of
concern here.
Of the senile dementias, approximately 15% are caused by multi-infarct changes (figs. quoted by Marsden, 1978). Repeated and widespread emboli of cholesterol, fibrin or platelet cells from atheromatous plaques in extracranial blood vessels produce multiple lesions. In multi-infarct dementia, the damage caused to brain tissue by individual attacks is typically not extensive; rather, the dementia is due to repeated "mini-strokes" producing diffuse damage. The course of the deterioration is described as being "stepwise", with marked changes consequent to a stroke, followed by little change or even some improvement until the next incident. The end product of such a series of lesions is dementia.

The more frequently diagnosed senile dementia (approximately 50% of dments according to Marsden, 1978), is characterised by degeneration of the parenchymatous tissue of the brain. The diffuse cortical atrophy consists of two types of lesion—senile plaques and neurofibrillary changes (Constantinidis et al., 1978). Qualitatively these changes may be the same as those associated with normal ageing; this type of dementia may therefore be an acceleration of the normal ageing process, although such a view is by no means a universally accepted one (Miller, 1977, further discusses this issue). As a generalisation the more severe the cerebral atrophy, the more severe the dementia (discussed most recently by Corsellis, 1977).

In patients under the age of 65 years this dementia is termed Alzheimer's disease. In those over the age of 65 years it is frequently referred to as senile dementia (e.g. by Pearce and Miller, 1973). This obviously produces confusion in terminology since senile simply refers to the age, and dementia to the symptoms, and thus vascular dementias may equally well qualify
for the term senile dementia. To avoid this confusion the term senile dementia of the Alzheimer type (SDAT) will be applied here. There is some evidence to suggest that SDAT and Alzheimer's disease are essentially the same degenerative disorder (Constantinidis et al., 1978) although in general Alzheimer's disease is restricted as a diagnosis to those with onset below the age of 65 years.

The cause of the cerebral atrophy in SDAT is unknown. The thickened fibrils and minute plaques of degenerating tissue become scattered throughout the grey matter and particularly the cortex of the brain. The disease is irreversible and progressive, and is associated with a reduced life expectancy (see, for example, Kay et al., 1970; Gilmore, 1975). Pearce and Miller (1973) discuss the genetic factors in the disease.

Approximately 20% of senile dements show evidence of both multi-infarct changes and Alzheimer's changes; a further 15% are found to have pathology other than these two (figures quoted by Marsden, 1978). It is clear therefore that the most common dementia in the elderly is the Alzheimer type, and it is with this type of dementia that the present research is concerned.

Obtaining a firm diagnosis is not, however, always possible. Dementing patients over the age of 65 years are typically seen by the geriatrician or psychiatrist rather than the neurologist, and the problems of greater concern to these workers may well be management rather than diagnosis. This, together with the fact that the disadvantages of neurological investigations with the elderly often outweigh the advantages (Marsden, 1978), may mean that a distinction between multi-infarct dementia and SDAT may be difficult or even thought of as being of little importance. For research purposes, as here, such a distinction is necessary.
The type of evidence used for differentiating the two (assuming that other causes have been ruled out) include a history of multiple strokes, evidence of the typical clinical features of a pseudobulbar palsy and gait disturbance, and significant hypertension (Marsden, 1978). On the other hand, SDAT is often diagnosed on the basis of the absence of other causes. Given the criteria, and the greater contribution of SDAT to the total dement population than other types, it is probable that a reasonable degree of diagnostic accuracy may be obtained even without thorough neurological or postmortem evidence.

At a descriptive level the dementing patient has a number of functional disturbances. Disorientation for time and place is common to several organic syndromes, including dementia, and may be used to help distinguish "organic" from "functional" disorders (Copeland, 1979). The additional features of dementia may be summarised as follows (from Pearce and Miller, 1973).

1. Impairment of memory
2. Deterioration of intellect
3. Change of personality
4. Affective disorders
5. Focal neurological symptoms

An impairment in memory is often the most prominent disturbance, at least in the early stages of the illness (Miller, 1977). Forgetfulness may be initially restricted to recent events, but if the dementia is progressive then the amnesia becomes widespread affecting past as well as recent memories. The nature of the memory dysfunction is considered in greater detail in later sections.
A deterioration in general intellectual functioning may not be obvious in the early stages of dementia, but is nevertheless an essential feature of the syndrome (Miller, 1977). Thinking becomes gradually more concrete and impoverished; deficits in reasoning, judgement and planning become evident, and there may be loss of concentration (Marsden, 1978). Insight into the illness may or may not be present. Changes in personality are often the most striking aspect noticed by the patient's relatives, and may be the change that causes greatest concern. Exaggerations of the patient's normal premorbid personality may occur (Pearce and Miller, 1973), such as individuals with obsessional tendencies becoming over-fussy with highly organised compulsive behaviour. Less commonly, the natural personality trends may be reversed. The loosening of inhibitions is particularly likely to cause concern to others. The patient may indulge in socially unacceptable behaviour without appreciating its distressing effects. In the later stages the personality may be unrecognisable; sexual deviation may occur, there may be neglect of hygiene and appearance, and incontinence without apparent embarrassment or concern often develops.

Affective disorders are common in the early stages of a dementing illness (e.g. Pearce and Miller, 1973). Depression is particularly frequent, and this may be the presenting symptom (Miller, 1977). Euphoria may occur, with the patient unable to comprehend why people are showing concern. As the illness progresses, the more typical emotional state is apathy, sometimes interspersed with bursts of irritable and aggressive behaviour.
Finally, focal neurological and neuropsychological symptoms are likely to be present in addition to the features given above. The detection of a variety of these is indicative of global brain damage, and may be used in diagnosis. Some brief examples of focal lesion signs are given below; Miller (1972b) and Warrington (1970) discuss in detail the range of deficits found. Disturbances in language are common, ranging from nominal dysphasia to complex expressive disturbances and impaired comprehension of language. Dementing patients may have a variety of apraxias, such as dressing apraxia. Constructional apraxias are particularly easy to demonstrate, for example by asking the subject to draw a clock face or copy simple designs. Perseverations in such drawings are frequently found. Agnosic defects are also common (Pearce and Miller, 1973). There are, in addition, a number of non-psychological neurological changes (discussed by Pearce and Miller, 1973).

As was mentioned earlier, a disturbance of memory is frequently the first manifestation of a dementing illness, and may be considered an essential feature of the diagnosis (Miller, 1977); in any event, it is clearly an important aspect of dementia. Evidence of a memory impairment may require psychological assessment, but more frequently it is obvious simply from informal questioning. Such an impairment is obviously disabling to everyday functioning; attempts at understanding the nature of the deficit will have implications for its management, and thus the context of memory research in dementia should be viewed as being strongly clinically based. Greater attention has been given to research into verbal rather than visual memory (Whitehead, 1975), even though both are typically found to be impaired in the dement. The discussion in the remainder of this thesis will be restricted largely to the retention of verbal material, although it may in addition be applicable to other types of information.
1.5 MODELS OF MEMORY

As Miller (1977) points out, a model of memory must firstly be adopted in order to describe any effects of dementia. There is, however, no universally accepted theory of memory, and the model and concepts used here must therefore be accepted with the knowledge that they themselves are not firmly established, but rather are working hypotheses that best fit the available evidence to date. A full discussion of the controversy surrounding models of memory, together with the rationale for accepting one rather than another model, is clearly beyond the scope of the present account (Lewis, 1979, presents a recent review of models of memory). The one adopted here is described by Norman (1976), and appears to be generally accepted both by experimental and clinical psychologists (Craik, 1977).

The model involves a distinction between three discrete stages in memory: sensory memory, primary memory (P.M.), and secondary memory (S.M.). Information is received and transduced by the senses, and held briefly in a modality specific store. Retrieval of information from the sensory memory involves its passage into primary memory, a store of limited capacity (approximately 4 items according to Craik, 1977). Active rehearsal of the information is needed for items to remain in primary memory. Information is transferred to the "main" store - secondary memory - for inactive storage. Baddeley (1972) provides a concise review of the arguments for a division of memory into at least three stages, pointing out the distinguishing feature of each in terms of capacity differences, encoding characteristics, and the rate and mechanisms of forgetting from the three stores.
It is essential that the dichotomy of memory into primary and secondary be clearly understood. The terms refer to cognitive processes and not to a retention interval or definition imposed by the experimenter. Thus P.M. is a process by which items are held in conscious awareness; rehearsal maintains items in this store, as well as facilitating their transfer to the stable secondary memory. Incoming information may rest in both stores at the same time; items in S.M. are, however, subject to "deeper" semantic processing, while little if any elaboration occurs in P.M. According to Craik (1977), any items not in P.M. recalled after a time period of the order of 30 seconds, show the characteristics of S.M.; and these characteristics after 30 seconds are identical to those observed after months or years, although differences will exist between recent and long term memories in the amount of elaboration they have undergone. The terms "recent" (or "short term") and "long term" memory refer merely to the experimenter imposed retention interval, and not to separate memory processes; consequently it is possible to have short and long term memories in both P.M. and S.M. Given these definitions, tests loosely defined as ones of "short term memory", where the retention interval is more than 30 secs., are interpreted as reflecting components of S.M., as are tests where the number of items exceeds the capacity of P.M. (i.e. immediate recall of over 4 items would include both S.M. and P.M. processes). Following Botwinick (1978), a distinction between short and long term memory needs to be made, however, when considering memory and age since items in S.M. may be affected differentially according to whether they are "older" or "newer" memories.
1.6 THE EFFECTS OF DEMENTIA ON MEMORY

Sensory memory has not been extensively studied in relation to dementia. Miller (1977a) in one of the few studies reported, found that his (presenile) dementing subjects required a longer exposure time before any of the letters could be reported, and that for any exposure time above their threshold the dements were unable to report as many letters as control subjects. Miller concludes that the memory impairment in dementia may originate from these initial stages of information processing, but without other collaborative evidence such a conclusion must obviously be seen as a tentative one.

In contrast with sensory memory, there is a relatively large literature on dementia and "immediate" memory. The problem with this literature is, however, one of interpretation; for if Craik's definitions are accepted, then lists of more than 3 or 4 items will exceed the capacity of the "read-out" store, and be a function of S.M. rather than P.M. Only those experiments in which the two processes can be distinguished will be considered here. Craik (1977) argues that the recency effect found in free-recall (i.e. the tendency for the last few words of a long list being recalled first and more efficiently than words from the middle of the list) is a "pure" measure of P.M. Miller (1971) compared dments and controls on the free recall of 12 words. Dements showed a significant recency effect for the last 3-4 words (demonstrating the presence of a P.M.) but this was significantly less than that shown by the controls.

Miller's (1971) experiment suggests then that the capacity of P.M. might be reduced in dementia. This is contrary to findings using other paradigms. Whitehead (1973) for example, found no difference between dments and ill depressives on forward digit
span; a normal control group was not included in this experiment however. Inglis compared dments and normal controls in a series of studies using a dichotic listening technique. In this task, two separate messages (lists of digits with up to 4 digits per list) are presented simultaneously to the two ears. Typically, a subject will repeat back one message before the other. Craik (1977) would argue that recall of the first message is from P.M., while the second is from S.M. Inglis (1960) found that only for the delayed message were dments worse than controls, thus it is possible that P.M. is unaffected by dementia. Using the same method, Caird and Inglis (1961) and Inglis and Sanderson (1961) again showed that recall of the first message was the same for both groups, but only with lists of up to three digits in length. A difference in the list reported first was apparent with 4-digit lists. These latter two studies may therefore provide some evidence for a reduced capacity P.M. in dments, consistent with Miller's results using the recency effect. In any event, the reduction in capacity is small relative to that found for S.M. (discussed below), and the general conclusion may be made that as with normal ageing (Craik, 1977), the main deficit in dementia is not one of primary memory.

Yet there are numerous studies showing the disruptive effects of dementia on memory (e.g. Kendrick and Post, 1967; Whitehead, 1973). In the free-recall paradigm referred to earlier, words from the beginning of the list, like those from the end, are recalled better than words from the middle. One explanation for the primacy effect is that during presentation of the list there is opportunity to rehearse the first few words, but not later ones; and consequently the earlier words are more likely to be retained
in the stable, secondary store (see Glanzer and Cunitz, 1966). Normal elderly controls show such a primacy effect (Miller, 1971). Dements on the other hand show virtually no primacy (Miller, 1971), which indicates that secondary memory in dements is severely impaired.

1.7 THEORIES OF MEMORY DYSFUNCTION

Although there may be commonalities between the memory disorder in dements and that in Korsakoff-type amnesic syndrome patients (discussed by Miller, 1975; Baddeley, 1975, describes the amnesic syndrome), it is important to note that the former is in the context of more widespread cognitive impairment. This, together with other important differences, implies that the amnesias in the two are not necessarily similar in nature. However, the theoretical aspects of memory disorder in amnesic syndrome patients are equally applicable to dementia, and therefore the literature from both fields will be considered together. The same applies to studies of normal ageing and memory.

These theories of amnesia are conceptualised within the framework of human information processing theory (see, for example, Norman, 1976). Information is viewed as having to pass through several processes from its original presentation to its retrieval from secondary memory, and a deficit at any stage is capable of producing impaired recall. Stated briefly, information must firstly be attended to; if processing is serial between types of stores, items must be efficiently transferred from one to the other; consolidation of the memory trace may be a necessary process; the information must be stored in an appropriately coded manner in order that access to it is later possible; retrieval processes are needed to search for and find the stored material and make it
available for recall; and, finally, it may be necessary to perform a recognition task or judgement of the familiarity of the retrieval items before output. Baddeley (1975) uses rather different and more elaborate terminology to this in his review of theories of amnesia, but is effectively describing the same potential sources of dysfunction. M.W. Eysenck (1977), considering the effects of normal ageing on memory, adds to these causal explanations by viewing the processes from a different approach. Three groups of hypotheses are considered by Eysenck, two of which will be described in detail here.

Processing-deficit hypotheses are based primarily on the concepts proposed originally by F.I.M. Craik, i.e. a model of memory given in terms of levels of processing (described by Craik and Lockhart, 1972; Eysenck, 1978, and McCullough, 1979, present recent critiques of this). The model postulates that when information is attended to it is analysed according to a hierarchy of levels or stages; early analysis may be of its physical features, while elaboration of the information will involve analysis of its semantic features. How well the information is remembered is hypothesised to be a function of the depth of analysis performed on the stimuli, with deeper (e.g. semantic) analysis being associated with better recall performance as compared with lower levels of analysis. Moreover, it is suggested that information is stored according to its characteristics or attributes, and these attributes act as cues for subsequent retrieval of the stored information (see Tulving and Bower, 1974). The process is termed "encoding" by Craik and Lockhart (1972). A word may be encoded in terms of its physical features (e.g. as to whether it begins with the letter "P"); or encoding may be by the word's phonemic features, its meaning, its
imaginal properties, the context in which it was given, and so on. The number and type of attributes that the information is encoded by will depend on the depth of processing it has undergone; and the more elaborate the encoding, the better the recall will be.

There is now a considerable body of evidence that shows that, normally, semantic encoding results in higher performance levels than physical or phonemic encoding for both recall and recognition tasks (e.g. Craik and Tulving, 1975). As a simple example, consider the processing of the word "PORK". This may be encoded, for example, according to its physical features (starts with "P", has four letters, etc.), phonemic (rhymes with "fork"), semantic (e.g. a kind of meat that we eat), and so on. According to these authors, analysis of the word's meaning results in it being more likely to be retrieved than if analysis was at a lower level. In addition, it is stated that prompts to aid recall (discussed later) will be more effective if related to these higher levels of encoding rather than to lower. Warrington and Weiskrantz (1974), in a different context, argue that retrieval of information may be a function of the number of possible alternative responses under the attribute that the information has been encoded by. If a word is coded according to a general attribute, such as the number of syllables it contains, the large number of words sharing this characteristic would make subsequent recall of the word impossible using this attribute alone. The more elaborate the encoding, the fewer the response alternatives and therefore the greater the likelihood of accurate recall. A more detailed exposition is given by Eysenck (1977). In summary, then, the model states that the more "work" that is performed on the material to be learned, the better it is retained, and the easier it is to later retrieve because more effective retrieval cues can be used to access the
learned material. Eysenck (1977) reviews the above formulation in relation to age-related decrements in memory performance; poor retention of material by normal elderly subjects may result from a failure to process the information to the same degree as younger people. If complex forms of processing, including semantic, conceptual, and imaginal, are not utilised, then the memory deficit found in the normal elderly may be explained by this processing-deficit hypothesis. Cermak and Butters (1973) and more recently McDowall (1979) argue that this deficit may account for the memory loss in Korsakoff-type amnesic syndrome patients. There are, apparently, few published studies of the processing deficit hypothesis being applied to dementia; a preliminary study is reported by Larner (1977), and Miller (1972) has investigated two types of encoding in presenile dementes.

The second group of hypotheses discussed by Eysenck are termed retrieval-deficit hypotheses. According to this view, information is attended to, processed and stored adequately, but fails to be recalled because of inefficient retrieval mechanisms. Tulving (e.g. Tulving and Bower, 1974) is the main proponent of a retrieval failure in forgetting. The basic tenet of Tulving's formulation is that recall from secondary memory involves effective access to what is stored, and that when an item is registered in memory it is stored according to its attributes or characteristics. Furthermore, recall of the item involves the generation of the appropriate retrieval cues; and the effectiveness of the retrieval cue reflects the informational overlap between the memory trace and the cue (Tulving and Bower, 1974). The notion that retrieval cues have to be generated in order to assist in accessing the memory trace, is by no means the only explanation of how information is recalled (Eysenck, 1977, discusses these issues in detail), but
in the main this appears to be the prevailing view (e.g. Fisher, 1979). Thus the memory process is said to involve the search and retrieval of information in storage, and memory dysfunction may therefore be a failure of the retrieval mechanisms, i.e. generating the appropriate retrieval cues, rather than the other processes mentioned. The retrieval-deficit hypothesis will be discussed in greater detail in a later section.

Finally, Eysenck considers motivational hypotheses, particularly the effects of "physiological arousal" on memory. This is discussed in relation to dementia by Miller (1977), and by Hemsie et al. (1968). It is difficult, however, to fit this theory into the context of the nature of the memory deficit and in particular the cued recall paradigm, instead of the global explanation of dementia for which it was intended. It will not therefore be considered here, although it may well be of importance in other contexts.

It is clear from the above that a memory dysfunction may be due to a failure in one or more of several processes. As was stated at the beginning of this chapter, the nature of forgetting in dementia has not been extensively studied. However, the amnesic syndrome and the effects of normal ageing on memory have both received greater attention, and therefore the literature on these may provide techniques that are applicable to dementia. These studies will be briefly reviewed in the following section.
THE NATURE OF THE MEMORY LOSS IN AMNESIA AND THE NORMAL ELDERLY

Botwinick (1978) and Craik (1977) provide extensive reviews of normal ageing and memory. One consistent finding is that recall from secondary memory declines with increasing age. This effect has been demonstrated using a variety of paradigms, but a study commonly quoted is that by Schonfield (1965). Subjects aged 20 to 75 years were presented with a list of 24 words, each word given separately. Mean free recall scores consistently dropped with age group. Schonfield in addition included a recognition task following a separate list of words. To assess recognition memory, subjects were shown each of the 24 words mixed with 4 new words; the subject had to underline the word from the test list. These recognition scores showed no decline with age, in marked contrast with the free recall scores.

Schonfield suggested that the difference between recognition memory and recall is that the former does not involve retrieval, but simply the matching of the stored information with the material in the recognition test. Schonfield concluded therefore that the age deficit is one of retrieval, and not of inadequate processing, storage etc. To return to the analysis presented in the previous section, Tulving (e.g. Tulving and Bower, 1974) states that a retrieval cue helps overcome a retrieval deficit, and that the greater the amount of overlap between the cue and the stored information, the more effective the cue will be. A copy of the original stimulus, as is provided in the recognition task, acts as a potent cue, effectively bypassing the need for normal retrieval operations. There are two theoretical models that are pertinent here. One (described by Anderson and Bower, 1972) suggests that two processes operate in recall: the generation of retrieval cues, and the
matching of these to the stored trace. According to this view, recognition is superior to recall because it requires only one of the two operations. The recent work of Tulving and others (e.g. Tulving and Thompson, 1973), however, demonstrates that under a variety of conditions recall is either no worse or is actually better than recognition. Indeed, these authors present evidence of contextual cues in certain conditions producing superior performance to the case where copies of the original information are presented for recognition. Adhering to the rule that recall is determined (at least in part) by the extent to which the information in the retrieval cue overlaps or accesses the information in the encoded trace, it must be assumed that the encoded trace is not simply a replica of the original stimulus, but rather a result of whatever cognitive operations are performed on the stimulus and the context in which it was presented. Thus Tulving suggests that recognition memory is superior to recall not because the latter involves an extra process, but rather because a copy of the original stimulus is often (but not always) an extremely potent cue.

In any event, it is agreed that recognition tasks remove or reduce the necessity for retrieval processes, and consequently provide one technique for investigating the nature of forgetting. Although Schonfield's study may be criticised on several counts (discussed by Eysenck, 1977), and subsequent studies have produced conflicting results (Erber, 1974, for example found a drop in recognition scores with age), the general conclusion that recall performance is more related to age than is recognition performance would seem to be valid and supported by a majority of studies (reviewed by Botwinick, 1978). The important point is that a greater improvement from recall to recognition tasks for older than younger subjects (i.e. an interaction of age with type of task) suggests that the original deficit is in part due to faulty retrieval.
Korsakoff patients are poor both on tests of free recall and of recognition (Mair, Warrington, and Weiskrantz, 1979). Indeed, the interaction of type of task with group (amnesics vs. controls) is caused by the controls but not the amnesics improving with the recognition task (Warrington and Weiskrantz, 1970). This information alone might suggest that the deficit was not one of retrieval, although other evidence (described later) argues against this interpretation.

That superior recognition memory over free recall is a result of retrieval differences is clearly not the only possible conclusion. McNulty and Caird (1966), for example, argue that only partial learning of the information is needed for recognition, whereas total learning is necessary for recall, and this difference may account for the superiority of recognition memory. An alternative paradigm to test the retrieval-deficit hypothesis is to provide cues to the stored information. According to Tulving, if information is in storage but not accessible by retrieval mechanisms, memory can be aided by cues or hints. The cue has to be some characteristic or attribute of the stored material by which it is assumed the material has been "encoded". If the cue facilitates recall, then it is clear that the information was available in storage and that the retrieval mechanism was not adequate (assuming that guessing is controlled for). On the other hand, absence of a cueing effect obviously does not necessarily imply a storage problem - the word might not have been encoded according to the cue's information, for example.
Studies of cued recall and normal ageing have produced conflicting results. Laurence (1967) compared free and cued recall in young (mean age of 20 years) and old (mean = 75 years) subjects. As expected a large difference existed between the groups in free recall. Provision of a cue at recall (the semantic category of each word) significantly improved the elderly group's mean recall, and did so to a level that was not significantly different from the control's recall. The young subjects did not further improve their recall when cued (and this was probably not due to a "ceiling" effect), and therefore Laurence concluded that the non-cued difference in recall by the two groups was largely a result of a retrieval deficit in the old group. A partial learning hypothesis is not able to explain these results.

Hultsch (1975) compared three adult age groups in a complex study of verbal memory. The details of interest here are the comparisons of non-cued with cued recall (again using as cues the semantic category of each word) of words from a list of forty. Predictably, younger subjects recalled more words than older subjects, and the provision of the category cue improved recall for all three age groups. However, there was no interaction of age with recall condition, with the younger subjects continuing to recall significantly more words than older subjects in the cued recall condition. The absence of an interaction suggests that the memory deficit associated with ageing is not attributable to retrieval difficulties: acquisition/encoding/processing/storage etc. may be the locus of the dysfunction according to this finding.
Drachman and Leavitt (1972) also studied cued and non-cued recall in young (18-26 years) and old (58-89 years) subjects, but using the first letter of each word as the retrieval cue. Providing the initial letters of the words increased recall, but did so equally for old and young groups. These authors concluded that retrieval was not the crucial mechanism in memory loss, favouring instead a disorder of storage.

More recently Perlmutter (1979) investigated the effects of cues generated by the subjects themselves before learning the lists, and cues provided by the experimenter (words highly associated with the stimulus words). Age differences existed with both types of cues, suggesting that the deficit of the older subjects was not due to retrieval processes alone. Moreover, while younger subjects recalled significantly more words when given their own rather than the experimenter's cues at recall, older subjects did not. Perlmutter argues that older adults may be inefficient in their production of retrieval cues, and that this would partially account for their poor free recall.

Warrington and her colleagues have applied the cued recall paradigm to amnesic syndrome patients, concluding that "whilst these patients are poor on tests of recognition and free recall, they can show remarkably good retention when tested with techniques of "cued recall" (Mair, Warrington, and Weiskrantz, 1979). In a series of studies (Warrington and Weiskrantz, 1970; 1971; 1974; Weiskrantz and Warrington, 1970; 1975) the effects of a variety of cues (including partial information cues such as fragments of words, the initial letter and the first three letters of words, as well as semantic cues) have been compared with uncued recall and recognition memory. Although "ceiling" effects in the
controls' recall weaken the findings of some of these studies (e.g. Warrington and Weiskrantz, 1974), it is shown that cueing the amnesic patients at recall improves their performance to a level that is not significantly different from the controls'; cueing is more facilitative with amnesics than with controls. These results cannot be explained by the tasks being made easier, since when different methods of retrieval are compared an interaction is apparent between subjects and method of retrieval (Warrington and Weiskrantz, 1970). Warrington interprets this cued recall effect as demonstrating that consolidation of items in memory is normal in the amnesic.

Yet these patients show impaired performance on recognition tasks. One explanation given by these authors (see Weiskrantz and Warrington, 1975b) for these apparently conflicting results, is that the amnesic is unable to retrieve correct items in memory, and this difficulty results from an inability to inhibit competing irrelevant material (i.e. the patient is effectively recalling too much). The failure of recognition testing to improve performance is explained by disinhibited recall producing incorrect words that may match the (false) alternatives supplied in recognition testing, and this gives rise to erroneous positive recognitions. Cued recall on the other hand improves performance because it limits the available choice of responses without providing explicit alternatives that can be falsely matched with any incorrectly recalled words. By giving cues, the number of possible response alternatives available to the subject is reduced to a degree that depends on the specific constraint imposed by the cue. Thus some cues may reduce the number of possible response alternatives to only a few (e.g. "a type of bird that talks"), whereas others will limit the possible responses to a much less extent (e.g. "a word beginning with "C"). One way of studying this systematically is to use the
first three letters of words as the cue at recall. The number of words having the first 3 letters in common ranges from one to over 50, and therefore the number of competing responses can be experimentally manipulated. Warrington and Weiskrantz (1974) showed (after adjusting for contamination from guessing) that narrow range words improved recall to a greater extent for the amnesics than for controls. Similarly, Warrington and Weiskrantz (1971) argue (although without presenting the relevant data) that semantic cues will be more facilitative than first letter cues for the amnesics, since fewer response alternatives will be available for taxonomic categories compared with the number of potential words from a single letter. Whatever the explanation for how cues are effective, this research suggests that the memory impairment in amnesics is a function of the retrieval processes. (Woods and Piercy (1974) and Squire et al. (1978) challenge this conclusion on the grounds that the same effects can be demonstrated in forgetting by normal subjects. These authors argue on the supposition that normal forgetting involves a loss of stored material, an assumption that some (e.g. Eysenck, 1977) report as being less likely than the alternative explanation of a problem of retrieval. Furthermore, the arguments presented presumably only challenge the notion that forgetting in amnesics is qualitatively different from that in normals, and do not necessarily affect the basic inferences being made from this paradigm. Weiskrantz and Warrington (1975) discuss these criticisms further.)

Finally, a brief consideration will be given to research into the processing deficit hypothesis as an explanation of memory dysfunction. Eysenck (1977) discuss this fully in relation to normal ageing, and McDowall (1979) presents a recent review of depth of processing in Korsakoff patients.
If retrieval cues do not differentially affect different age groups, and/or fail to improve the older groups' recall to that of the younger subjects, it is possible that other, non-retrieval processes are impaired. Eysenck concludes from his review that deep and elaborate encoding occurs decreasingly among normal older people, and speculates further that this may be the prime cause of age-related deficits in secondary memory. The evidence to support this conclusion is exemplified in a study by Eysenck himself (Eysenck, 1974). Younger (18-30 years) and older (55-65) age groups were presented with one of five tasks or sets of instructions (i.e. within each task there were two age groups). The control task was an instruction to learn a list of words for later recall. The four experimental tasks involved either an instruction to count the letters of each word, to find rhymes to each word, to find suitable adjectives, or to form images of the words. These tasks were intended to increase the level of meaningful processing from the first set to the fourth. An unexpected recall task followed these tasks. No age differences were found for recall after letter counting, and recall by both groups improved as processing became deeper. The important point, however, is that the improvement with deeper processing was greater for younger than for older subjects, with intentional learners showing the largest age difference. Older people are capable of deeper processing, however, and can be taught to use such strategies to improve their recall (see Botwinick, 1978).

McDowall (1979) applied a similar approach to Korsakoff patients, demonstrating that their memory deficit is in part due to inefficient processing. In addition, this paper uses the cued recall technique as a means of assessing the level of analysis of processing. The type of retrieval cue that improves recall indicates whether the
information has been processed and stored according to the cue's information. Instructing the amnesics to process words semantically improved their subsequent recall; moreover, providing retrieval cues (semantic category labels) further improved their recall, demonstrating that this level of analysis was used by the amnesics.

The literature reviewed above has suggested where the deficit in amnesic syndrome patients and in the normal elderly might be localised in the information processing system. By applying similar techniques to dements, it may be possible to investigate the nature of the memory disorder in these patients.

1.9 THE NATURE OF THE MEMORY LOSS IN DEMENTIA

It has already been stated that recall from secondary memory is impaired in dements. As Miller (1975) points out, attempts to elucidate the nature of the amnesia have concentrated on the acquisition of new material. According to Miller, this is in part due to the clinical impression of relatively good distant recall, but poor recent recall, suggesting that the memory disorder is not due to the patient being unable to recall material that has been learned, but rather that the material has never been effectively learned in the first place. Experiments comparing free recall with recognition performance have tended to confirm this, and as recently as 1978 Whitehead has argued that faulty retrieval can not be a sufficient explanation for the memory deficit in dementia, since the use of a recognition format does not eliminate the impairment.

Inglis (1957) found that his memory impaired elderly patients took more trials to learn a group of paired associates than did a control group. A recognition task was also included, in which the test word was presented among a number of alternatives. This recognition
form of the test showed a similar degree of impairment as the recall version, and Inglis concluded that the main deficit lay in the acquisition of the new information rather than its retrieval. Caird (1965) confirmed these findings again using the recall-recognition comparison. Whitehead (1973), using a serial learning task of 8 high frequency words, found that ill elderly depressives scored significantly higher than dments on a subsequent recognition task (the 8 words presented with 8 new words), again suggesting that retrieval processes are not the main cause of the dement's impaired recall. Miller and Lewis (1977), and Whitehead (1975) have demonstrated that a poor recognition performance is present for other types of material, including pictorial.

However, an extension of Warrington's disinhibition hypothesis (described above) to dementia would suggest that recognition performance may be a function of the number of possible response alternatives made available in the task. Specifically reducing the number of alternatives in the recognition test will increase the efficiency of recognition memory to a greater extent in dments than in normal controls. If this is so, then the conclusions of Inglis and Whitehead would be incorrect; that is the poor recognition memory need not imply a failure of acquisition, but may instead be a result of faulty retrieval processes as in the amnesic syndrome patients. Miller (1978) investigated this using presenile (Alzheimer's disease) dments and normal controls. Three lists of 12 common words were used. Each list was presented three times, with serial presentation of the words within the list. Following the third learning trial a distractor task was performed for 30 seconds, and then retention of the words was tested by one of three recognition conditions. Each test word was presented with either 1, 3 or 7 new words, depending on the recognition condition, and the subject's task was to indicate the word that had been in the
original list. Miller predicted that if the words had been acquired and stored, but were not recalled because of a retrieval failure of the sort described above, then the fewer the number of alternatives presented in the recognition test, the less likely the demented subject would be to match erroneously recalled words with the recognition material. Miller found precisely that.

Reducing the number of response alternatives in the recognition test was more facilitative to the dement's scores than the controls; the large group difference existing when recognition was one of eight alternatives was virtually removed when recognition was one of two alternatives (a correction procedure was applied for guessing).

Similar results are reported by Miller (1975); recognition scores when the 10 test items were embedded within 20 alternatives, were significantly less for the dement than when the recognition test was a forced choice one. The conclusions made by Miller are that items are adequately acquired and stored by the dement, but recall and recognition are impaired because of defective retrieval processes; given the appropriate conditions at output, recognition memory can be considerably improved in the dementing patient.

As was the case with normal elderly and with amnesic syndrome patients, the nature of the memory impairment in dementia may be further investigated using the cued recall procedure. This would firstly have implications as to whether the deficit is at least in part due to inadequate retrieval processes; and secondly, the type of cue that facilitates the dement's recall would indicate the type of encoding that the material has undergone.

Miller (1975) extended the cued recall findings of Warrington and her associates using amnesic syndrome patients, to presenile Alzheimer's disease patients. The basic hypothesis being tested was
that if poor recall by demented is a result of faulty retrieval processes, then providing a cue at recall should improve the dement's recall, and should do so to a greater extent for the demented than for the controls (i.e. an interaction should be present). Fragmented words as cues were not favoured by Miller since, he argued, a cueing effect could be due to the subject having learned a purely perceptual skill in deciphering the stimulus, instead of the fragmented stimulus evoking the recall of a word that had been remembered. The cue employed by Miller was the initial letter of each word. This experiment incorporated a cued recall condition, free recall, and two recognition tests (forced and multiple choice). Sixteen neurological patients with presenile dementia formed the dement group. The control group consisted of the same number of patients suffering from either extracranial neurological disorders, or from pulmonary tuberculosis. Both groups had the same mean age (59 years) and the standard deviations of these ages were almost identical (7.0 and 7.5 years respectively). Subjects were required to read aloud and to try to remember lists of 10 common words with each list being presented three times. The words were presented one at a time. After the third presentation of a list a distractor task was given lasting 30 seconds (thus ensuring that recall was from secondary memory). Following the delay, retention of the list was assessed in one of four ways (free recall, cued recall, forced and multiple choice recognition). Each subject received all four lists and methods of recall, with full counterbalancing of the order of the retention condition across subjects. The results for the cued and free recall conditions are presented in Fig. 1.1.

As expected, retention by the controls in the uncued condition was superior to the demented's. Providing the initial letter of each word at recall did not significantly improve the control subjects'
performance, and the author reports that this was not due to a "ceiling" effect (personal communication). The same cue significantly improved recall by the dement group however, and did so to a level that was not significantly different from the control group. The presence of an interaction between retention condition and the subject's group suggests that the poor uncued recall performance of the dement group was due to faulty retrieval. Moreover, the fact that retention improved to the same level as the controls suggests that the deficit seen in uncued recall was entirely due to the retrieval failure. There are, however, other explanations of these results apart from the retrieval deficit hypothesis. In particular, it should be noted that the (initial letter) cueing effect was specific to the dement group. The possibility arises therefore that the dement has normal retrieval processes, but codes the information in an abnormal manner. The normal process of retrieval may be unable to locate the items unless primed by an appropriate cue (in this case, the initial letter). Clearly, if coding is abnormal in dement then normal retrieval cues would be ineffective. A cue that is effective in normals must be used in such research if a failure in the retrieval processes is to be supported. The research described in this thesis looks at the nature of the cue, using cues that are known to aid retrieval in normal subjects.

Secondly, it should be pointed out that an absence of a cueing effect in the controls weakens the conclusions that can be drawn from the interaction between type of retention condition and patients' group. Although this does not affect the conclusion that the information in the dement group is being stored (and poorly recalled either because of faulty retrieval or abnormal coding), it does detract from the notion that poor recall is due to a retrieval deficit, since this requires evidence of a differential improvement by dement over controls when cued.
Thus Miller's experiment produces only equivocal evidence from which to specify where the deficit in dementia lies. On the one hand the cueing effect shows that the information has been acquired and stored. On the other, this experiment fails to distinguish between whether the impairment is in abnormal coding of the stored information, or whether it is due to abnormal retrieval processes. Only if a cueing effect can be demonstrated using normal retrieval cues (where the control's recall is improved), can support be given for the retrieval deficit hypothesis.

The reasons for suspecting some form of abnormal coding in dementia are outlined by Miller (1977). In one experiment, Miller (1972) compared recall from lists containing either acoustically or semantically related words. The normal effect of learning words that share some features in common is to impair their subsequent recall. This effect was greater in the normal than the dement group, suggesting that normal coding might not be present in the dement. However, this was only true for the acoustically related words; the semantically similar words failed to show any interference effect in either group. Miller (1974) investigated the type of errors made by presenile dements in recognition tests, but failed to produce any evidence of abnormal coding. Finally, following Whitehead's (1973) finding that senile dements produced more false positive errors, random errors and omissions than did ill depressives (interpreted as reflecting a greater degree of disorganisation in the demented group), Larner (1979) investigated the extent of this disorganisation using a signal detection analysis. The errors produced on a recognition task were related to the word's frequency (of usage in English), with low frequency words being recognised more often than high frequency words. This effect was found for the normal controls but not the senile dents, a result interpreted by Larner in terms of a breakdown of encoding
in dments (this conclusion rests on the assumption that low frequency words have fewer attributes in common, making their recognition easier because of their relative uniqueness; if this level of encoding is not performed, then a frequency effect will not be found).

The evidence to support abnormal encoding/processing in senile dementia is not convincing; the alternative hypothesis of impaired retrieval processes is supported only by the recognition experiments by Miller. Miller's (1975) experiment on cued recall, as has been stated, is able to demonstrate that the information has been stored, but cannot alone discriminate between the two hypotheses. Furthermore, Miller's research was with presenile dments referred via the neurological services. These patients were probably seen early in their dementia, and therefore Miller's results may not apply to the memory dysfunction in (psychiatrically referred) senile dementia; and it is the impairment in these latter patients that is of concern here.

1.10 PROPOSED RESEARCH AND PREDICTIONS

In order to test both the retrieval deficit and the abnormal coding hypotheses a comparison should be made of uncued and cued recall using cues known to improve recall in normal subjects. If these cues fail to increase recall by the dments, then the deficit may lie in the processing of the information.

The word's initial letter was used as a cue by Drachman and Leavitt (1972) with normal subjects, where it was found to increase recall by young and old alike. It is surprising therefore that this was not effective in Miller's control group, unless a "ceiling" effect was present. It is obviously important to retain this cue in the present research because of Miller's
important findings of a differential letter cueing effect.

The word's semantic category is a potent cue employed in many of the cued recall experiments reviewed earlier. This acts as an effective cue both with the normal elderly and with amnesic syndrome patients. It would be predicted to be a more potent cue than the initial letter, at least according to both the analysis given by Tulving (discussed earlier), and the explanation of cueing presented by Warrington (e.g. Warrington and Weiskrantz, 1974). Therefore this cue was included in the experiment described below.

The design and procedures used by Miller (1975) are employed (with some modifications) here; the main changes include the use of senile dementias as subjects, and retention being assessed using semantic cues, initial letter cues, and no cues at recall. The specific predictions being made and hypotheses tested are as follows:

A: If the deficit in senile dementia is a retrieval failure then:

(i) Following Miller (1975), letter cueing will facilitate recall for the dementias, and will do so to a greater extent than with the controls.

(ii) Semantic cueing will also be an effective cue, and this cued recall effect will again be greater than that found for the controls.

B: If the deficit in senile dementia is due to abnormal processing/coding of the information, then a normal retrieval cue (semantic category) will not aid retrieval in these patients.

B: Subsidiary hypotheses include:

(i) Controls' uncued recall will be superior to the senile dementias'.
(ii) Letter cueing will either improve the controls' recall (following Drachman and Leavitt, 1972), or, will fail to act as an aid to retrieval (following Miller, 1975).

(iii) Semantic cueing will improve the controls' recall, and may do so to a greater extent than the letter cue.
CHAPTER II : Method
2.1 SUBJECTS

Two groups (dements and controls) of 18 subjects were used, each group consisting of 5 male and 13 female elderly patients. The majority of subjects in the experimental (dements) group had been referred to the psychogeriatric services within the Wandsworth and East Merton Teaching District, based at the Jubilee Unit, Springfield Hospital. The admissions policy of this Unit is biased towards those patients suffering from organic brain pathology associated with ageing, and those with functional illnesses occurring for the first time in old age. Preference is given to dementing patients, and to patients over the age of 75 years. Six of the experimental subjects were day patients, and six were short or medium stay inpatients (admitted either for holiday breaks for their relatives or en route to longer term residential care); two were ex-patients from the Day Hospital discharged to Social Services Day Care Centres, and one had been referred to the Unit but not admitted. Three patients were taken from an admission's ward in Springfield Hospital.

All of the experimental subjects had been given a diagnosis of senile dementia, probably of an Alzheimer's-type disease. Diagnosis was by a member of the psychiatric team. Subjects were excluded from the sample if there was evidence to suggest that the dementia had been caused by multiple cerebral infarction or other known causes of dementia, such as toxaemia. However, not all of the subjects had been investigated for unequivocal evidence of cerebral atrophy (for example with a brain scan). All of the subjects met the other usual criteria for a diagnosis of senile dementia of the Alzheimer's type, as described in the previous chapter. Patients with a clinically manifest dysphasia were excluded (see Appendix A), as were those whose score on the Schonell
reading test fell, for whatever reason, below 50. Similarly, patients were excluded if they recalled none of the items from the three lists of words; i.e. subjects had to recall one or more words from at least one of the lists for them to be included in the sample. In addition, a number of potential subjects were untestable (e.g. because of deafness or non-co-operation), and were therefore not included. A total of 29 testable demented were given the complete battery of tests, eleven of whom were excluded on the basis of the above criteria. The mean age of the sample was 77 years with a standard deviation (S.D.) of 6.7. They had been attending the Unit for not less than one week when tested.

The control group of 18 patients was matched with the dement group for age, sex, and reading scores. These subjects had a mean age of 76 years (S.D. = 7.7). All had been referred to geriatricians, and were inpatients of at least one week's duration in geriatric wards either in a general hospital or a short stay hospital that specialised in geriatrics. Screening of these patients by the medical teams had failed to indicate the presence of a psychiatric disorder, and none were considered to be dementing. Initially it was intended to include only those patients suffering from disorders known not to mimic dementia or be associated with confusional states; thus patients admitted for example with myxoedema, anaemia, strokes or other vascular diseases, undernourishment etc. were avoided. However, it was not possible to obtain sufficient numbers using only those patients whose illness could not feasibly cause some memory dysfunction; and therefore patients were selected who had successfully completed their treatment, and were described by the medical teams as being fully orientated with no confusion or memory dysfunction, regardless of whether their initial admission might theoretically impair memory. This tended to bias this sample toward patients with high reading scores, which was
compensated for by deliberately selecting some subjects for their low Schonell scores. In addition to the medical team's opinion, screening tests (described later) administered by the experimenter showed all of the controls to be fully orientated for time, place, and recent memory, with no overlap of scores with the dements. A brief description of the control subjects is given in Appendix B.

Subjects for both groups were collected over a period of five months.

2.2 MATERIALS

(i) Free and cued recall (word learning task)

Three lists of words were prepared, each list containing 8 words. The rationale for using 8 words is discussed in Appendix C. Considerable care was taken in selecting the 24 words, and a full discussion of how the lists were composed, together with the words used, is presented in Appendix C. It is sufficient to state here that 24 semantic categories were used (animal, metal, drink etc.), with one word for each category (pig, tin, milk etc.). To avoid scoring by guessing alone, the words were not from among the more frequently associated words with the category. The 8 words within a list had different initial letters; and each word was written in upper case letters 3 cm. high on a separate card.

The three lists (A, B, and C) were of a similar nature and level of difficulty (see Appendix C). The order of words within a list was the same for all subjects, while the lists (A, B, and C) themselves were randomly allocated for each subject to each type of recall procedure; thus the three
lists were used at random for the three treatments. The order of treatments (free recall, category cueing, and letter cueing) was fully counterbalanced across subjects. The procedure for administering and scoring the task is given in Section 2.4

(ii) Schonell Reading Test (Schonell and Goodacre, 1974)
This was administered in order to obtain an estimate of premorbid intellectual level (discussed by Nelson and O'Connel, 1978; Nelson and McKenna, 1975). Because poor sight was common with these patients, the Schonell words were written out in bold upper case letters 3 cm. high on A4 paper, with 10 words per page. The test was discontinued after 10 consecutive failures, and the number of words correctly read was recorded and converted to an I.Q. using the regression equation quoted by Nelson and McKenna (1975).

(iii) Word Fluency Test
This was an ad hoc test included in order to investigate the extent to which word fluency might contribute to the verbal memory deficit and differences between semantic and letter cues. Subjects were asked to name as many animals, flowers, and words beginning with S and P as possible, with one minute allowed for each. The two letters and two categories were always sequential, but the order of categories and letters was alternated for each subject. It was necessary to have two examples of each since the dementing patients, but not the controls, were found to stop responding after a relatively brief time.
(iv) **Northwick Park Mental Test Score (Hodkinson, 1972)**

This test is described as assessing mental impairment in the elderly. It includes items covering orientation and memory, and has been shown to discriminate between patients who are "mentally normal" and those with confusional states or dementia (but not to discriminate between the latter). It was included as a screening device to ensure that the distinction between patients in the two groups was a valid one. The shortened (10 item) version of the test was used, since Hodkinson (1972) showed this to have the same discriminatory powers as the 37 item version. The test itself is a development of one used by Roth and his associates (e.g. Blessed et al. 1968), and is given in Appendix D. The cut-off point recommended by Hodkinson was employed here i.e. scores of below 7 were considered to indicate "mental impairment".

2.3 **EXPERIMENTAL DESIGN**

This was a between group comparison (dements vs. controls) with repeated measures of the treatment condition (free recall, category cue and letter cue). Thus each subject received all three treatments, and these were given in a fully counterbalanced design. A similar design is described by Winer (1971; Chp. 7). Counterbalancing was done in order to control for fatigue or practice effects, together with controlling for any interference between learning the different lists or effects one recall procedure might have on subsequent learning.
2.4 PROCEDURE

Each patient was tested individually in two sessions. Sessions lasted approximately 30-50 minutes, and were usually separated by 1-3 days. Because good co-operation was needed, especially for the demented who were attempting tasks they were particularly poor at, it was essential to establish and maintain a good relationship and rapport. A longer time than would be needed with a younger group was given between tasks, both to give repeated encouragement in order to maintain motivation, and to allow time for more general conversations which acted to improve the subject's co-operation.

In the first session subjects were given the Schonell Reading Test and the word learning task. For the latter, the 8 words within each list were shown on separate cards at a rate of approximately 2 secs. per card. The subject was instructed to read each word aloud (in order to ensure that the word had been attended to) and to attempt to remember the words in that list. After the 8th word had been presented, the instructions were repeated and the list given again. The same list was presented three times in this way; the subject was warned after the 2nd learning trial that the list would be given one more time.

In order to ensure that the subject was recalling from secondary memory rather than from the primary store, the final (3rd) presentation was followed by a delay period of 30 secs. before retention was tested. A distractor task was given during the delay period in order to prevent active rehearsal of the words. The distraction task used by Miller (1975; naming objects and their colours) was found to be too confusing for the demented, who tended to repeat these objects when asked for recall of the words.
Thus a less intrusive distractor task had to be devised which at the same time needed to be sufficiently demanding for the control subjects to prevent rehearsal. The task chosen was naming the colour of various collections of shapes, together with naming each shape and counting the number of shapes within a collection. The colours used were of varying degrees of colour-naming difficulty (e.g. red, lemon, turquoise, aubergine). All subjects were capable of performing this task, yet it could be made sufficiently demanding for all the subjects to prevent rehearsal of the words.

Following the delay, retention of the list was assessed according to one of the three treatment conditions.

(i) **Free Recall** The subject was asked to state as many of the words in the list as she could remember, and was encouraged to guess once she could remember no more. All subjects, including those who could recall none, were allowed a sufficient time to ensure as far as possible that no further words could be recalled. As with the other treatment conditions, the words correctly recalled were recorded, together with the number and type of errors, if any.

(ii) **Category cueing** The semantic category of each word in the list was presented singly on a card. The experimenter introduced each card by saying "one of the words in the list was a type of _____; can you tell me what it was? ". If the subject failed to respond with a word of that category that she considered had been in the list, she was encouraged (but not forced) to guess.
(iii) **Letter cueing**  The initial letter of each word in the list was presented on a card, again with one card per cue. The instructions to the subjects and procedure were appropriate modifications of those for the category cues.

Following the recall procedure, a minimum of three minutes elapsed before the presentation of the next list for learning; this period was spent in conversation.

In the second session subjects were given the word fluency tasks, followed by the Northwick Park Mental Test Score. Subjects were then debriefed if this had been requested.
CHAPTER III : Results
3.1 WORD LEARNING TASK

The number of errors made by dements and controls was recorded. However, as Weiskrantz and Warrington (1975) point out, it is meaningless to present these results when using this particular recall paradigm; subjects are encouraged but not forced to guess, and thus errors are a function of the patient's willingness to guess at a word belonging to the cue presented, rather than indicating anything concerning storage and retrieval. In addition, intrusion errors could obviously only be investigated on the second and third lists, which were being tested under different recall procedures for different subjects. Again, this paradigm is not appropriate for investigating the nature of the errors, and therefore like Miller (1975) and the studies of cued recall by Warrington referred to earlier, only the results for words correctly recalled will be considered.

The mean number of words recalled under each condition for the two groups are presented in Fig. 3.1 and Table 3.1. The summary analysis of variance for these data is given in Table 3.2. As expected, a large group difference was present, with controls recalling significantly more words than dements (for the main group's effect, $F = 130.8$, d.f. = 1,24, $p<0.01$). Moreover, the main treatment's effect was statistically highly reliable ($F = 18.3$, d.f. = 2,48, $p<0.01$). The interaction of the two was the crucial comparison for the hypotheses being tested. Type of recall procedure did have a different effect depending on the patients' group ($F = 3.26$, d.f. = 2,48, $p<0.05$), although as may be seen from inspection of Fig. 3.1, this is in a direction opposite to that predicted from the retrieval deficit hypothesis and Miller's (1975) findings. None of the main or interactive effects of order of treatments approached significance.
Fig. 3.1 Retention of words as a function of different types of recall procedure

Dements
\(N = 18\)

Controls
\(N = 18\)
Table 3.1  Mean recall scores as a function of type of recall procedure and group

<table>
<thead>
<tr>
<th>Type of Recall Procedure</th>
<th>Dements</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>Free recall</td>
<td>0.72</td>
<td>0.96</td>
</tr>
<tr>
<td>Category cueing</td>
<td>1.22</td>
<td>1.52</td>
</tr>
<tr>
<td>Letter cueing</td>
<td>2.28</td>
<td>1.64</td>
</tr>
</tbody>
</table>

Table 3.2  Summary ANOVA of recall scores

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups (dements vs. controls)</td>
<td>420.1</td>
<td>1</td>
<td>420.1</td>
<td>130.8</td>
<td>.001</td>
</tr>
<tr>
<td>Order of treatments</td>
<td>25.9</td>
<td>5</td>
<td>5.2</td>
<td>1.6</td>
<td>N.S.</td>
</tr>
<tr>
<td>Groups x Order</td>
<td>29.6</td>
<td>5</td>
<td>5.9</td>
<td>1.9</td>
<td>N.S.</td>
</tr>
<tr>
<td>Subjects within groups</td>
<td>77.1</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatments</td>
<td>54.6</td>
<td>2</td>
<td>27.3</td>
<td>18.3</td>
<td>.001</td>
</tr>
<tr>
<td>Groups x Treatments</td>
<td>9.7</td>
<td>2</td>
<td>4.9</td>
<td>3.3</td>
<td>.05</td>
</tr>
<tr>
<td>Order x Treatments</td>
<td>20.4</td>
<td>10</td>
<td>2.0</td>
<td>1.4</td>
<td>N.S.</td>
</tr>
<tr>
<td>Group x Order x Treatments</td>
<td>12.4</td>
<td>10</td>
<td>1.2</td>
<td>0.8</td>
<td>N.S.</td>
</tr>
<tr>
<td>Treatments x subjects within groups</td>
<td>71.6</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The significant findings were further investigated using correlated and uncorrelated \( t \) tests (this was considered a valid procedure here because of the small number of unplanned comparisons to be made relative to the total number possible from this design. All comparisons are two-tailed).

(i) Control Subjects
Recall of words from the lists was significantly improved by both the letter and the category cues (\( t, \text{d.f.} = 17, = 3.98 \) and 3.96 for letter and category cued recall, respectively, compared with free recall; \( p< 0.01 \)). However, the two types of cues were not different from one another in their effects on recall (\( t = 0.13, \text{d.f.} = 17, p> 0.10 \)).

(ii) Dements
Although only a small mean difference existed for the dement between recall when cued by the initial letter and when uncued, this was nevertheless a highly reliable result (\( t = 5.8, \text{d.f.} = 17, p< 0.01 \)). In contrast with results for the controls, category cueing did not improve recall (\( t = 1.6, \text{d.f.} = 17, p> 0.10 \)), and recall when cued by the category was significantly less than when letter cued (\( t = 2.50, \text{d.f.} = 17, p< 0.05 \)).

(iii) The interaction of groups and treatments
The above results suggest that the significant interaction between groups and treatments was due to category cueing being effective with controls but not dements. Inspection of Fig. 3.1 suggests that this
interaction was not due to the letter cueing effect for controls being any different from that for dments. This was confirmed by comparing the difference in scores between uncued and letter cued recall for the control subjects and that for the dments. These change scores were found not to differ significantly \( t = 0.5, \text{d.f.} = 34, p > 0.10 \), indicating that letter cueing was as beneficial to the controls as to the dments. It should be noted that any "ceiling" effect for the controls would work against this finding rather than producing it, and thus it cannot be concluded that the absence of an interaction here was due to dments but not controls having the opportunity to improve their recall. The change scores from uncued to category cued recall were significantly greater for the controls than for the dments \( t = 2.43, \text{d.f.} = 34, p < 0.05 \), as would be expected from the earlier analysis.

### 3.2 AGE AND READING SCORES

Descriptive statistics for these are given in Table 3.3. The two groups did not differ in age \( t = 0.37, \text{d.f.} = 34, p = 0.7 \). For the dments, age was found to be moderately negatively correlated with recall performance (the three treatments were totalled to give an overall measure of recall having a greater range of scores); \( r = -0.37, N = 18, p > 0.10 \). This coefficient failed to reach statistical significance, and therefore, age was not considered an important factor in the analysis of the recall scores. Age did not correlate to a significant extent with any of the other variables in the dement group, nor was it an important variable within the control group.
Table 3.3  Means and standard deviations of the measures

<table>
<thead>
<tr>
<th></th>
<th>Dements</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>Age (years)</td>
<td>76.9</td>
<td>6.71</td>
</tr>
<tr>
<td>Reading Scores</td>
<td>74.4</td>
<td>13.43</td>
</tr>
<tr>
<td>Predicted premorbid I.Q.</td>
<td>98.3</td>
<td>9.49</td>
</tr>
<tr>
<td>Total recall score (total of the 3 treatments)</td>
<td>4.2</td>
<td>3.37</td>
</tr>
<tr>
<td>Word Fluency (Animals + Flowers)</td>
<td>7.6</td>
<td>4.11</td>
</tr>
<tr>
<td>Word Fluency (S + P)</td>
<td>7.8</td>
<td>5.46</td>
</tr>
<tr>
<td>Northwick Park</td>
<td>2.5</td>
<td>1.92</td>
</tr>
</tbody>
</table>
Reading scores were transformed to give an estimate of premorbid I.Q. The two groups were not significantly different in predicted I.Q. \((t = 0.22, \text{d.f.} = 34, p = 0.8)\), and this variable was not significantly correlated with other variables for either of the two groups, with the exception of word fluency for letters by the controls. In these subjects predicted I.Q. correlated with the total number of words beginning with S and P, \(r = 0.58, N = 18, p = 0.01\), but was not significantly correlated with word fluency for categories.

### 3.3. WORD FLUENCY

The means for each group, together with their standard deviations, are given in Table 3.3. The two groups differed in the number of words produced in two minutes for both the categories (Animals + Flowers; \(t = 6.2, \text{d.f.} = 34, p = 0.001\)) and the letters (S + P; \(t = 3.9, \text{d.f.} = 34, p = 0.001\)). Word fluency for categories and for letters did not differ in the dement group \((t = 0.2, \text{d.f.} = 17, p > 0.10)\). In younger normal subjects, more words would be expected for categories than for letters (J. Willison, National Hospital, personal communication). A tendency towards this was found in the elderly control group \((t = 1.71, \text{d.f.} = 17, p = 0.10)\), although this is only marginally significant on a two-tailed test.

Word fluency scores were not correlated with recall scores in the dement group, but were highly correlated with these patients' scores on the Northwick Park dementia screening test \((r = 0.77, N = 18, p = 0.001\) for Animals + Flowers, and \(r = 0.57, N = 18, p = 0.01\) for S + P). The correlations for the control subjects of word fluency with recall scores and Northwick Park scores were only marginally significant; given the large number of coefficients computed, these latter results cannot be considered as reliable ones.
There was no overlap of scores between the two groups on this dementia screening test (see Table 3.3). Although it should be pointed out that the range of these scores within each group is small and thus correlation coefficients computed may be misleading, it is interesting to note that scores for the dement on this test were correlated with total recall performance by $r = 0.60, N = 18, p = 0.01$; the correlation between Northwick Park scores and total recall by the controls was $r = 0.69, N = 18, p = 0.001$. 
Chapter IV: Discussion and Conclusions
4.1 DISCUSSION

Miller (1975) found that near normal levels of retention could be obtained by presenile dementics if they were cued at recall. Using the same cue (initial letter), and one predicted to be a more potent cue with normal subjects (the semantic category of the word) senile dementing patients failed in the present experiment to improve their recall to the level of the controls. According to the retrieval deficit hypothesis described in the introduction, an interaction was predicted such that letter cueing would have a greater effect with dementics than with controls. The results of this experiment showed that both groups increased equally when given a letter cue; the difference that existed between dementics and controls was the same under free recall as when letter cued. This evidence fails to support the retrieval deficit hypothesis, although obviously this explanation cannot be refuted on the basis of these data alone.

The presence of a significant letter cueing effect for the dementics does suggest, however, that more information is processed and stored than would appear from uncued recall. It is possible, therefore, that the provision of appropriate cues at recall can significantly aid retrieval for these patients. The letter and category cues used here are clearly not exhaustive of the types of cues, or their combinations, that could be used. For example, it is likely that subject-generated attributes of the information will be more potent aids to retrieval if presented at output, than cues provided by the experimenter (Perlmutter, 1979 further discusses this). In addition, it may be the case that the cues provided in the present experiment were not the attributes used by the dementics, but that these patients nevertheless stored the information which subsequently failed to be retrieved. Other cues, or combinations of
cues, may be required in order to assess the stored material (and to test adequately the retrieval deficit hypothesis). This is discussed more fully later in this chapter. For the present purposes, the important point arising from this research is that a difference existed in the recall performance of the two elderly groups, regardless of the condition of testing; and that the effect of the letter cues was only as strong in the demented as in normal subjects, suggesting that the memory dysfunction cannot be explained by a failure of normal retrieval processes.

Before proceeding to a discussion of alternative explanations of the memory impairment suggested by this experiment, the results for the control patients will be further considered. Unlike Miller's (1975) findings, letter cueing was as effective for the controls as for the demented. The absence of a letter cueing effect in Miller's experiment may be due to the age differences between his control group and the present one; for example, younger people may not benefit from this retrieval cue compared with older, perhaps because they are already using more effective retrieval strategies than that afforded by the word's initial letter. It seems more likely, however, that Miller's control subjects were already recalling at or near the upper level allowed by the task, such that a retrieval cue would be unable to benefit the subjects further. The letter cueing effect in the present experiment was highly reliable, and may itself have been restricted by a "ceiling" effect.

Recall by the controls was as great with category cues as with letter cues, and both were superior to uncued recall. It was predicted that the category cue would be a more effective aid to retrieval than the letter cue. Inspection of the individual
data suggests that a lack of a difference between the two cues may well be accounted for by subjects scoring near to the maximum possible. Clearly, the problem of a "ceiling" effect was not overcome in this experiment, although the presence of such an effect does not, in this case, affect the major hypotheses being tested. The basic problem lies in having sufficiently few words in the list to be at all manageable for the dements, while including a large enough number to allow the controls to improve when cued. The problem may be better tackled by having lists of different lengths for controls and dements, much the same as Whitehead (1973) attempted to equate dement's and depressive's learning scores by having two levels of difficulty of paired associates. In the present context, it may have been appropriate to use, for example, six words for the dement's lists and twelve for the control's, and present the cued recall results as some proportion of the free recall scores.

In any event, category cues did act as effective retrieval aids for the normal elderly, but did not for the dements, thus causing the interaction of groups with type of retention test. The absence of a category cueing effect may be explained along several lines, two of which will be considered in detail here. Firstly, these data may reflect an abnormal coding process, as suggested by Miller (1975) to explain in his experiment the presence of a letter cueing effect with the dements but not the controls. If the information is being acquired and processed but stored abnormally, e.g. according to some attribute not used as a cue here, then a normal retrieval cue (semantic category) will not be effective in accessing the stored trace. This could be tested by using other attributes of the information as cues (including characteristics that would not normally be utilised as retrieval cues). Clearly,
it is difficult to specify all of the attributes that may potentially be used for meaningful, common, verbal material. It may be more appropriate to use words that are new to the subject, and which can have their characteristics precisely specified and manipulated by the experimenter. Alternatively, the attributes of a word could be given to the subject at the acquisition stage in order to test whether these can be later used as aids to retrieval. McDowall (1979) applied a similar procedure to investigate the deficit in Korsakoff patients.

Secondly, the absence of a category cueing effect may reflect inadequate processing of the information. According to the processing - deficit hypothesis outlined in Chapter I, the more elaborate the processing of the information, the better it is stored and later retrieved. If the dementing patients fail to process the words according to their semantic characteristics, then giving this information as a cue at recall will not aid retrieval. The presence of a category cueing effect in the controls demonstrates that these patients were processing the words semantically. The absence of such an effect in the dments may indicate that they were not carrying out semantic processing, and therefore their memory disorder may be a result of this inadequate processing. This explanation is supported (and at the same time the abnormal coding explanation is weakened), by the fact that the letter cue did aid the dments retrieval of the words, suggesting that the information was to some extent attended to, and was processed and stored according to this attribute. The cued recall techniques employed here, therefore, may indicate that physical/phonemic encoding is carried out by the dement, but semantic encoding is not. These findings could be extended using other techniques for testing the type of processing being utilised. For example, Cermak et al. (1974) used the Wickens (1970) "release from
proactive interference" paradigm to examine the encoding abilities of Korsakoff's syndrome patients. This paradigm involves presenting subjects with a series of lists (usually four) of words for learning. The words used all share one attribute in common (e.g. all are animal names). Recall is measured at the end of each trial, and is typically found to decrease over trials due to the hypothesised build-up of proactive interference. On trial 5, words from a new category or class are presented, and the amount of "release from proactive interference" is measured by the increase in performance that results from the introduction of the material from the new category. A similar (but simplified) procedure could be used with dementing patients, including word lists covering a variety of attributes such as acoustically similar words, visually similar, and words with different types of semantic or imaginal associations. If a release from proactive interference is demonstrated, then it is possible to conclude that the patient is processing according to that particular attribute.

The large overall discrepancy that existed between dements and controls regardless of the recall procedure used, clearly changes the emphasis away from the retrieval processes (but bearing in mind the points made above) and toward a failure in acquisition, processing, and/or storage of the information. Yet Miller (1975) favoured a retrieval explanation on the basis of his study. The discrepancy between the present conclusions and those of Miller may be due not to differences between the dements in the two studies, but rather to differences in the two control groups.
The mean results for uncued and letter cued recall in the two studies are shown below.

<table>
<thead>
<tr>
<th></th>
<th>Miller (1975)</th>
<th></th>
<th>The present study</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Uncued</td>
<td>Letter cued</td>
<td>Improvement</td>
</tr>
<tr>
<td>Dements</td>
<td>2.25</td>
<td>3.44</td>
<td>1.19</td>
</tr>
<tr>
<td>Controls</td>
<td>3.75</td>
<td>4.06</td>
<td>0.31</td>
</tr>
</tbody>
</table>

Letter cueing in Miller's experiment produced a mean improvement, from uncued recall, of 1.19 words in his presenile dement group, and of 0.31 in his control group. The same comparison in the present research shows that the dement group had a mean improvement of 1.56 words, while the controls increased their recall by an average of 1.83 words. It is possible, then, that the failure here to replicate Miller's result is not due to the senile dement producing as large a cued recall effect (if anything it was larger in this group than Miller's), but rather to Miller's control group failing to improve when letter cued, while the control group in the present study did improve. Thus the experiment reported by Miller may not implicate a retrieval deficit in the dement, but rather a peculiarity of the control group used in his study. Reasons for a lack of an effect in that control group were discussed earlier.

It is worth noting here the differences between uncued recall scores in the present study and those in Miller's. These would suggest that the senile dement had a greater free recall deficit than did the presenile group. However, the fact that a significant cued recall effect was obtained in the senile dement group shows that their cognitive processes were not so impaired that their recall
could not be improved upon. It may of course be the case that some patients but not others were able to benefit from the cues. This is discussed in greater detail later in this chapter.

It was stated above that these results suggest that faulty retrieval cannot be a sufficient explanation for the deficits found. The locus of the dysfunction, whether in the acquisition, processing, storage etc. of the information, cannot be deduced from this experiment alone, although the difference between the letter and semantic cueing effects would indicate some deficit in processing/encoding. The cued recall technique relies on a certain amount of processing having occurred; and the absence of an interactive cued recall effect in dementing and normal subjects may be due to a failure in the former group in one or more of the processes prior to retrieval. In order to extend the result of the present research (in addition to the suggestions made above), it would be particularly useful to investigate recognition memory in senile dements. Miller (1978) found that reducing the number of response alternative in a recognition task improved the (presenile) dements' performance more than it did the controls'. If the present research indicates that processes other than the retrieval mechanisms are impaired, then it should not be possible to replicate Miller's findings with these patients. It may, of course, be the case that the cued recall effect is dependent on a greater amount, or more elaborate, processing than is needed for recognition. This is because the latter simply requires matching the stored trace with the recognition material, while the former relies on the information having been processed or elaborated to some extent along the same lines as the cue's information. Thus the presence of a greater recognition memory effect in senile patients (as was found for the younger group by Miller, 1978), but with no greater cued
recall effect (as found here), would indicate that the deficit is not simply one of retrieval, but is in addition a function of the type of analysis or processing the information has undergone. The absence of both a greater recognition and cued recall effect would strongly implicate a deficit not in retrieval, but in one or more of the processes prior to retrieval.

Some of the more general issues concerning the present results will be discussed here. Firstly, it is difficult to obtain a pure test of any one type of cognitive process. Language functions are clearly important in the case of tests of verbal memory, since poor recall could be due not to a memory dysfunction, but to a dysphasia. In the present research only those subjects not showing a severe dysphasia were included. Nominal dysphasia was assessed by asking the subject to name common objects, such as a pen, wrist watch, and book. A thorough investigation of language functioning was not performed, and it is likely that most of these patients would show some naming difficulties relative to a younger and normal group. There are as yet no norms for this older age group, and it is not clear what is dysphasic and what is normal for the elderly. Thus the results may have been contaminated to some extent by undetected dysphasic problems in some of the patients. The use of a recognition format in future research may in part overcome this.

It is not clear what significance, if any, the results for word fluency have to the different recall scores for dement and controls. Word fluency was assessed by asking subjects to state as many animals, flowers, words beginning with S and with P as possible, with one minute allowed for each of the four classes of words. Dements had significantly lower scores than controls, with no difference across categories and letters. Clearly, if a subject is slow or
unable to search for and produce words of a given category or letter, then cued recall may be less effective with dments precisely for this reason alone. If recall relies on the internal generation of response alternatives, one of which is recognised as the correct response, then memory would be expected to be poor in subjects with such low word fluency scores. On the other hand, word fluency may require quite different cognitive operations from retrieval; the former is an undirected search for information that has not been externally presented, but is presumably in some form of lexicon not necessarily related to the memory used in a word learning task; while the latter is a search for information recently and externally presented. The fact that a letter cueing effect was obtained, and this was as large as that in the controls, suggests that word fluency might not be important to verbal memory. However, an understanding of the relationship has not been fully developed, and, like the problem of poor naming abilities in the elderly, might be best overcome by investigating recognition memory rather than recall.

A second point is the heterogeneity of the dement group. In order to collect a sufficiently large sample of patients, it was necessary to include both mildly and severely impaired dementing patients. The only measure of severity of the dementia (apart from recall scores) was the 10-point scale of the Northwick Park screening test, and the majority of the dments scored between 0 and 3 on this, making it of little use as a means of subdividing patients according to severity. During testing, however, it was noticeable that some of the less demented patients, although having poor free recall, showed larger cued recall effects than did the severely demented. It is likely that a more detailed description of the patients, allowing subgroupings to be made, would produce different results
from the sample as a whole, and may suggest different types of dysfunction according to severity. For example, it would be predicted that as intellectual deterioration becomes more global, the less complex the analysis and processing of the information would be, which would consequently affect the memory processes. These more generally deteriorated patients would not benefit from complex cues such as the word's semantic category. In cases where the memory deficit may be as severe, but general intellect is less impaired, free recall will be poor but cues could well increase their recall to near normal. Some of the demented in the present study did show a category cueing effect, as well as good letter cued recall, suggesting that for these patients there was a marked retrieval failure only; for example, one dement recalled only one word in free recall, but five were recalled when cued with the semantic category of each word.

A number of intellectual functions are required for information to be stored and retrieved, and the degree of generalised impairment may be the crucial difference between severely and moderately demented patients, and indeed Korsakoff's syndrome patients, when considering cued recall and the nature of the memory deficit. Further research with the cued recall technique, and regarding the characteristics of the dement samples used, may help provide a measure of the severity of dementia, or indeed its change with time. One way of subdividing the demented might be to use the three stages in the clinical features of the disease presented by Pearce and Miller (1973). All three stages include the amnesic syndrome; Stage II includes deterioration in more widespread cognitive functioning, while Stage III is characterised by a complete breakdown in intellect and personality. Although incontinence was not
reported in Stage I and II dments, over 85% of patients in Stage III were incontinent, and it might be that a division of patients on the basis of this alone would be able to produce an appropriate subgrouping of patients in order to adequately test the different processes contributing to the amnesia.

The screening test used in this research, the Northwick Park Mental Test Score, adequately separated the two groups, and showed significant correlations with total number of words recalled for both groups of subjects (r = 0.60 and r = 0.69 for dments and controls respectively, N = 18 in both cases). Thus the scale, despite its brevity, may be considered as showing both construct and predictive validity. In order to better distinguish between subgroups, however, a fuller screening test would have been preferable. The assessment procedure developed by Pattie and Gillear (e.g. Pattie and Gillear, 1978) has been shown to have diagnostic accuracy and to be able to predict outcome at three months and two years. These authors have used their tests to produce subgroups of dementin patients, and therefore this would appear to be a preferable assessment procedure to employ in future research.

Finally, a brief consideration will be given to some of the potential implications of this research to the management of dementia. The fact that a cueing effect was obtained does indicate that the memory of the dement can be improved. Arranging for the optimum conditions at output (i.e. providing appropriate retrieval prompts), may be viable within the dement's environment. For example, many of these patients have difficulty with spatial orientation, and in conducting tasks that rely on complex ordering of behaviour. If the problem is in remembering the spatial arrangement of the ward/home, then important information
might be colour coded so that the colour acts as a cue to the desired information. The most obvious example would be having toilet doors in a unique colour; the dement can be taught for example that blue doors are always toilet doors much faster than he can be taught the spatial layout of the ward or house, especially if the unit is large or the patient is moved from one residence to another (and without the indignity of having to use written signs). Another simple example might be the patient not knowing which side of the bed he usually sleeps on, which may be a personal detail that is distressing to the spouse. An appropriate prompt to overcome this confusion might be to place a special ornament or picture on the correct side, and teach that as a cue. Sequencing of behaviour with verbal prompts can be taught such that one response evokes a verbal cue for the next response.

A second approach arises from the finding that more complex analysis of information at input might not be performed by the dement (as shown by the presence of a letter cueing but not a semantic cueing effect). It is feasible that if the (less demented) subject is taught to use a simple mnemonic, such as rhyming words, thinking about their meaning, or even attempting to use imagery, then this increased analysis of the material would facilitate its storage and subsequent retrieval. A simple example might be trying to remember the names of grandchildren and their addresses, for instance by repeating at input words that sound like the names, picturing the daughter or son calling them, thinking about what the name of their town means, or even producing a bizarre story linking all of the information together. The important point is that if the information is elaborated in some way it is more likely to be remembered; and there is as yet
no evidence from which to suspect that this principle cannot be applied to the memory impaired elderly.

4.2 CONCLUSIONS

It may be concluded that the memory dysfunction in senile dementia may be partly reduced by the provision of letter cues at recall. This improvement in recall when cued does not, however, reduce the overall difference between the performances of normal and dementing elderly; the same discrepancy existed when cued as when uncued, and therefore a retrieval impairment is not supported by these data as an explanation of memory dysfunction in dementia.

Moreover, a cueing effect was found in the dement group for the letter cues but not the semantic category cues. This finding suggests that either the information was processed adequately but not coded and stored according to its semantic attributes; or, that an insufficient amount or depth of processing occurred. That a letter cueing but not a semantic cueing effect was observed is consistent with a processing deficit hypothesis.

Both types of cues improved recall by the control patients to near perfect levels. It may be inferred from this firstly that both types of processing normally occur in this age group; and secondly that both are potent cues, with the normal elderly showing a capacity for improved retention when provided with these types of retrieval aids. However, since some of the control patients scored at or near the maximum possible when cued, it is not possible to conclude which of the two types of cue information is the more effective, and thus a distinction between different models of retrieval cannot be made.
These findings do not provide support for the memory deficit in dementia being a result of impaired retrieval mechanisms, but rather are interpreted as emphasising a dysfunction in the processes prior to the retrieval stage. It is concluded that because some of the dments did show a large letter and category cued recall effect, the nature of the amnesia may vary according to the characteristics of the dementia. In particular, the severity of the dementia may affect the type of memory loss, and it is suggested that future research should be directed towards investigating this as an experimental variable in addition to the type of retention paradigm applied.


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APPENDICES
APPENDIX A

As was mentioned in Chapter IV, a thorough investigation of language functioning was not performed. Clinically manifest nominal dysphasias were screened for by asking the patient to name common objects, such as a pen, wrist watch, and book. More detailed questioning would possibly have revealed some language disturbances in some of the patients. All were able to read the Schonell words to a criterion of at least 50 correct.

APPENDIX B

A brief description of the control patients

Patients were all inpatients of between 2 weeks and 3 months duration. Their ages, sex and main diagnosis were as follows:

<table>
<thead>
<tr>
<th>Patient</th>
<th>Sex</th>
<th>Age</th>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M</td>
<td>72</td>
<td>Amputee</td>
</tr>
<tr>
<td>2</td>
<td>F</td>
<td>84</td>
<td>Fall/undernourishment (treated)</td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>79</td>
<td>Stroke (no residual intellectual effects)</td>
</tr>
<tr>
<td>4</td>
<td>M</td>
<td>69</td>
<td>Bronchitis</td>
</tr>
<tr>
<td>5</td>
<td>F</td>
<td>79</td>
<td>Fall/Arthritis</td>
</tr>
<tr>
<td>6</td>
<td>M</td>
<td>68</td>
<td>Amputee</td>
</tr>
<tr>
<td>7</td>
<td>F</td>
<td>77</td>
<td>Leg injury from a fall</td>
</tr>
<tr>
<td>8</td>
<td>F</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>F</td>
<td>78</td>
<td>Fracture from a fall</td>
</tr>
<tr>
<td>10</td>
<td>F</td>
<td>73</td>
<td>Diabetis, successfully controlled</td>
</tr>
<tr>
<td>11</td>
<td>F</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>F</td>
<td>73</td>
<td>Stroke (no residual intellectual effects)</td>
</tr>
<tr>
<td>13</td>
<td>F</td>
<td>94</td>
<td>Fall/Arthritis</td>
</tr>
<tr>
<td>14</td>
<td>M</td>
<td>74</td>
<td>Stroke (no residual intellectual effects)</td>
</tr>
<tr>
<td>15</td>
<td>F</td>
<td>73</td>
<td>Road traffic accident fracture</td>
</tr>
<tr>
<td>16</td>
<td>F</td>
<td>92</td>
<td>Bronchitis (treated)</td>
</tr>
<tr>
<td>17</td>
<td>F</td>
<td>73</td>
<td>Fall (joint injury)</td>
</tr>
<tr>
<td>18</td>
<td>F</td>
<td>78</td>
<td>Leg injury from a road traffic accident</td>
</tr>
</tbody>
</table>

APPENDIX C

Word Learning Task

Details not mentioned below were reported in Chapter II. Miller (1975) used lists of ten words, while only eight were employed here. The decision to have fewer words in each list was based on the knowledge that the present study would be using more severely demented subjects than did Miller. Obviously, it was essential to the hypotheses being tested that a "floor" effect be avoided for recall by the demented; in addition, it was felt that the co-operation/motivation of the patients could be better
maintained with a shorter list. However, it was also necessary to avoid a "ceiling" effect occurring for the control subjects. A pilot study suggested that eight words provided a suitable range for detecting change in both groups of patients, although a number in the main study were found to score at the extremes (discussed in Chapter IV).

The 24 words were selected from the norms provided by Battig and Montague (1969), and using the Thorndike and Lorge (1944) word frequency count. It is necessary to use category norms for such an experiment because if words are selected that are highly associated with the category word, a high cued recall score could be obtained simply by guessing. By selecting only those words not high in the hierarchy of responses for a given semantic category, a correction for guessing is unnecessary.

Twenty four semantic categories were selected from the 56 in the norms, the criteria for selection being firstly that each contained at least ten frequently reported responses, and secondly that this age group (of average premorbid intelligence) could be reasonably expected to use the category name as a generic term for the items within it. One word was chosen from within each category. The words were chosen with the following constraints:

(i) Each word belonged to one category only.
(ii) It could be reasonably expected to be understood by this population to belong to the category.
(iii) The word was of high frequency usage (Freq. AA or A)
(iv) Where possible they were monosyllabic.
(v) If three words with the same initial letter had already been selected for other categories, words with this letter were excluded.
(vi) The word was the first word fulfilling the above conditions that was lowest in the top ten of common responses to the category.

The 24 words were then randomly allocated to one of the three lists, with the following constraints: in order to ensure that lists were of equal difficulty and of a similar nature, the strength of the association of words to categories was balanced across lists, as was the frequency count of the words, the number of two syllable words, and the nature of the categories (e.g., "insect", "bird", "animal" were separated). Of particular importance, the initial letter of each word within a list was different. The order of words within a list was the same for all subjects. The words were written in upper case letters 3 cm high on plain cards (20 cm x 20 cm). Cue words were simplified versions of the ones used by Battig and Montague, and were written in 3 cm high upper case letters on separate cards (as was the initial letter of each word).
LIST A  Stimulus Word    Cue Word
Tin                     Metal
Brown                   Colour
Storm                   Weather
Wasp                    Insect
Golf                    Sport
Cod                      Fish
Daisy                   Flower
France                 Country

LIST B  Stimulus Word    Cue Word
Pig                        Animal
Bed                         Furniture
York                        City
Grape                         Fruit
Alice                     Girl's name
Nose                Part of the Body
Elm                           Tree
Silk                          Cloth

LIST C  Stimulus Word    Cue Word
Milk                      Drink
Harry               Boy's name
Coat                        Clothing
Kent                         County
Thrush                        Bird
Beans                      Vegetable
Sword                        Weapon
Aunt                          Relative

APPENDIX D

Short form of the Northwick Park Mental Test Score
(Hodkinson, 1972)

(Each question scores one mark)

1. Age
2. Time (to nearest hour)
3. Address for recall at end of test - this should be repeated by the patient to ensure it has been heard correctly: "42 West Street"
4. Year
5. Name of hospital
6. Recognition of two persons (doctor, nurse etc.)
7. Date of birth
8. Year of First World War
9. Name of present Monarch
10. Count backwards 20-1