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Systematic Review of the International Literature on the Epidemiology of Mentally Disordered Offenders

CRD REPORT 15

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EXECUTIVE SUMMARY OF RESULTS AND RECOMMENDATIONS

E.1 The review

A systematic review of the literature on the epidemiology of mentally disordered offenders has been carried out by a team at the Department of Professional Education in Community Studies at Reading University. The study was commissioned by the High Security Psychiatric Services Commissioning Board and was carried out in cooperation with the NHS Centre for Reviews and Dissemination at York University.

This report covers studies of mentally disordered offenders (MDOs) in the General Population, in Special Hospitals, in the Criminal Justice System and in the General Psychiatric Services System. A review is also included of the literature on mental disorder and homicide.

Given the need to conceptualise and map this field, a wide range of studies have been included. Quality issues have been addressed on a population basis and a best evidence approach adopted. This means that the best research available is reported even where it may have considerable limitations.

International studies have been included and are reported here in relation to studies of the General Population and of homicides. Their utility in relation to the three other populations (Criminal Justice System, Special Hospitals and Psychiatric Services) is likely to be limited due to the difficulty of making valid comparisons between different legal and psychiatric systems. Priority has therefore been given to studies based in the U.K.

The types of study included vary from census studies of the secure psychiatric population to cross-sectional sample surveys and cohort studies, both prospective and retrospective, in the general population. There are also studies of flow, e.g. referral and discharge studies, and a section in the chapter on the Criminal Justice System population on diversion schemes.

The review has involved trying to make sense of, and summarise data relating to, extremely complex interactions of three things - each of them ill-defined, culturally relative and subject to changes in conceptualisation and practice: mental disorder, offending behaviour, and the administrative systems set up to manage both of these.

E.2 The literature search

The main databases searched were EMBASE, MEDLINE, HEALTHSTAR, PSYCLIT, MENTAL HEALTH ABSTRACTS, ASSIA, CRIMINOLOGY PENOLOGY AND POLICE SCIENCE ABSTRACTS, DISSERTATION ABSTRACTS, CURRENT RESEARCH IN BRITAIN, and PAPERSFIRST. Searches were conducted from 1990 onwards. This database search was supplemented by hand searches of key British publications not comprehensively covered by databases. Major studies from 1983 to 1990 were identified by citation tracing and advice from correspondents.

E.3 Presentation of results

Results are presented in six sections:

- an overview of the 858 studies received;
  of these around 200 have been included in this review under the following headings (see E.4 below for an indication of areas not covered):
- a review of general population studies based on 29 publications and drawing on a further 16 background or related studies;
- a review of 38 publications related to British Special Hospitals;
- a review of 24 publications related to the British Psychiatric System;
- a review of the British Literature on the Criminal Justice system including 12 papers on the sentenced prison population, 13 on the remand population, 18 relating to diversion schemes and 17 relating to police handling of mentally disordered people;
- a review of 27 international studies of mental disorder and homicide.

E.4 Overview of the international literature identified

The overview of 858 U.K. and international studies shows 29 studies containing primary data relating to the General Population, 219 relating to the General Psychiatric Services Population, 393 relating to the Criminal Justice System and 89 relating to the Secure Psychiatric Population.

Of the 219 studies in the General Psychiatric System, the largest group is of behaviour by in-patients (56), followed by studies of risk assessment (37) and offending careers of people with a psychiatric diagnosis (36). There were only 22 studies of offending behaviour by people with psychiatric diagnosis in the community.

Of the 393 studies of the Criminal Justice System, the biggest group is of mentally disordered sentenced prisoners (104), followed by 80 studies of committers of specific offences. The latter include 35 studies of murder/homicide, 16 of child abuse and 14 of arson. This group of 393 studies includes 34 of police management of mentally disordered people, a proportion of whom will not have committed any offence.

The resource of items identified offers opportunities for further review and analysis that have proved beyond the capacity of the project reported here. In particular, the international literature identified would lend itself to comparative reviews. The main areas in which data were collected but are not reviewed in detail here are:

- non-U.K. studies, except in relation to general population studies and homicide;
- studies of risk assessment and prediction of violence;
- studies of committers of specific offences other than homicide, e.g. arson, child abuse, sex offences;
- follow-up studies after discharge from the Criminal Justice System;
- studies of mentally disordered offenders under community supervision, e.g. by the Probation Service;

- studies of those subject to specific disposal decisions by the courts other than diversion, remand or prison sentence, for example specific studies of those found unfit to plead or not guilty by reason of insanity, or of those made subject to hospital orders;
- studies of secure psychiatric provision other than Special Hospitals, for example studies of regional (medium) secure units or specific studies of locked psychiatric wards.

All these areas could be the focus of further reviews based on the data collected.

E.5 Summary and conclusions relating to general population studies

The literature on the General Population is presented by study. Data from the Epidemiologic Catchment Area Study (ECA) (Bourdon et al, 1992) and six cohort studies are presented and analysed. The ECA and three of the cohort studies relied on self-report for data about offending and/or psychiatric diagnosis, whereas the three Scandinavian studies reported by Tiihonen *et al.* (1997a), Hodgins (1993) and Kratzer and Hodgins (1997) relied on information from official records, such as police records and psychiatric admissions.

The major findings of the Scandinavian studies are that the prevalence of mentally disordered offenders up to the age 26-30 is between 2.1 and 2.8 per hundred for men and about half this for women. All types of mental disorder seem to be associated with all types of crime, but particularly violent crime. Conduct problems in childhood seem to be good predictors of future mentally disordered offenders.

From the review of the General Population studies it can be seen that there is no British study to adequately describe the epidemiology of MDO in the general population. Although the Cambridge study (Farrington 1995) might supply some data on MDO in the future, the study is too restricted to be adequate for this purpose. While the Scandinavian studies might be utilised to predict risk factors for MDO in other populations, they most probably cannot be used to predict prevalence or incidence. This is due to the different practice of psychiatric services and criminal justice systems in different countries.

Consequently, attention needs to be given to using existing British epidemiological studies where data on mental disorder and offending are currently being collected or where arrangements for this could be made (see section E.10.1 below).

E.6 Summary and conclusions relating to the secure psychiatric service population

Thirty-eight articles relating to the British Special Hospitals are reviewed in this report. Of these 38 publications, only two were of research conducted by nursing staff. The main findings are that there are about 100 patients in special hospitals per 3 million population, and there are four times as many men as women. The average age is in the 30's but there is a wide age range. About two thirds of patients are legally classified as mentally ill and a quarter as having a personality disorder. The number of patients with mental impairment is small and growing smaller. The average length of stay is 8 years with a rather longer length of stay for women.

About two thirds of patients have an index offence of violence against the person, and for about a quarter of all patients this has involved homicide. Non-white groups are overrepresented in the Special Hospitals, making up almost 20% of the population.

It is estimated that at least half the patients in special hospitals do not require the highest level of security; the number needing high security provision is estimated to be less than 50 per 3 million of the general population, though there is regional variation. Many patients do require long-term treatment and care in conditions of medium or low security, but achieving this is not easy. About a third of those discharged to less secure provision are returned to special hospitals.

E.7 Summary and conclusions relating to the general psychiatric services population

It is clear from the studies reviewed that the prevalence of mentally disordered offenders in the general psychiatric population is small. Generally speaking, people who have been diagnosed with schizophrenia or learning disabilities are not dangerous to others, nor do they commit criminal offences at a greater rate than the general population.

However, it is also clear that there are small numbers of people with either one or other diagnosis who do present a danger to others, both in hospital and in the community, and who need specialist provision. For learning disability it was possible to calculate an annual prevalence figure of 0.4 per 100,000 population from the study by Thomas and Singh (1995). In this group nearly half had committed crimes which had a sexual element.

The data on patients with schizophrenia and violence do contain some contradictions. The study by Geddes and Kendell (1995) indicates that those who are never admitted to psychiatric hospital are less likely to be violent. This association of admission of those with a diagnosis of schizophrenia and violence is confirmed in other studies (see Castle *et al.* 1994). Gibbons *et al.* (1984) report that about half of the carers of 187 schizophrenic patients reported harmful threatening behaviour in the year prior to admission. Such an association may not be found for other diagnostic groups and so it is not surprising that some studies of inpatient violence (e.g., Edwards *et al.* 1988) reveal a higher proportion of schizophrenic patients in their assaultive group compared with the control group. However, Powell *et al.* (1994) in their study of untoward incidents in hospital found that a diagnosis of schizophrenia was not statistically significant but there was an association between paranoid type schizophrenia and severe assaults.

These findings contrast with those from Dayson (1993) on the old long-stay group of patients. This group of 278 patients, who had an average stay in hospital of nearly sixteen years, showed a low level of violence on admission (6.2%), yet three quarters of the group had a diagnosis of schizophrenia. When followed up in the first year of discharge only three people had been involved in violent situations. This closely mirrors the results from the high quality WHO study conducted by Harrison *et al.* (1994). They followed up 99 patients, most of whom had a diagnosis of schizophrenia, some thirteen years after discharge and found that only four people had been in prison in that period, despite the fact that about 20% had initially presented with threatening behaviour.

With such a confusing picture, it is only possible to come to sound conclusions on the basis of large-scale high quality studies which go wider than the in-patient population. The longitudinal population-based study of 538 incident cases of schizophrenia in Camberwell conducted by Wesseley *et al.* (1994) meets these criteria. The data discriminate between criminality and violence. The conclusions are that the rate of conviction for women with schizophrenia is increased for most offence categories (rate ratio 3.3), though the numbers are relatively small and 'offences' include prostitution; for men, overall rates do not differ, though there is an interaction between gender, schizophrenia and ethnicity with young Black men being most at risk. In fact the data on men revealed two opposing effects, with schizophrenia increasing the rate of conviction in African-Caribbeans (rate ratio 3.4, adjusted for class) but for other ethnic groups schizophrenia reduced the risk (rate ratio 0.6). The authors' conclusion was that schizophrenia makes a small independent contribution to the risk of acquiring a criminal record (hazard ratio = 1.4), but that gender, substance abuse, ethnicity and age of onset were more substantial influences. Interestingly, the criminal careers of those with schizophrenia began later and were of shorter duration than those with other diagnoses.

In relation to schizophrenia, the studies identified some important areas of concern. With regard to admission, it is not clear why there are delays of up to a year for people who appear to be both ill and a danger to others (Humphreys *et al.* 1992). The in-patient studies were difficult to draw conclusions from, due to the range of definitions of violence and offending behaviour used and the variety of types of wards studied. Variations over time in one health authority (Castle *et al.* 1994; Johnstone *et al.* 1986) and between regions were demonstrated, pointing up a need for comparable studies to be conducted over time and geographically spread.

For both learning disability and schizophrenia, it did seem that a relatively small group of individuals made a large contribution to overall rate of in-patient violence towards others, both patients and staff (see Powell *et al.* 1994; Pearson *et al.* 1986). Research which pinpoints the characteristics of these high-risk people is therefore potentially very helpful. However the sort of risk factors which generally emerged, e.g. being young and male, with Black people overrepresented, are very similar to the risk factors found in more general studies of those charged with criminal behaviour.

The follow-up studies reported, which were all in relation to schizophrenia, included one focussing on the younger age group (McGovern *et al.* 1994). This study compared risks for Black and white patients at admission and at follow-up. The statistically significant factors between the two groups included living alone, previous convictions and imprisonment, and childhood separation. A concentration on these risk factors would seem to be a fruitful focus for further research. The large study reported by Wesseley *et al.* (1994) indicates the scale and rigour of research design that is required if such risk factors are to be fruitfully explored.

Such characteristics are in fact much more typical of those with personality disorder, a group that appeared rarely in the studies reviewed (e.g., Edwards *et al.* 1988). This may be because of the confusion of statistical categories which can arise with dual diagnosis. For example the high risk group of men with learning disabilities was made up of people with anti-social behaviour of one sort or another, who presumably would or could have an additional diagnosis of personality disorder.

However, the low prevalence rate of people with personality disorder and drug or alcohol misuse was commented on in some studies. It seems likely that people presenting with these characteristics are either not admitted to psychiatric provision or are rapidly discharged from it. An indication that this may be the case can be gleaned from the unexplained delays in admission of people whose behaviour was considered life-threatening (Humphreys *et al.* 1992). Research on the processes surrounding admission of those with personality disorder is a priority.

A major concern about much of the research reviewed in this chapter is the age of the data. Given the changes in service provision and mental health policies since 1990 it is remarkable that so little research evidence appears to be available to inform decision making at a national or regional level.

Much of the research reviewed concentrated on the characteristics of the patients, their diagnoses and behaviour. This is helpful but of limited value. Recent studies (e.g., P. Taylor, forthcoming) indicate a greater emphasis on particular symptoms and less emphasis on life-time diagnostic labels, fluctuating as these can due to changes in behaviour by patients and in diagnostic practice by psychiatrists.

Some studies included contextual data and it does seem important that this receives a greater priority. For example, studies of in-patient violence (Noble and Rogers 1989; Pearson *et al.* 1986) included data such as the time and day of the week when incidents occurred. The results of these studies were variable and the discussion made clear that it was the dynamics of the patients' day that were the key variables, e.g. structured *vs* unstructured time, meal times, levels of staffing. It seemed that quantitative data such as time of day were being collected, as this could be easily recorded, but what was needed were qualitative studies which would identify and reveal the interactions between variables.

A similar observation can be made about the data concerning the very high risk for young African-Caribbeans of being admitted compulsorily to hospital, of showing violent behaviour, and of being subject to police involvement in their admission (Owens *et al.* 1991). The evidence about this was systematically reviewed by Cochrane and Sashidharan (1996) and there is a pressing need to evaluate whether services offered along the lines they outline can impact on these risk figures. It is not hard to envisage a comparison of outcomes between a demonstration service and existing services.

The final point is that the quality of research design in many of the studies is not high enough to produce reliable figures that can be generalised. For example, definitions of violence varied across studies and rarely were a range of measures used as advocated by Mulvey (1994). The seriousness of violence was graded differently by different researchers with the consequence identified by Aquilina (1991) that effects and intent are not separated out. In fact Aquilina's list of common methodological problems still rings true:

1. The population studied is very small, or is studied over a very short period of time.
2. There is rarely any control population for comparison.
3. Assault is very poorly defined and graded.

4. Under-reporting is rife and is worst in retrospective studies.
5. Few studies consider institutional factors like admission policies, staff attitudes and the physical design of the institution.

(Aquilina 1991, p.311)

The dangers of conducting research with these sorts of weaknesses can be imagined. House (1996) points out, for example, that even prestigious studies such as the *Report of the Confidential Inquiry into Homicides and Suicides by Mentally Ill People* (Royal College of Psychiatrists 1996) is based on an estimated 26% (39/150) rate of return for homicides and an even lower rate for suicides.

However, conducting high quality research is not easy in this field where numbers are small and dispersed, and the infrastructure of research is under- developed. The recent report from The MacArthur Violence Risk Assessment Study (Steadman *et al.* 1998) shows the quality of study that is needed if reliable conclusions are to be drawn on the relationship between violence and people with psychiatric diagnoses. This prospective study of people discharged from acute psychiatric facilities included a large sample (1136 male and female patients) drawn from three geographical areas, covered a full range of psychiatric diagnoses, had a community comparison group of 519 people and measured violence using three different measures. Patients were followed up 5 times in the first year of discharge.

It can be seen that research of this type requires considerable funding, but it also demands co-operation between major psychiatric centres and a high level of research sophistication and leadership. This review shows that there are centres in the U.K., such as that at the Institute of Psychiatry in London and that in Nottingham (Harrison *et al.* 1994), which have this capability and have some of the required infrastructure for research, e.g. established Case Registers. However, inadequate funding and a lack of clear national research priorities are holding back the development of large-scale prospective studies which could provide authoritative and generalisable findings.

E.8 Summary and conclusions relating to studies of homicide

The major findings of the studies reviewed are that homicide offenders tend to be young men, are often schizophrenic, alcohol/drug abusers and/or have antisocial personality disorder. There is, however, no all-inclusive recipe to identify either a homicide offender or a mentally disordered homicide offender. Several, but by no means all, will have been seen by criminal justice and/or psychiatric services before. Even specific types of homicides do not appear to have particular distinguishing characteristics. Male homicide offenders seem to be about ten times as likely to commit future homicides compare to other men.

E.9 Summary and conclusions relating to the criminal justice system population

E.9.1 Police handling of mentally disordered people

A substantial amount of police time is taken in dealing with mentally disordered people in the community. Because they are a 24-hour, immediately available service, the police act as an important 'gatekeeper' agency to the psychiatric system, especially in relation to situations that arise in public places. Only a small proportion of mentally disordered people encountered by the police in this way have committed a criminal offence.

The studies reviewed illustrate complex processes of decision taking that result in some mentally disordered people who may have committed offences being diverted to psychiatric services, and some not. Equally, some mentally disordered people are offered support in the form of an Appropriate Adult when they are formally interviewed by police, but many are not.

In terms of the results of studies of the numbers and characteristics of mentally disordered people handled by the police, there are some methodological deficiencies. None of the studies give detailed demographic data on the characteristics of the general population catchment area from which their cohorts or samples are drawn, apart from some data on proportions of ethnic groups. Only one study even gives the size of the base population. Calculations of general population incidence or prevalence, or identification of risk factors, are therefore impossible. The studies reviewed are thus not useful for epidemiological purposes, except in identifying areas of probable risk factors that could be quantified through further study, such as gender, homelessness, living alone, unemployment, ethnic origin and marital status.

The studies are useful in identifying the complex factors that influence practice, and in giving some picture of the extent and nature of police contact with mentally disordered people, and of the characteristics of those people. There are wide variations in some of the facts and figures reported, indicating major influence of both local demography and local administrative circumstances, arrangements and practices. For planning purposes, therefore, there is a need for local surveys that document local situations.

Progress in understanding the 'epidemiology' of contact between mentally disordered people and the police will also depend on the development of standard categories for describing behaviour, diagnosis,

vulnerability and demographic data. These all vary amongst the studies reviewed, severely reducing the comparability and usefulness of the data.

E.9.2 Diversion schemes at Magistrates' Courts

If a mentally disordered person is charged by police to appear in court, they may be referred to a court diversion scheme, especially if they are held in custody prior to their court appearance.

The pathways involved in diversion are complex. There is evidence of benefit to some people in the success of the psychiatric help they get, and in a general speeding up of the process of assessment and disposal of cases. However, there is a high rate of absconding and unacceptable behaviour amongst those diverted to hospital, and almost a quarter receive little psychiatric benefit; to achieve more, some researchers have suggested a need for the development of specialist psychiatric provision for people diverted, including some secure provision.

Rates of referral to diversion schemes are low: about 1% of all cases appearing before magistrates and 5% of those detained in custody before appearance. There is evidence of considerable variation in referral rates from different courts, possibly reflecting characteristics of the catchment areas served. It also seems that diversion schemes miss quite a high proportion of people with mental health problems appearing in court, especially those with a drug- or alcohol-related disorder. Brabbins and Travers (1994) found that about 9% of those in custody to appear in court had a mental disorder, and at least 16% had a substance abuse disorder; these proportions are much higher than that referred to diversion schemes. Black people are over-represented, especially amongst referrals with a severe degree of disorder.

Other risk factors for being referred to diversion schemes as a potentially mentally disordered person charged with an offence are: male gender, age in the early 30's, unemployed, single and unattached, homeless, offence involving violence or persistent minor public order offences, and already well-known to both criminal justice and psychiatric agencies. Typically, around 80% of people referred to diversion schemes are found to have a mental disorder, about half of them a psychotic illness.

Epidemiological research in this area is hampered by a lack of agreement and consistency in the use of categories of diagnosis. Evaluative studies give different kinds of outcome data, e.g. initial disposal by the court or final outcome of the case; where several kinds of outcome data are given, it is often impossible to track cases between the outcomes. Long-term follow-up studies of people back into the community are rare.

E.9.3 The remand prisoner

A major risk for mentally disordered people appearing in court in the past has been a remand to prison for psychiatric reports, often involving an inappropriate level of security and a lengthy period awaiting assessment.

Even with increases in diversion schemes, people with mental disorder are still being remanded to prison. The most recent surveys show between 2% and 4% of remanded prisoners to have a

psychosis. It is, however, likely that there has been a fall in the proportion of mentally disordered people on remand with psychosis than before the expansion of diversion schemes.

Psychotic remand prisoners are more likely to be Black and older than other mentally disordered remand prisoners (at least amongst women).

Screening and assessment of remand prisoners by outside psychiatrists results in an increase in mentally disordered people identified, and a better rate of securing hospital admissions is achieved through specialist or contracted-in psychiatric services to remand prisons.

There is a proportion (possibly 20%) of remand prisoners who, while not clinically in the learning disability category, may be vulnerable because of low intelligence. A high proportion of remand prisoners have a previous history of use of psychiatric services and of substance abuse and dependence.

Many studies fail to give comparative data between remand prisoners who are or are not mentally disordered, in areas such as demographic characteristics, offences or previous history, thus reducing their epidemiological usefulness.

Robertson (1988) provides data on remand prisoners that show that mentally disordered people are more likely to be arrested for offences than others. This may be part of the explanation for the higher rates of mental disorder amongst the prisoners than in the general population.

E.9.4 Sentenced prisoners

An epidemiological approach can be used to make predictions and to identify risk factors, or it can be used to identify treatment needs in a particular population. These different purposes require different kinds of data to be collected.

Until the very recent study by Singleton *et al.* (1998), the major study of mental disorder amongst sentenced prisoners in Britain was that by Gunn, Maden and Swinton (1991b). This focussed on prevalence rates and treatment needs. Data from the study are now ten years old. The findings, with those of a few other studies of much less breadth and quality, are summarised here.

About 2% of the sentenced prisoner population have a psychosis, though the rate of schizophrenia is somewhat higher than in the general population outside prison. However, about 40% of men and over 50% of women sentenced prisoners have some form of identifiable mental disorder. Self-reporting methods of diagnosis are highly unreliable, but do confirm the large extent of present or past mental disorder amongst the prison population.

About 25% of sentenced men in prison, and over 40% of sentenced women, have been estimated by qualified psychiatrist researchers, using clinical criteria, to require psychiatric treatment or further assessment; only about one third of these are currently receiving treatment, and for some this treatment is inappropriate.

About 3% of the sentenced prisoner population require transfer to psychiatric hospital. A third of these are not currently receiving any treatment. About 60% would need secure hospital provision.

This was the position ten years ago. A more recent survey has been carried out by the Office for National Statistics (Singleton *et al*. 1998). Unfortunately, this was not available in time for inclusion in this review. Broadly, the findings are of an even greater prevalence of mental disorder amongst prisoners than Gunn *et al*. found. Risk factors are studied, but treatment needs are not specifically addressed.

E.10 Recommendations for research

This section discusses gaps in current research and some common methodological problems that need to be addressed, with recommendations for the content and quality of future research in this field.

E.10.1 Need for a British general population study

There is no British study to adequately describe the epidemiology of MDO in the general population. In order to save resources, consideration needs to be given to using existing British epidemiological studies where data on mental disorder and offending are currently being collected or where arrangements for this could be made.

Professor J Golding (Bristol University) has advised that this could be reviewed in relation to the 1946, 1958 and 1979 National Cohorts. She has also identified her own cohort study, the Avon Longitudinal Study of Pregnancy and Childhood (ALSPAC), which is a study of 14,000 children born in Avon in 1991/92, as having considerable potential in this respect. Contacts to follow-up are:

- 1946 cohort: Professor Michael Wadsworth, MRC National Survey of Health and Development, Department of Epidemiology and Public Health, University College London, 1-19 Torrington Place, London WC1E 6BT.
- 1958 cohort: Professor Peter Jones, Division of Psychiatry, Duncan MacMillan House, Porchester Road, Nottingham NG3 6AA.
- ALSPAC: Professor Jean Golding, Unit of Paediatric and Perinatal Epidemiology, Division of Child Health, The University of Bristol, 24 Tyndall Avenue, Bristol, BS8 1TQ.

E.10.2 Research needs on homicide

From an epidemiological point of view, the homicide studies reviewed are generally weak in terms of both methodology and analysis. The most useful data are the Finnish set reported by Eronen, Hakola and Tiihonen. Assuming that no problems of bias are caused by only looking at homicide offenders referred to psychiatric services, these data could be exploited to provide very useful results.

An appropriate statistical analysis would be necessary and a better control group would need to be found: probably use of the Scandinavian cohort populations discussed in Chapter 3.

Future research in this field should concentrate on three areas:

- a cross-sectional study of homicide offenders *vs* non-homicide offenders (drawn from the general population) to compare psychiatric health controlling for demographic variables such as age and sex.
- a case-control study of mentally disordered homicide offenders *vs* non-homicide offenders (drawn from the general population) to compare risk factors. This could be nested within the first study.
- a cohort study of homicide offenders after release, using the national population as a control group in certain analyses.

These studies would each answer, in quantitative terms, one of the following key epidemiological questions:

- 'How does the mental health of a murderer differ from other people?'
- 'What are the special characteristics of mentally disordered homicide offenders?'
- 'What factors lead to homicide recidivism?'

None of the current studies answer these questions adequately.

E.10.3 Need for studies of admission and discharge practices in general psychiatric services

For the General Psychiatric Population, a comparative study of the admission processes to a range of psychiatric provision is a priority. This study should include both quantitative and qualitative data on the characteristics of those not admitted, on the reasons for delayed admission and on the variables involved. Particularly needed is a study of the phenomenon of rapid discharge of people with a diagnosis of personality disorder, the admission criteria being operated in these cases, and the subsequent pathways and outcomes for these people.

E.10.4 Need for good practice demonstration and evaluation in relation to young African-Caribbean men

The overrepresentation of African-Caribbean young males in much of the reported data highlights the need for a research study which incorporates a positive response to a problem which has been recognised for some time. An action research approach involving the establishment of a demonstration service would provide a way forward in this respect and would be a good base for a larger research project.

E.10.5 Need for review of the needs of the sentenced prisoner population

There is a need for detailed comparison of the results from the recent study by Singleton *et al.* (1998) with those of Gunn *et al.* (1991b) to identify trends in psychiatric disorder amongst the sentenced prisoner poulation. It would be helpful for the Gunn *et al.* focus on treatment needs to be replicated with the current prison population.

E.10.6 Need for studies that track people who are frequent users of both psychiatric and criminal justice systems, especially in relation to diversion schemes

It is clear that there are people going through Court Diversion schemes who are well known to both the criminal justice and psychiatric systems. Tracking such people would provide a useful basis for planning community services to meet their needs.

E.10.7 Need for more studies to include methodology that identifies risk factors

To identify risk factors for being a 'mentally disordered offender' (however defined), it is necessary to have data on potential risk factors, particularly demographic variables, on the mentally disordered offender population being studied and also an underlying base population. Risk factors for having a mental disorder within a population of offenders will require data on the base offender population and on the sub-population of mentally disordered offenders. Risk factors for being a mentally disordered offender at a particular place in the justice or psychiatric service system within a general population area will require data on the general population from which the study group comes. Very few studies give such comparative data on the study population and the base population. Many more studies need to be encouraged to give this kind of comparative data.

E.10.8 Need for more studies to state size of base population

Similarly, prevalence data depend on figures being given on the base population. Few studies give data on the size of general population from which a study sample comes. Some studies do not relate figures on mentally disordered offenders at a particular place in the justice or psychiatric system to the size of base population of offenders or mentally disordered people at that place. Studies should be encouraged wherever possible to state the size of base population within the part of the justice or psychiatric system being studied and the size of general population area from which the sample comes.

E.10.9 Need for local studies for planning purposes

There are wide variations in some of the facts and figures reported, indicating major influence of both local demography and local administrative circumstances, arrangements and practices. For planning purposes, therefore, there is a need for local surveys that document local situations.

E.10.10 Need for Development of Standard Categories

There is little standardisation in categories used for describing behaviour, diagnosis, vulnerability and demographic data. These all vary amongst the studies reviewed, severely reducing the comparability and usefulness of the data.

E.10.11 Need for clarity of purpose of research: studies of disease processes or planning needs?

For purposes of identifying risk factors for disease processes that may underlie offending by mentally disordered people, specific and standardised diagnoses are necessary. Complete cohort studies, either of the general population or of people with a specific diagnosis, are likely to be required for this purpose. Studies located at particular places within the criminal justice or psychiatric system are likely to be more useful for administrative planning purposes, and for these purposes judgements of the treatment and security needs of people may be more useful than specific diagnoses. Studies should be encouraged to be clear about their purpose, and to provide data that best suit that purpose.

E.10.12 Need for longer-term follow-up studies

Studies of effectiveness of placements or interventions need to follow people systematically through systems and out into the community. For example, few studies track people clearly from an arrest process through charge and diversion or sentence to outcome of treatment or discharge to community. In the absence (perhaps for good civil liberties reasons), of comprehensive case registers linking convictions and psychiatric care, research studies are needed to map out the pathways followed by both those who are successes and those who are failures of current systems.

E.10.13 Need for further study of security needs of special hospital patients

The phenomenon of a large proportion of patients in special hospitals being judged by clinical practitioners as not requiring such a high level of security warrants further study in which different kinds of security in operation are better defined. More studies of the outcome of well-described changes in the level or kind of security for individuals are also needed.

E.10.14 The database of international literature as a resource

The international literature would lend itself to many areas of comparative analysis which have been beyond the scope of the present review. A comprehensive database of these studies has been established as part of this review, and this could form a resource for further study.

E.11 Dissemination

The main strategy for dissemination is by publications, conference presentations and seminars. The following articles have been submitted for publication and are currently accepted or are being revised in the light of the referees' comments:

'The epidemiology of mentally disordered offending: a systematic review of studies based in the general population of criminality combined with psychiatric illness.' Accepted for publication in the *Journal of Epidemiology and Biostatisics*, Volume 4, 1999.

'A review of recent academic literature on the characteristics of patients in British Special Hospitals.' Submitted to *Criminal Behaviour and Mental Health.*

In addition an invited article has been prepared with the title: 'Planning to meet the needs of mentally disordered offenders: the British experience.' This has been submitted to the American journal *Psychiatric Services.*

Discussions are underway with the NHS Centre for Reviews and Dissemination at York University, and with the High Security Psychiatric Services Commissioning Board, to plan further dissemination. This review has been one of four commissioned by the HSPSCB, and discussion will take place about a unified publication of results from all of them. There have already been discussions with the team conducting the Scoping Review at the Policy Research Bureau, London, with a view to possible future joint publications.

CHAPTER 1 - INTRODUCTION

1.1 The project

This review was commissioned in May 1997 by the High Security Psychiatric Services Commissioning Board (HSPSCB). It was one of four literature reviews commissioned at that time. The other reviews were of services for female mentally disordered offenders, the role of therapeutic communities in psychiatric and other settings, and a Scoping Review. The aim of the Scoping Review was to map out the broad area affecting the number, referral, care and management of mentally disordered offenders in order to identify where this could be supported by research and development. The potential overlap between this review and the Scoping Review was considerable, and so a series of meetings took place between the two research teams involved. As a result it was agreed that the Scoping Review would take the major responsibility for policy issues and for reviewing the antecedents of mentally disordered offenders. However, this review does address some policy issues and includes some consideration of antecedents.

The review was carried out by a team at the University of Reading, in co-operation with the NHS. Centre for Reviews and Dissemination at the University of York.

The team members were:
Mr Doug Badger, Director of Academic Studies, Department of Professional Education in Community Studies.
Professor Jean Nursten, Visiting Professor of Social Work, Department of Professional Education in Community Studies.
Mr Paul Williams, Lecturer in Social Work, Department of Professional Education in Community Studies.
Dr Mark Woodward, Senior Lecturer in Statistical Epidemiology, Department of Applied Statistics.

Advisors to the project have been:
Professor Pamela Taylor, Institute of Psychiatry and Broadmoor Hospital.
Mr Gordon Connell, Librarian, University of Reading Library.

The project was supervised by:
Professor Trevor Sheldon, University of York.

1.2 Background

This review was commissioned by the High Security Psychiatric Services Commissioning Board and is intended to be used for the commissioning of research and planning of services that are that Board's concern. The Board's deliberations are likely to be guided by the principles set out in the Reed Report (Department of Health and Home Office 1992), particularly the desirability for services to be provided in patients' home areas and at the lowest level of security commensurate with public

safety. These principles are given added force by proposed changes in funding of Special Hospital patients which will make them a charge on local health authorities. There is therefore a requirement to identify the numbers and needs of mentally disordered offenders in Special Hospitals and other secure psychiatric facilities.

There is growing awareness of the mental health needs of prisoners, both on remand and sentenced. Some research has raised major doubts about the accuracy of official statistics in this area (Birmingham *et al.* 1996) and concern about the adequacy of psychiatric provision to meet prisoners' needs (Wesseley and Taylor 1991). A reliable basis for estimating the distribution and characteristics of prisoners with mental health needs is thus a relevant consideration.

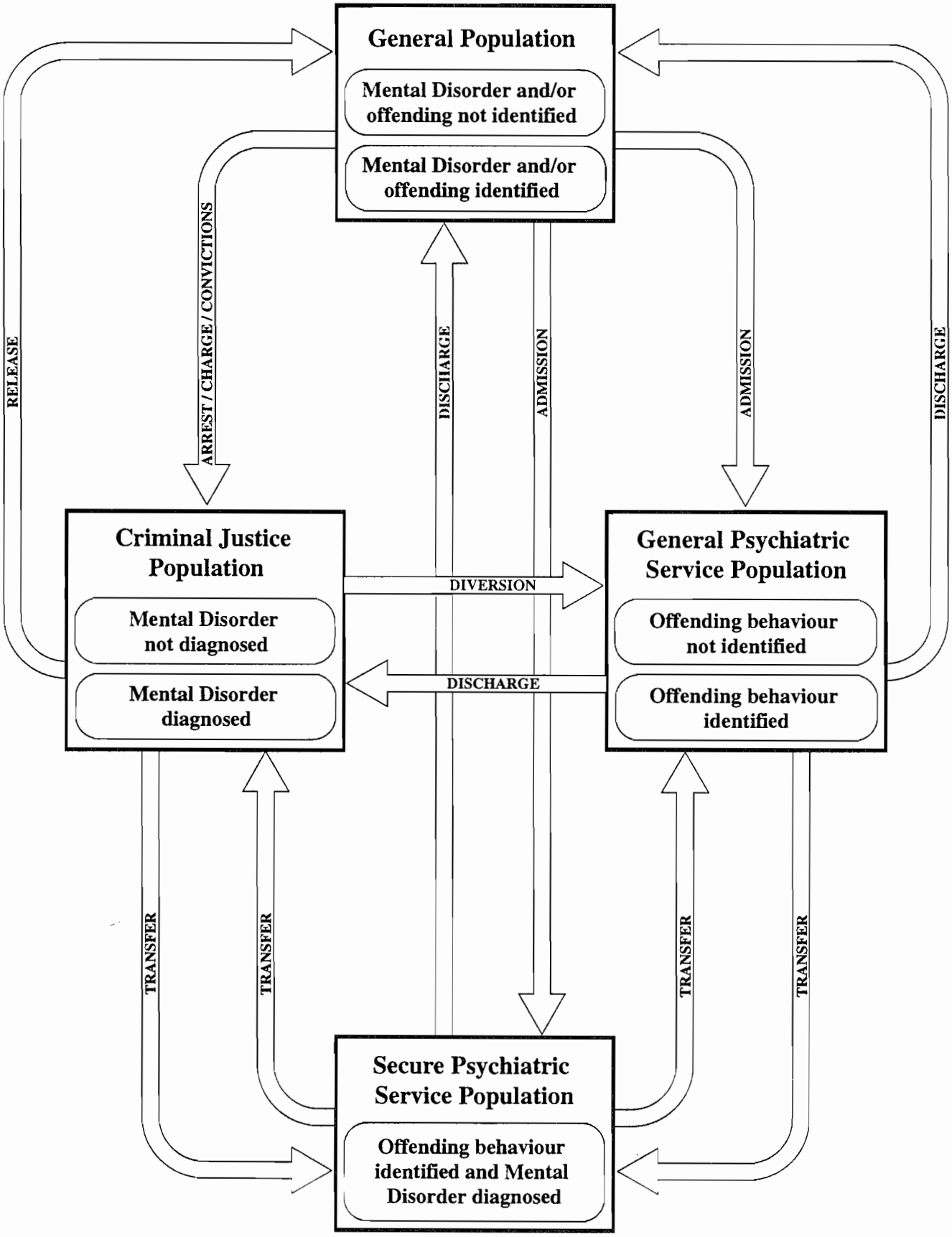
Gaining a clear picture of the prevalence of mental disorder amongst those who have offended, or are suspected of doing so, has been complicated in recent years by the development of a series of means to divert persons from the Criminal Justice System into the Mental Health System. Diversion schemes operate at all levels of the Criminal Justice System from cautioning at the Police Station to transfer from prison to Special Hospital. A particular need for accurate figures for planning appropriate services at the local level has been recently identified by the Social Services Inspectorate (SSI 1997). It has therefore been important to map flows between the Criminal Justice and Mental Health systems (Rowlands *et al.* 1996). [See Diagram I.]

Establishing the prevalence of a disorder is a core goal of epidemiology, and pursuit of this goal naturally takes the review to general population studies where prevalence rates are not subject to the biases attached to service delivery. This is far from straightforward in this field where both mental disorder and offending reflect to a greater or lesser degree cultural norms. This makes international comparisons of prevalence rates difficult. Changes in criminal policy and law may also have a marked effect on national statistics when compared over time. This can be seen in the data presented by Hodgins *et al.* (1996) for a Danish retrospective cohort study, where prevalence rates changed considerably in 1977 when the police changed their system for recording data on convictions.

An added complexity is that mentally disordered offenders make up a very small percentage of the general population. This means that even very large studies may produce subsets, for example of female mentally disordered offenders, which are relatively small. In short, the epidemiology of mentally disordered offenders is a relatively new discipline and it faces considerable intellectual and methodological challenges. These are outlined in the discussion of the findings about studies in the General Population (Chapter 3), and in the Executive Summary.

Flows between the four identified populations

Diagram 1



1.3 Aim and objectives

Aim: to conduct a systematic international literature review of the epidemiology of mentally disordered adult offenders and those with similar needs.

Objectives:

i) to examine definitions from different sources and show the distribution of specific diagnoses;
ii) to assess the prevalence and incidence of mentally disordered offenders in different settings, e.g. prison, secure units;
iii) to demonstrate the short-, medium- and long-term epidemiological trends;
iv) to map flows within and between the Criminal Justice and Mental Health systems;
v) to report on the available research on the determinants of mental disorder in offenders and of offending in those with a mental disorder;
vi) to identify what further research needs to be commissioned.

1.4 Methodological issues of definition

1.4.1 The term 'mentally disordered offender'

The challenge has been to arrive at a definition of mentally disordered offenders and those with similar needs, which can be applied to all four of the populations identified. The definition needed to be sufficiently robust to discriminate between those who require specialist service provision as mentally disordered offenders and those who do not. It also needed to fit with the task of a systematic review of international literature.

It has been pointed out by a number of writers (e.g., Peay 1996; Vaughan and Badger 1995) that the term 'mentally disordered offender' embraces a heterogeneous group of individuals ranging across the full spectrum of the psychiatric classification system, involving offences as serious as murder and rape and as trivial as some public order offences. Though dangerousness is a recurring theme it must be remembered that many offences are not of that nature. Bailey (1996) in her literature review of services for mentally disordered offenders was forced to conclude that no widely accepted definition exists and "researchers and projects have tailored the interpretation of the term to meet their own specific aims and objectives" (p.45).

Berkeley (1995) argues cogently for precision in terminology and observes that the police officers in his research were meticulous in their distinction between offenders and detainees. He goes on to argue that the imprecision of the term 'mentally disordered offender' is a barrier to communication between different professions and agencies and he advocates the use of specific terms such as 'people with suspected mental disorder' and 'people thought to be dangerous' (p.59).

James (1996) also questions the utility of the term 'mentally disordered offender' but for rather different reasons. Her view is that the needs of most mentally disordered offenders should be met within mainstream mental health services and that a separate category is a barrier to this integration. Nevertheless she concedes the need for some specialist services for those with complex needs and those who commit serious offences. In effect her argument is that the term should be restricted to the sorts of mentally disordered offenders who need medium or high security psychiatric provision.

Despite taking this line, James (1996) points out the difficulties that arise from the lack of a consistent definition of mentally disordered offender, namely that it is impossible to know how or if the population of mentally disordered offenders is changing in size or constitution. Her review of a range of pilot projects for the diversion of mentally disordered offenders shows the difficulty this presents in terms of validity or reliability of research data collated from different projects.

A telling indicator of both the existence of terminological confusion and the need for a commonly accepted definition is provided in the Social Services Inspectorate Report (1997) on *Services for Mentally Disordered Offenders in the Community*. This report highlights the specific question of whether those with problems of substance abuse or learning disabilities in the absence of mental illness should be included in the definition. However this issue is not resolved other than by the recommendation that local inter-agency planning groups should produce "a local definition of mentally disordered offenders" (p.8).

The National Association for the Care and Resettlement of Offenders (NACRO) does essay a definition:

> "....those offenders who may be acutely or chronically mentally ill; those with neuroses, behavioural and/or personality disorders; those with learning disabilities; some alcohol and substance misusers; and any who are suspected of falling into one or other of these groups. It also includes offenders where a degree of mental disturbance is recognised even though that may not be severe enough to bring them within the criteria laid down by the Mental Health Act 1983. It also applies to those offenders who, even though they may not fall easily within this definition - for example, some sex offenders and some abnormally aggressive offenders - may benefit from psychological treatments." (NACRO 1993)

This has the virtue of reflecting the variety of persons who may currently be treated as mentally disordered offenders in the U.K. However the definition suffers from both imprecision and over-inclusiveness and consequently is of limited use operationally in a systematic literature review.

Farrar (1996) in his article on 'Government policy on mentally disordered offenders and its implementation' provides a definition which is admirably succinct:

> "Offenders, alleged offenders and non-offenders who have similar needs for secure or open psychiatric provision and who would be accepted by the health and social care system under the terms of the Mental Health Act, 1983."

This definition works well in an operational context but its applicability is confined to England and Wales. It is less useful in a wider international field and illustrates the difficulty that any national definition will reflect that country's criminal and civil legal code.

In view of the lack of agreement about the definition of mentally disordered offenders it has proved necessary to evolve a definition for this review. For a person to be included in a study of mentally disordered offenders it is clear that two requirements must be met:

i) the person must be deemed to have presented offending behaviour
ii) the person must be deemed to be mentally disordered.

In commissioning this and the three other parallel reviews, the HSPSCB used the phrase 'mentally disordered offender and those with similar needs', which was also used in the Reed Report (Department of Health and Home Office 1992). One benefit of this phrase is that it can include those in the General Psychiatric System who have not been charged or convicted of offences but nevertheless present offending behaviour. Such behaviour, which includes assaults on fellow patients and on staff, may result in patients being transferred to secure provision and being managed in a similar way to those whose offending behaviour has been processed through the Criminal Justice System.

In clinical terms there may be little or no difference between the management and care of such patients and others who have been charged and/or convicted of criminal offences. It is therefore relevant to include literature about such individuals in this review. However, this is difficult to operationalise as there will not be a date of court appearance, nor an offence category named. The report by Lyall *et al.* (1995) of three studies of offending by adults with learning disabilities in one health district shows the difficulty of measuring offending behaviour where care staff are reluctant to report assaults and the police are disinclined to bring charges.

1.4.2 Defining offending behaviour

The difficulties of definition are resolved in this review by usually limiting consideration of offending behaviour that does not lead to a criminal charge to physical assaults. However, the Scoping Review will discuss other types of offending behaviour, e.g. thefts in hospital, because of their importance as a management issue.

Carrying out an international literature review of offending behaviour presents a major challenge in terms of defining offences. The ideal would be to compare like with like, but this is not manageable across different jurisdictions. However, developing comparable categories is more straightforward with some offences such as homicide and arson.

For a person to be considered as presenting offending behaviour at least one of the following criteria should be met:

i) the person has been convicted of a specified criminal offence
ii) the person has been charged with a specified criminal offence
iii) the person's behaviour has involved either violence towards others, or arson.

Of these the third criterion is the most arbitrary. However the offending behaviours specified are notable both for being of major concern to those planning services and being reasonably clear to identify, albeit with problems of degree in both cases.

Studies which do not meet at least one of these criteria have usually been excluded. There are some exceptions; for example, in reviewing studies of police use of Section 136 of the Mental Health Act 1983 in Chapter 7, data have been included that apply to all those subject to that action, whether or not they have committed an offence of violence or arson, or indeed any offence. Also, it should be noted that in some studies crime is self-reported, for example in the Epidemiologic Catchment Area Study (Regier *et al.* 1988).

1.4.3 Defining and categorising mental disorder

An international literature review poses a problem in relation to the categorisation of mental disorder. There is the International Classification of Mental and Behavioural Disorders (ICD-10) system (World Health Organisation 1992) which has been developed to meet this need. However the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) classification (American Psychiatric Association 1994) which has been developed in the USA is drawn upon in a large number of studies. Teplin (1990) in her review of 17 studies of severe mental disorder in jails points out the difficulties of interpretation which arise if criteria for diagnosing mental disorder are not explicit and consistent.

For a person to be considered mentally disordered it is a requirement of this review that:

i) the diagnosis is in relation to either ICD or DSM criteria and is made using reliable validated research instruments

OR

ii) a differential diagnosis was made by medical practitioners/prison doctors/psychiatrists.

Studies which do not meet one of these criteria have been excluded, with the only occasional exception of studies based on self-report of mental disorder, where these usefully supplement more reliable data.

CHAPTER 2 - THE SYSTEMATIC REVIEW: METHODS AND OUTCOME OF SEARCH

2.1 Method of review

2.1.1 The types of studies reviewed

This review covers epidemiological studies in relation to four populations. These are General Population studies and studies of the Secure Psychiatric Provision population, the Criminal Justice System population and the General Psychiatric Services population. Though a wide range of policy and review papers have been read as part of this literature review, such publications are only included to inform discussion and comment. The systematic review is of primary studies only.

The range of studies is considerable, including cross-sectional and cohort studies of the general population and point prevalence studies in institutional settings such as prisons and special hospitals.

As diversion from the Criminal Justice System to psychiatric care is a pervasive theme in the care and management of mentally disordered offenders, it has been important to include studies on flow within and between populations. This means that studies of referrals and discharges are included even though they may provide little reliable data on prevalence.

An overview of the distribution of research studies between the four populations is summarised in Table 2.1 and Diagram 2. In view of the large number of studies identified (858) it was clear that some decisions had to be made about what could be covered in this review. For General Population Studies it was clear that a review of international studies were required as there was no British study available. It was also possible to use the data to examine the situation in the UK as biases arising from variations in service provision did not arise. Such studies were also less affected by the civil and criminal codes and policies than were studies based in the other three populations. The decision was made only to review UK studies in relation to the criminal justice system, general psychiatric system and special hospital system. This decision was based on the difficulties of interpretation in comparing results across different jurisdictions and health systems. Further support for this decision arose as the review progressed, in that it became clear that many of the British studies were not sufficiently well designed to allow international comparisons to be made.

However, an exception was made in relation to studies of homicide as this offence is relatively easy to identify across jurisdictions.

2.1.2 Inclusion/exclusion criteria

Though this is an international review it was commissioned to inform service planning and development in England and Wales. This means that some consideration of the 1983 Mental Health Act is relevant to issues of inclusion/exclusion. This legislation excludes certain categories from compulsory admission to psychiatric hospital. These relate to sexual deviance and dependence on alcohol or drugs. These, therefore, have been excluded from the category of mental disorder.

However co-morbidity has been taken into account where studies are of persons who have another form of mental disorder in association with sex offending. These have been included, as have studies of co-morbidity with alcohol and drug dependence. Studies which relate only to those with a diagnosis of sexual deviation or alcohol or drug abuse have been excluded.

The 1983 Mental Health Act also excludes psychopathic disorder and mental impairment where it is considered that the condition is untreatable. However, treatability is a difficult concept to operationalise both clinically and in research terms. Therefore studies of both these groups are included in the literature review. The legal term psychopathic disorder fits within the broader clinical category of personality disorder, which has been used as a heading. Similarly, the term 'learning disability' has been used for mental impairment or retardation, although it is accepted that 'mental handicap' and other terms are used in the studies under scrutiny. It should be noted that acquired brain damage has been included as this was specifically identified as relevant in the original specification of the research need. However studies of organic brain diseases such as dementia or Alzheimer's Disease have been excluded.

Where studies identify characteristics of people that are associated with being a mentally disordered offender, or having a particular 'career' through systems or a particular prognosis, those data are reported. Such characteristics include diagnosis, nature or seriousness of offence, and basic demographic information such as gender, age, ethnicity, class and geographical area of origin. However, antecedents are also covered in the Scoping Review.

Danger to self is covered by the 1983 Mental Health Act. Those who persistently self-harm may end up in secure provision, though usually this is not the sole reason. It could be argued, therefore, that this group should be included as having similar needs to mentally disordered offenders. The counter argument is that to do so would be to confuse a need for security (those who are a danger to others) with a need for a high level of nursing care when the danger is to the self. In view of this consideration, studies of self-harm and suicides only have been excluded from this review. However, studies of self-harm or suicide amongst mentally disordered offenders are included as such behaviour is an important aspect of their care and management.

Studies reviewed relate to adults, i.e. those aged between 18 and 65. To have included studies of children and adolescents would have created complications in psychiatric classification in that different terms are used, e.g. 'conduct disorder'. Those under 18 are also likely to be treated differently in Courts of Law. Those over 65 years are treated differently for planning purposes in the U.K. There are also psychiatric diagnoses connected with the psychiatry of old age; and those over 65 are treated differently under the 1983 Mental Health Act. Therefore studies solely of those under 18 or over 65 years have been excluded.

2.1.3 The search strategy

The search strategy was designed to include international publications. Databases commonly provide abstracts in English which allow the reader to rapidly identify if an article is likely to meet the inclusion criteria for this review. Some articles in other languages do not have an accompanying English abstract and these have been excluded. It is accepted that this will create a bias in favour of publications with English language abstracts. The timescale and resources of this review make it impossible to eliminate this source of bias.

There are certain categories of prisoners whose offending behaviour is significantly different from all others. These include prisoners-of-war and political prisoners. It was difficult to see how studies of such groups would inform planning for the major categories of mentally disordered offenders. In view of this these studies were excluded from this review.

Similarly the search identified a number of studies of the management and treatment of mentally disordered offenders. This again falls outside the remit of this review and such studies have been excluded.

The database search was restricted to publications from 1990 onwards. This decision was prompted by the sheer volume of publications revealed by the search and the awareness that up-to-date material is of particular relevance in a review which has a planning function.

However, it was important not to omit high quality studies which were published prior to 1990. To achieve this, citation tracing back to 1983 was done and a judgement made about whether or not to include the study. This date was chosen because of the 1983 Mental Health Act.

Hand searching of journals was necessary to ensure that the most recent publications had not been missed. Also, it was discovered that some important British journals – e.g., the *Journal of Forensic Psychiatry* and *Criminal Behaviour and Mental Health* - are not well covered by the main medical databases.

A systematic search was made of databases to identify potentially relevant international studies. This is described in detail in Appendices I and II. Database searches produce a lot of 'false positives', i.e. articles that conform to the search criteria but are not actually relevant. For example, the search term 'violence' will identify studies not only of perpetrators of violence, but studies of victims as well; thus, there needed to be a screening process of titles and abstracts to identify genuinely relevant material.

The screening process was in two stages. Initial titles or abstracts identified through the search criteria were first screened by one member of the research team (PW) to remove obviously non-relevant material. The remaining material was then further screened by two members of the team (DB and PW) to identify items to order for full reading and review. This two-stage process, though time consuming, was felt to be necessary in view of the complexity of the decisions on exclusion/inclusion, and the need to ensure consistency.

Citations of major relevant studies in the literature from the period of 1983 onwards were identified by the team member reading the item, and the source material ordered. In particular, major British studies since the 1983 Mental Health Act were identified in this way, as well as major international studies. The aim was to ensure that major British and international studies from the period 1983 to 1989 were included whenever they were of particular significance.

Contacts were made with individual researchers to ask for advice and information on relevant material. In particular, five key authors of studies in the general population were identified and corresponded with in order to fill in gaps in the literature obtained. These five were:

Professor S Hodgins, Department of Psychology, Université de Montréal, Canada.
Professor D P Farrington, Institute of Criminology, University of Cambridge.
Professor T Moffitt, Institute of Psychiatry, University of London.
Professor J Tiihonen, Department of Forensic Psychiatry, University of Kuopio, Finland.
Professor P A Silva, Dept. of Preventive and Social Medicine, University of Otago, NZ.

At an early stage in the search process, places of potentially useful contact were identified and a letter seeking information was sent to them (see Appendix III); however, this produced relatively few responses.

2.1.4 The review process

A large part of the conceptualisation of the task of systematically reviewing the literature in this area focussed on how to select material for review.

First of all, criteria for evaluation of the quality of studies were devised. Some of these criteria concerned basic features that would clearly lead to exclusion if not present. The form for recording these elements is given in Appendix V. Other criteria concerned the quality of studies in terms of more technical features (Appendix VI). These elements have informed the process of determining 'best evidence' (Slavin 1995) for particular characteristics of particular populations.

Detailed instructions were devised so that the exclusion and quality criteria for judgement of materials could be applied by readers, and data extraction performed into tables of the kind indicated in Appendix IV. In view of the quantity of material, two additional people were recruited and trained to read and assess material. All ordered and received items were read by one member of the research team or a recruited reader.

Where items were excluded from consideration, a 10% random sample was re-read by a different team member as a check that the criteria were being reliably applied. All primary studies excluded are listed in the relevant chapter of this Report.

In the case of studies of the prevalence and characteristics of MDOs within wider populations, such as within the general population or amongst the criminal justice population or the general psychiatric

population, this process of quality evaluation worked well. This is illustrated in the chapter on general population cohort studies (Chapter 3), where criteria of quality have been applied leading to the clear identification of 'best evidence' studies and the exclusion of studies not conforming to the criteria.

However, in this field there are also many studies involving samples specifically of people identified as MDOs. These may produce useful data for planning purposes, though they may involve small or selected samples that make their generalisability open to question. In areas where there are a lot of studies of this kind, an additional process of reviewing the usefulness of studies was adopted. The section of results reported here on the characteristics of patients in the British Special Hospitals is an example of this approach (Chapter 4). Rather than excluding articles on quality grounds, a commentary is provided in tabular form on the quality of studies identified and also on their usefulness (Table 4.1).

This more comprehensive approach enabled the inclusion of, for example, studies of regional subgroups of patients. The samples in these studies are too small to provide reliable data for national planning purposes, but they illustrate regional variation. In a planning context, they are models of the local surveys that are required, placing national statistics in a context of a need for localised planning. Their usefulness, though not their quality in terms of the criteria adopted, is thus equal to that of national large-sample surveys.

This issue of the interaction of criteria of quality and usefulness was a recurring challenge in conducting this review. It is clear that in carrying out a systematic review in an area like the epidemiology of MDOs, the issue of criteria for inclusion of studies in the review is much more complex than in areas of intervention or treatment, where a relatively simple decision, e.g. to include only randomised controlled trials, may be made (though even in this area there are complications in the field of mental health - see Taylor and Thornicroft 1996).

Information from primary studies was transferred into tables (see Appendix IV). Each table has a cell for comments which includes an evaluation or 'ranking' of each item on the quality of the study, according to the criteria outlined in Appendix VI (Evaluation Sheet).

2.2 Outcome of the systematic search

The systematic search of databases generated about 10,000 possibly relevant items. By inspection of the titles of the items identified it was possible to reduce the number to 2,500 items worth further examination. Where possible (and it was possible in almost all cases), abstracts were downloaded for these items. Because of the complexity of the decisions involved in selection or rejection, and the importance of maintaining consistent criteria, all these abstracts were read by two members of the research team (DB and PW). This process, together with citation tracing and contacting major researchers in the field, resulted in decisions to order around 1000 items for detailed study.

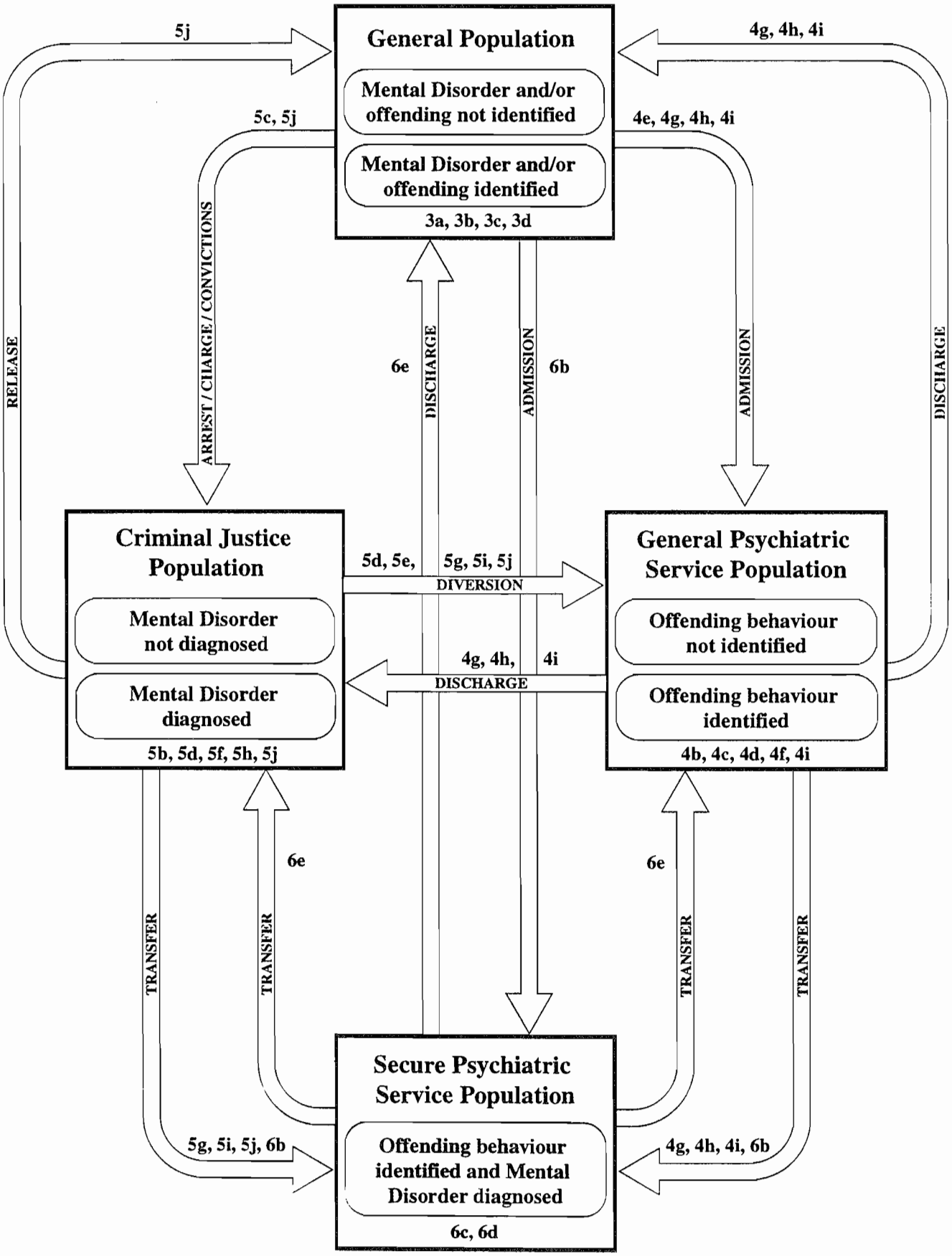
By March 1998, 858 items had been assembled. These are items to which basic inclusion criteria have been applied, but not criteria of quality. The items were sorted into categories relating to the different populations of the review and the flows within and between them. Table 2.1 lists the categories used and the number of items assembled under each one. Diagram 2 relates each category to the four populations covered by the review and the flows between them.

Table 2.1: Categories and numbers of items received by March 1998

Total number of items			858
1) Articles excluded as, on inspection, not relevant			14
2) Articles on methodology of systematic review or epidemiology, or examples of epidemiological studies not of mentally disordered offenders			22
3) General population studies, comprising:			35
a) Mentally disordered offending among methadone users		1	
b) Mentally disordered offending among homeless people		5	
c) Results relating to mentally disordered offending from the Epidemiologic Catchment Area Study		11	
d) Results relating to mentally disordered offending from general population cohort studies, including birth cohorts		18	
4) The general psychiatric services population, comprising:			269
a) Background articles, no relevant data		22	
b) General review articles, containing reviews of data but not primary data		28	
c) General articles describing the characteristics of offenders in the general psychiatric system		15	
d) Articles on violence/offending by people with a psychiatric diagnosis in the community or in out-patient services		22	
e) Articles on violence/offending before admission or related to the process of admission to inpatient provision		32	
f) Studies of violence/offending amongst hospital inpatient populations		56	
g) Studies of violence/offending over time (careers) amongst people with a psychiatric diagnosis		36	
h) Follow-up studies of violence/offending after discharge from psychiatric provision		21	
Studies of risk assessment and assessment and prediction of violence		37	
5) The criminal justice system population, comprising:			415
a) Background articles		22	
b) Articles on committers of specific offences, comprising:		80	
i) Murder/homicide	35		
ii) Arson	14		
iii) Child abuse/infanticide	16		
iv) Other (drunk driving, sex offences, domestic violence, etc.)	15		
c) Articles relating to police management of mentally disordered people (e.g. characteristics of people arrested, use of Appropriate Adults, use of Section 136, etc.)		34	
d) Articles relating to diversion or to magistrates courts		30	
e) Studies of court referrals for psychiatric assessment		41	
f) Studies of remand or pre-trial prison detainees		29	
g) Articles on those subject to court hospital orders, or on the disposition of 'not guilty by reason of insanity' cases		31	
h) Articles on mental disorder amongst sentenced prisoners		104	
i) Studies of transfers from prison to psychiatric hospital (e.g. Section 47)		9	
j) Follow-up studies after discharge from the criminal justice system, and studies of the characteristics of mentally disordered offenders under community supervision		35	
6) The secure psychiatric facilities population, comprising:			103
a) Background articles		14	
b) Studies of pre-admission characteristics or factors related to admission		10	
c) Characteristics of secure provision populations		44	
d) Studies of violence/offending within secure inpatient provision		21	
e) Follow-up studies after discharge from secure psychiatric provision		14	

Flows between the four identified populations

Diagram 2



2.3 Structure of this report

This Report covers the analysis of four sets of data relating to: general population cohort studies; the characteristics of patients in the British Special Hospitals; the Criminal Justice System population and the General Psychiatric Services population. The results are presented in five chapters:

i) Studies based in the General Population (Chapter 3)
ii) Studies of the Secure Psychiatric Services Population (Chapter 4)
iii) Studies of the General Psychiatric Services Population (Chapter 5)
iv) Studies of homicide (Chapter 6)
v) Studies of the Criminal Justice System Population (Chapter 7)

An overview of the results from review of studies of these populations, and recommendations for future research, are given in the Executive Summary at the beginning of the Report.

CHAPTER 3 - STUDIES BASED IN THE GENERAL POPULATION

3.1 Introduction

Studies in the general population, that is not restricted to institutions (such as prisons or special hospitals) or specific sub-groups (such as those released from special hospitals), are reviewed here. Since these studies tend to generate several related articles, with myriad results, the summary tables provided (Tables 3.1 and 3.2) list the studies (rather than specific articles) and the key results are given only in the text.

Two distinct types of study were identified: cross-sectional sample surveys and cohort studies (see Tables 3.1 and 3.2). There are some case-control studies carried out in the general population, but outside the scope of this section of the results because the 'cases' are identified in institutions. However one such case-control study is mentioned in this chapter because a general population survey is nested within it.

3.2 Cross-sectional studies

Four cross-sectional samples of the general population have been identified, two in the USA and one in the UK (see Table 3.1). Two of these surveys do not report any information about crime (Kessler *et al.* 1994 and Meltzer *et al.* 1995) and so are not considered further, although they do provide a firm basis for estimating the scale of mental illness from which the prevalence of mentally disordered offending could be forecast.

Link *et al.* (1992) describe a case-control study based in Washington Heights, New York City. They compared self-reported violent or illegal behaviour of six specific types over the past year for 232 psychiatric patients and 521 controls. Patients were sampled in hospital, controls in the general community.

In principle this study is outside the remit of this chapter, since one of the study groups is entirely within an institution. However the authors split the community sample in various ways, and a sub-set of the data effectively forms a survey in the general population. This nested study compares 386 individuals who have never sought help from a mental health professional to 111 former mental patients (those who reported having had previous psychiatric treatment, but not in the past year). Diagnoses were verified using the Psychiatric Epidemiology Research Interview (PERI). Results from the comparison of these two group are given in Table 3.3 (with some original computations). Former patients are much more likely to have been arrested for violent offences within the past year, to have used a weapon and to have hurt someone badly. This suggests that known mentally disordered offenders living in the community, but not currently receiving treatment are more likely to commit violent crime than are other people.

Table 3.1: Cross-sectional surveys in the general population

Title	Leading author	Place	Date	n	Crime source	Mental disorder source	Mental disorder diagnosis
OPCS Survey of Psychiatric Morbidity	Meltzer	UK	1993 - 4	10108	None	Self-report +psychiatric interview[+]	ICD-10
National Comorbidity Survey	Kessler	USA	1990 - 2	8098	None	Self-report	DSM-III-R
(Survey nested within a case-control study)	Link	New York	1979-82	497	Records/Self-Report	Self-report	PERI[++]
Epidemiologic Catchment Area	Swanson	USA	1980 - 4	18571*	Self-report	Self-report	DSM-III

* maximum (most articles use a sub-set) + supplemental, conditional on self-report

++ Psychiatric Epidemiology Research Interview

Table 3.2: Cohort surveys in the general population

Type	Leading author(s)	Place	Length (years)	Start date	n	Crime Source	Mental disorder source	Mental disorder diagnosis
Young age	Farrington	Cambridge (UK)	24	1961 - 2	411	Records	Interviews	Local
Birth	Silva/Moffitt	Dunedin	21	1972 - 3	1037	Self (violence)+ Records	Self	DSM-III-R
Birth	Tiihonen	Finland	26	1966	10853	Records	Records	DSM-III-R
Birth	Ortmann	Denmark	23 - 25	1953	11540	Records	Records	Local
Birth	Hodgins	Stockholm	30	1953	12717	Records	Records	Local
Retrospective	Hodgins	Denmark	43	1944 - 7	324401	Records	Records	ICD-8
Discharged schizophrenics	Lindqvist	Stockholm	14	1971	790	Records	Records	ICD-8

Table 3.3: Odds ratios comparing former mental patients to people never treated for psychiatric health, after adjusting for socio-demographic and other confounding variables.

Outcome in the last year	Odds ratio (95% conf. int.)	p value
Hitting others	1.11 (0.44, 2.80)	> 0.05
Fighting	1.37 (0.60, 3.15)	> 0.05
Self-reported arrests	2.03 (1.05, 3.94)	< 0.05
Ever hurt someone badly	3.68 (1.28, 10.57)	< 0.05
Weapon use	4.24 (1.17, 15.40)	< 0.05
Official arrests for violent offences	7.26 (1.71, 30.83)	< 0.01

The remaining survey is the Epidemiologic Catchment Area (ECA) study. This was carried out in five sites in the USA, involving two waves of personal interviews, one year apart, conducted between 1980 and 1984 (Bourdon *et al*. 1992). In total, 18571 adults were surveyed. Several publications report data for specific sub-sets, often restricted to certain sites where these were the only sites to provide particular data. The major findings about mental disorder (MD) were (Regier *et al*. 1988, 1990):

- the lifetime prevalence of MD was estimated to be 33%;
- the prevalence of recent incidents of MD decreased with increasing age;
- women (17%) had slightly higher rates of MD in the last month than men (14%).

Two types of information from the ECA allow MD to be linked with criminality. First, the Diagnostic Interview Schedule used in the ECA allows violent behaviour to be identified (Swanson *et al*. 1990). This could be considered a surrogate measure of criminal activity, at least for the purpose of identifying associated factors (official records of criminality will clearly differ). Risk factors for violent behaviour in the preceding year were: young age, male sex, low socio-economic status and a psychiatric disorder (substance abuse being the most prevalent disorder amongst violent people). The chance of violent behaviour was approximately twice as great for 18 - 29 year olds compared to 30 - 44 year olds, and was least for people older than 45 years. Men had about twice the chance of violent behaviour as women. Rates of violence in the lowest (most deprived) of four socio-economic groups were about three times as high as those in the highest group. More than half (55%) of the 368 people who reported violent behaviour in the past year had a psychiatric disorder, compared with 20% of non-violent people. A specific analysis of spousal violence (Sorenson and Telles 1991) found those with MD to be more likely to sexually assault and be sexually assaulted by an intimate.

The ECA also included a direct measure of criminality: in three sites all people were asked (at both interviews) how many arrests and convictions they had undergone (Robins 1993). Controlling for age and sex, antisocial symptoms (other than crime), substance abuse, mania/psychosis, panic/agoraphobia and depression are all significantly associated with crime. The rank order of degree of association is as just listed; antisocial symptoms and substance abuse have much greater degrees of association than do the three specific MDs. When these three MDs were adjusted for

either antisocial behaviour or substance abuse, only mania/psychosis remained a significant predictor of crime. Even this disorder is not significant when both antisocial behaviour and substance abuse are controlled for. Conduct disorder was significantly related with crime, even when the five variables already considered were controlled for, but had a weaker relationship than did antisocial behaviour or substance abuse. Conduct disorder was found to act on crime through its effects on juvenile delinquency, as well as substance abuse and adult antisocial behaviour. Four specific dimensions of conduct problems were significantly related to crime: truancy, running away, vandalism and fighting (in this rank order).

A potential weakness in the ECA, in the epidemiological context, is the lack of any independent verification of criminality. Self-reports are likely to under-report detected criminal offences, although they will tend to give rather larger numbers since some undetected crime may be included. However, this may not affect the findings in relation to risk factors for criminality. Bias in these findings will come about if, for example, those with MD are more likely to under-report. A further problem is the lack of identification of a time sequence (a typical problem in cross-sectional studies). Thus it is not always clear which came first, mental illness or criminality. This makes it difficult to study the causal hypothesis: MD leads to criminality. The issue of time sequence does not arise if one accepts that persons who develop a major mental disorder are different from the point of conception onwards. This stance is taken by several researchers in this field. However, this approach is problematic if a criminal conviction, and consequent incarcaration, is the cause of future mental instability. The aetiology of such a process may well be different to that of true MDO.

3.3 Cohort studies

Table 3.2 lists the seven cohort studies that have been identified as providing data on MDO. These split into four sub-types: birth cohorts, retrospective birth cohorts, follow-up of youngsters and follow-up of discharged patients.

The Cambridge Study in Delinquent Development (Farrington 1995) differs from all the other studies listed in Tables 3.1 and 3.2 in several ways. The most crucial difference is that it is the only study to be solely of criminal offending; all other studies listed in the tables are psychiatric studies. Several other cohort studies of criminal behaviour are reviewed in Farrington (1993). These are omitted from this discussion because they are outside the time period searched in the systematic review or do not contain psychiatric information. Farrington (1993) concludes that offending is more likely amongst those who are young, who have had poor parental management, who have been set poor examples by parents or siblings, who have low intelligence or poor education (possibly through a poor ability to forsee the consequences of their actions), who have been separated from their parents, who are of low socio-economic status, who are from non-white groups or who are from large families. Several of these factors are likely to be mutually associated. Farrington (1993) considers that personality is a major factor in determining the propensity to commit offences. Those with extraversion and neuroticism probably have a weak conscience, explaining their high rate of offending. ‘Antisocial personality disorder’ and ‘hyperactivity-impulsivity-attention deficit’ are two identified syndromes that are associated with future criminal activity.

The Cambridge Study (Farrington 1995) is fairly small and consequently unlikely to yield results of statistical significance. It only follows up young men (from age 8 - 9 years) of a very specific socio-economic type (relatively deprived). Further, there is, at present, no information on lifetime psychiatric problems for the cohort. The only information on MD comes from occasional interviews, which do not provide clinical information. Hospital records have not been searched systematically, although this is being considered as a possible future course of action. Consequently, this study does not provide definitive results for the current purpose and is included here mainly for its future potential. (See also Farrington 1996.)

Four birth cohort studies have recorded data on both psychiatric illness and criminality during the follow-up period. One of these is the Dunedin Multidisciplinary Health and Development Study, which recruited 91% of all eligible children born between 1 April, 1972 and 31 March, 1973 in Dunedin, New Zealand (Newman *et al*. 1996). Perinatal data were obtained at delivery; subjects were subjected to a range of psychological, medical and sociological measures at regular intervals (nine occasions) up to age 21 years. Computerised records of subjects' court convictions were obtained from all courts in Australia and New Zealand.

The relative risk of a criminal conviction was about 2.7 for surviving subjects with MD compared to those without, at age 21 years (22% *vs* 8%; $p < 0.001$). Persons with antisocial personality disorder and marijuana dependence were most likely to have convictions, and those with anxiety disorders were the least likely, of those with MD (Newman *et al*. 1996). As yet, there has been no detailed analysis of the relationship between the crime data and the mental health data.

Much more detail has been published on partner violence. This was measured, as occurring over the previous 12 months, at age 21 years, through use of the Conflict Tactics Scales (Danielson *et al*. 1998). Of the women victimized by partner violence, 55% had a DSM-III-R disorder in the past 12 months, compared to 38% amongst non-victims. Of the male perpetrators of partner violence, 59% had MD in the past 12 months, compared to 34% amongst non-perpetrators. However, the study did not establish the time sequence of the violent and MD episodes. Severe physical violence to a partner was associated (especially for men) with unemployment, low educational attainment, few social support structures, polydrug use, antisocial personality disorder symptoms, depression symptoms and violence towards strangers (Magdol *et al*. 1997).

A limitation of the Dunedin study is the use of self-reported diagnosis of MD, lacking professional verification. Further, not all DSM disorders are recorded (Newman *et al*. 1996); for instance somatoform disorders, schizophrenia, sexual disorders and drug use/dependence (except for alcohol and marijuana).

The other birth cohort studies identified are all Scandinavian studies (indeed all further cohort studies described here are Scandinavian). These studies provide an ideal setting to quantify MDO, being large, virtually complete cohorts with objective, routinely recorded information maintained over an extensive period, which includes most of the age range where offending is most prevalent.

The first of these Scandinavian studies listed in Table 3.2 is a study of 96% of all births in the two most northerly provinces of Finland in 1966 (Tiihonen *et al.* 1997a). Initially (at baseline) characteristics of the birth and the parents were recorded. Subsequently, questionnaires on social status were administered at age 14 years. Data on the children's health and development were continuously recorded from various morbidity and mortality registers up to age 26 years. DSM-III-R diagnoses were determined by two senior researchers using hospital case notes. Validation of these diagnoses is reported: the reliability is high according to standard criteria (kappa ≥ 0.64). Data from the Ministry of Justice was obtained to determine criminal convictions. These were available for ages 15 years onwards.

The major published results of this study are given in Table 3.4. This has been adapted from Tiihonen *et al.* (1997a) with some additional computations (where possible). This table only covers males and shows all offences combined into one classification. The results for females and specific types of offending given in Tiihonen *et al.* (1997a) are based on very small numbers and are consequently inconclusive. Overall 116/5636 or 2.1% of men have committed a criminal offence and been diagnosed for some kind of MD by the age of 26 years. Table 3.4 shows that those with any type of major MD were more likely to offend: the relative risk of offending was 4.7 comparing those with any MD to those with none. Notice that the quoted confidence intervals reproduced in Table 3.4 are generally very wide due to small numbers.

Table 3.4: Numbers (%) with mental disorder and numbers (%) who have a criminal offence within each mental disorder group for men

	Total no. (%)[1]	Offenders no. (%)	Odds ratio[2] (95% conf. int.)
Schizophrenia	51 (1%)	10 (20%)	3.0 (1.4, 6.3)
Schizophrenia and schizoaffective disorders	7	2 (30%)	4.1 (0.8, 21.9)
Mood disorders with psychotic features	6	2 (33%)	6.8 (1.2, 38.7)
Organic mental syndromes and disorders	13	10 (77%)	30.3 (7.8, 117.0)
Paranoid and other psychoses	9	3 (33%)	5.5 (1.3, 23.8)
Other mental disorders	265 (5%)	89 (34%)	N/A
Total mental disorders	351 (6%)	116 (33%)	N/A
No mental disorders	5285 (94%)	387 (7%)	N/A
Total	5636 (100%)	503 (9%)	N/A

[1] percentages below 0.5% are omitted
[2] adjusted for social class
Source of data: Tiihonen *et al.* (1997a)

The analysis of Table 3.4 ignores the time sequence of events. A causal hypothesis of MD leading to offence is strengthened by knowledge of which event came first (although identification of MD clearly does not coincide with initial symptoms or manifestations). Although no further information is given, Tiihonen *et al.* (1997a) state that 72 (62%) of the 116 male offenders committed their first crime before their first positive psychiatric assessment.

Other useful data given in Tiihonen *et al.* (1997a) allow computation of relative risks for criminality by social status within MD groups. For the lowest compared to the highest of five socio-economic groups, the relative risks of offending were 2.4 for those with MD and 2.8 for those without. This suggests an effect of low social class on criminality, but no effect modification (interaction) with MD status. Single parent family circumstances were found to be associated with criminality (odds ratio = 2.2, compared to double parent families), although MD was not allowed for in this particular comparison.

The second Scandinavian birth cohort study is that of Ortmann (1981), described in Hodgins (1993). Ortmann's cohort comprised all men born in Copenhagen in 1953 who were still alive and living in Denmark in 1975. Data on convictions came from the central police register, collated up to age 23 years. Data on psychiatric hospital admissions came from the central hospital register, collated up to age 25 years. The major results quoted by Hodgins (1993) were that the percentages with a criminal conviction were:

- 35% for men with no MD
- 43% for men admitted with a major MD
- 83% for men admitted with abuse and/or dependence
- 51% for men with other diagnoses

Significantly more men with a psychiatric admission had been convicted for every category of offence, compared to those without any such admission (Hodgins 1993).

The third Scandinavian birth cohort study is the Swedish Metropolitan Project, a follow-up of 15117 persons born in Stockholm in 1953. Publications cited relate to those who were still alive and living in Sweden in 1983. After excluding deaths, migrants and 203 subjects placed in institutions or special classes for the intellectually handicapped, 12717 subjects remained.

Information was recorded at birth and then subsequently at regular intervals during childhood and adolescence. Information was collected from various official sources: the person register, Census Bureau, the health register, the criminal register, elementary and high schools and hospitals. Data on the crimes committed by cohort members came from the Swedish National Police Register and data on admissions to psychiatric wards came from the Stockholm County Register. Although local diagnoses were used, Kratzer and Hodgins (1997) report that the schizophrenia diagnoses are similar to DSM-III.

Table 3.5 cross-tabulates four aspects of the cohort: sex group, conduct problems, mental disorder and criminality. Conduct problems were recorded either at school or in the community (referrals to the Child Welfare Committee). Although these two sources had a poor degree of overlap, they are combined in Table 3.5 for brevity. Altogether 7.2% of boys and 2.1% of girls had conduct problems. Table 3.5 shows relative risks for criminality by mental disorder status by sex group, both overall and by conduct problem status. Further calculations from Table 3.5 show that, for men: 11% of those with conduct problems, compared to 2% with no conduct problems, became mentally disordered offenders (relative risk with 95% confidence interval: 4.89 (3.58, 6.67)). For women the corresponding figures are: 13%, 2% and 6.45 (3.62, 11.51). Crocker and Hodgins (1997) use a stepwise multiple regression analysis to find which childhood problems are predictors of the future number of convictions for crimes. Conduct problems from age 13 to 18 and school performance in grades 6 and 9 were found to be important predictors for both sexes ($p \leq 0.03$). Individual problems other than conduct problems were also important for men ($p < 0.0001$).

Table 3.6 shows the types of crimes committed by those with a major MD and those with no disorder, for both men and women. Theft is the most common crime in all four sub-groups. For each type of crime (except narcotic crimes amongst women), more of those with a major MD commit crimes than do those with no MD. The highest relative risks for both sexes are for violent crimes. Hodgins (1992) also states that the number of crimes committed by those with a major MD are higher than by those with no MD, within the group of those who have criminal records. For men, the difference is great: those offenders with a major MD have an average of 13.2 convictions compared to 7.3 for those offenders with no MD. For women, the difference is small; the corresponding averages are 3.8 and 3.3.

The major findings from the Swedish Metropolitan Project may be summarised as:

- The prevalence of MDO is 2.8% for men and 1.4% for women.
- Men are more likely to have conduct problems and to commit crime than women, but slightly less likely to have a MD (4.0% *vs* 4.2%).
- Crime is much more likely than MD (ten times so, in men).
- MD is positively associated with crime (of all types); more so in women.
- Major MD is most strongly associated with violent crime.
- Offenders with major MD tend to commit more offences than do offenders with no MD.
- Conduct problems are positively associated with MDO.

Table 3.5: Mental disorder and criminality up to the age of 30 years by sex group and conduct problem status. Relative risks for mental disorder compared to no mental disorder are shown with 95% confidence intervals.

	Conduct problem		No conduct problem		Total	
	Crime	No crime	Crime	No crime	Crime	No crime
MEN (n = 6449)						
Mental disorder	50 (11%)	2 (0%)	132 (2%)	77 (1%)	182 (3%)	79 (1%)
No mental disorder	299 (64%)	113 (24%)	1640 (27%)	4136 (69%)	1939 (30%)	4249 (66%)
Relative risk (MD: no MD)	1.32 (1.22, 1.44)		2.22 (1.99, 2.49)		2.23 (2.04, 2.43)	
WOMEN (n = 6268)						
Mental disorder	11 (8%)	7 (5%)	74 (1%)	169 (3%)	85 (1%)	176 (3%)
No mental disorder	23 (17%)	94 (70%)	316 (5%)	5574 (89%)	339 (5%)	5668 (90%)
Relative risk (MD: no MD)	3.11 (1.85, 5.23)		5.68 (4.56, 7.06)		5.77 (4.71, 7.07)	

Note: 0% means less than 0.5%

Source of data: Kratzer and Hodgins (1997)

Table 3.6: Percentage committing each type of offence for convicted criminals, showing those with major mental disorders and those without mental disorders or handicaps. Relative risks compare major mental disorders to no disorders.

Type of offence	Men			Women		
	Major MD	No MD	Relative risk	Major MD	No MD	Relative risk
Theft	34%	25%	1.4	13%	3%	4.0
Traffic	22%	14%	1.6	1%	1%	1.4
Fraud	15%	14%	1.0	4%	1%	3.8
Violent*	15%	6%	2.3	6%	1%	12.6
Vandalism	12%	11%	1.1	1%	0%	6.5
Narcotics	8%	2%	5.3	0%	1%	-
Other	26%	13%	2.0	1%	1%	2.6

Note: 0% means less than 0.5%; percentages are given to the nearest whole number but relative risk is calculated from exact figures.
* includes assault, rape, robbery, unlawful threat and molestation
Source of data: Hodgins (1992)

The next study listed in Table 3.2 is a retrospective cohort study of the 324401 people born in Denmark between 1 January, 1944 and 31 December, 1947 who were still alive and living in Denmark at age 43 years old (Hodgins *et al.* 1996). This is after excluding 11761 people for whom complete data could not be found. The subjects were identified from the Danish person-register. The psychiatric register, covering all psychiatric wards in Denmark, was the source of the data on MD. The national police register was screened to identify all arrests and convictions for cohort members (data on convictions, rather than arrests, has been published).

Table 3.7 shows some summary statistics according to a set of mutually-exclusive MD groups. In this table, 'major disorders' includes schizophrenia, manic-depressive psychosis and psychogenic psychosis. Going down the table, each new group excludes all previous groups. For example, 'organic disorders' are subjects with at least one hospital discharge with a diagnosis of pre-senile or senile psychosis or psychosis due to vascular disease, syphilis or epilepsy, who do not also have a major mental disorder or mental retardation. Table 3.7 is split into two calendar periods due to the different ways of recording police data before and after 1978. Within each period, relative risks are shown taking the group with no psychiatric hospital discharges as the base (relative risk = 1). Since every relative risk is above one (and no confidence interval includes numbers below one) each MD type is positively associated with crime. Up to 1977, those with mental retardation have the highest crime rates; amongst women they are more than ten times as likely to commit a crime than those with no MD. After 1977, those with drug use disorders have the highest rates, being more than eleven times more likely to commit a crime than those with no MD amongst women. As in these two cases, the relative risks for women are generally higher. Relative risks are almost always higher in the second period and for violent (as opposed to all) crime. This suggests that people with MD might be more likely to commit their crimes after age 30 years than do those with no MD. People with MD are even more likely to commit violent crimes.

An extended version of an equivalent table to Table 3.6 is given in Hodgins *et al.*(1996); this again shows that MD is associated with all types of crime.

The final cohort study is by Lindqvist and Allebeck (1990), who studied 790 patients with schizophrenia who were discharged in Stockholm in 1971. These were followed-up for 14 years, using information from the Central Police Register. Although they only followed a special cohort, they made comparisons with the general population, through the police records of crimes committed by all citizens in Sweden. Assault, unlawful threat and threat or violence against officials constituted 95% of all violent crimes committed by the cohort. The cohort committed around four times as many violent offences as the general population (age/sex standardised ratio of observed to expected number committing violent crimes = 3.9 (95% confidence interval 3.0, 5.1). Hence schizophrenics (at least, after release) are more prone to violent crime than are others.

Table 3.7: Relative risk (95% confidence interval) for a criminal conviction in 1959 - 1977 and 1978 - 90 by mental disorder group for subjects at age 43 years

		All crime		Violent crime	
Mental disorder group	Percentage	1959 - 77	1978 - 90	1959 - 77	1978 - 90
MEN (n = 165602)					
No mental disorder	93.9%	1	1	1	1
Major mental disorder	1.9%	2.3 (2.1, 2.5)	3.7 (3.5, 4.0)	2.4 (2.1, 2.8)	4.5 (3.9, 5.1)
Mental retardation	0.2%	5.6 (5.0, 6.3)	6.9 (6.0, 7.9)	5.9 (4.3, 8.1)	7.7 (5.6, 10.5)
Organic disorders	0.1%	3.3 (2.4, 4.6)	5.2 (3.9, 6.9)	2.6 (1.1, 6.0)	2.7 (1.0, 6.9)
Antisocial personality disorder	1.9%	4.2 (3.9, 4.4)	5.3 (5.0, 5.6)	5.4 (4.8, 6.0)	7.2 (6.5, 8.0)
Drug use disorders	0.1%	5.4 (4.7, 6.3)	7.5 (6.5, 8.7)	5.9 (4.1, 8.7)	8.7 (6.1, 12.4)
Alcohol use disorders	1.0%	3.5 (3.2, 3.8)	5.8 (5.5, 6.2)	4.2 (3.6, 4.9)	6.7 (5.8, 7.7)
Other mental disorders	0.9%	2.5 (2.2, 2.7)	2.7 (2.4, 3.1)	2.4 (1.9, 3.0)	3.2 (2.5, 4.0)
WOMEN (n = 158799)					
No mental disorder	92.8%	1	1	1	1
Major mental disorder	2.5%	3.4 (2.9, 3.9)	4.5 (4.1, 5.0)	5.9 (3.6, 9.6)	8.7 (6.0, 12.4)
Mental retardation	0.2%	10.4 (7.9, 13.8)	5.5 (4.1, 7.5)	8.0 (2.0, 32.2)	11.8 (4.4, 31.7)
Organic disorders	0.5%	3.2 (1.0, 9.6)	4.6 (2.3, 9.2)	-	-
Antisocial personality disorder	2.2%	5.4 (4.8, 6.2)	6.5 (5.9, 7.1)	7.9 (5.0, 12.4)	12.2 (8.8, 16.9)
Drug use disorders	0.2%	6.8 (4.6, 10.1)	11.3 (9.0, 14.1)	10.2 (2.5, 41.1)	15.1 (5.6, 40.4)
Alcohol use disorders	0.4%	5.1 (3.8, 7.0)	8.9 (7.5, 10.6)	6.7 (2.1, 21.1)	14.9 (7.7, 29.0)
Other mental disorders	1.7%	3.1 (2.6, 3.7)	3.7 (3.2, 4.2)	6.0 (3.4, 10.6)	3.4 (1.8, 6.4)

Note: there were no violent offences amongst women with organic disorders
Source: Hodgins *et al.* (1996)

3.4 Conclusions

There has been no systematic study of MDO in the general population. Studies of MD and offending are restricted to treating MD as a risk factor for offending. These will be called 'linkage studies'. Some surveys of MD in the general population have been carried out. Since these establish the prevalence of MD, they might be used, together with the linkage studies, to predict the prevalence of MDO. However, the use of hospital diagnoses of MD in the linkage studies and community MD in surveys causes problems. Since most MDs do not lead to hospitalisation, the former will record only the major disorders, whereas the latter will be more comprehensive.

Good quality data on MDO are available from the Scandinavian linkage studies. Their databases might be exploited to study the epidemiology of MDO. The current publications from these studies have not addressed this issue directly, and are relatively crude in epidemiological and statistical terms. For instance, confounding and interaction are barely considered and the cohorts are treated as fixed cohorts rather than using life table methodology. As well as drawing more precise conclusions, future analyses may uncover further risk factors by a systematic approach to data analysis. However, the databases are not yet available to the general researcher. The major findings are that, in Scandinavia, the prevalence of MDO up to age 26 - 30 years is between 2.1 - 2.8 per hundred for men and about half this amount for women. All types of MD seem to be associated with all types of crime, but particularly violent crime, and schizophrenics are more prone to act in this way. Conduct problems in childhood seem to be good predictors of future MDO. Deprivation, and many associated variables, may well be associated with MDO, although there is no direct evidence in the publications cited.

There is no British study to adequately describe the epidemiology of MDO in the general population. Although the Cambridge study (Farrington 1995) might supply some data on MDO in the future, the study is too restricted to be adequate for this purpose. While the Scandinavian studies might be utilised to predict risk factors for MDO in other populations, they most probably cannot be used to predict prevalence or incidence. This is due to the different practice of psychiatric services and criminal justice systems in different countries. Consequently attention needs to be given to using existing British epidemiological studies where data on mental disorder and offending is currently being collected or where arrangements for this could be made. Professor J Golding (Bristol University) has advised that this could be reviewed in relation to the 1946, 1958 and 1979 National Cohorts. She has also identified her own cohort study, the Avon Longitudinal Study of Pregnancy and Childhood (ALSPAC), which is a study of 14,000 children born in Avon in 1991/92, as having considerable potential in this respect.

Table 3.8: Studies omitted from consideration

Author Identifier	Study	Reason for Omission
Bardone *et al*. (1996)	Dunedin	Restricted definition of crime
Burnam *et al.* (1988)	Los Angeles	Restricted definition of crime
Chaffin (1996)	ECA	Restricted definition of crime
Dinwiddie & Bucholz (1993)	ECA	Child abuse only
Dohrenwend *et al.* (1980)	New York	No criminality
Eronen (1995)	Finland	Restricted definition of crime/scope
Farrington (1990)	Cambridge	Early report
Farrington (1991)	Methodological	No data
Farrington (1993)	Cambridge	Early report
Hodgins (1995)	Review	No new data
Hodgins (1998)	Letter	No new data
Hodgins (in press)	Review	No new data
Jenkins & Meltzer (1995)	OPCS Survey	Overview of methods
Kessler *et al.* (1997)	NCS	No criminality
Meltzer *et al.* (1996)	OPCS Survey	Institutions only
Stattin *et al.* (1989)	Sweden	No mental illness
Swanson & Cox (1993)	ECA	Violent behaviour only
Swanson *et al.* (1996)	ECA	Violent behaviour only
Swanson *et al.* (1997)	ECA/Triangle Study	Violent behaviour only
Tiihonen *et al.* (1997b)	Finland	No mental illness

CHAPTER 4 - THE SECURE PSYCHIATRIC FACILITIES POPULATION

4.1 Introduction

103 items were identified as referring to this population. 60 related to non-UK countries: 39 to North America, 14 to Europe, 3 to Australasia, 2 to Japan and 2 to Africa. These articles would make possible an international comparison of the characteristics of patients in secure psychiatric provision, but time and resources have only allowed a review of British literature in this report.

The remaining 43 articles referred to British services. Some are studies of the four British maximum security hospitals - Broadmoor, Ashworth and Rampton in England and the State Hospital at Carstairs in Scotland – which are reported here. Other items refer to medium or low security provision outside maximum security hospitals; these provide data for a possible analysis of the characteristics of patients in these other forms of provision, which again has proved beyond the resources for inclusion here. This chapter thus provides a review of recent academic literature on the characteristics of patients in the British special hospitals.

4.2 The search process and outcome

For the purpose of this review, items were chosen which relate to the characteristics of patients in the British special hospitals and have been published in academic sources since 1990. 18 items from the initial search came into this category. On inspection of the reference citations in these articles it became clear that coverage of some key British journals in the database search had been poor. This was the case with three journals in particular: the *Journal of Forensic Psychiatry, Criminal Behaviour and Mental Health*, and the *Journal of Psychiatric and Mental Health Nursing.* A hand search of these journals was therefore embarked upon.

These additional searches, and following up reference citations in the articles already obtained, produced a further 19 items. This situation is unlikely to arise to quite this extent in other areas of this study. In this case the key journals where many recent studies have been published are relatively recently inaugurated British journals not well covered by databases.

One additional article published in 1989 was included since it covers a topic (violence by in-patients within the special hospitals) on which there is little later information. This gave a total of 38 items identified as relevant to this review on the characteristics of patients in the British special hospitals.

For each item identified a data extraction sheet was completed. A summary table of the 38 articles is given below (Table 4.1), followed by an analysis of data from the articles under appropriate headings. It should be noted that this review is only of academic sources and does not include data from government reports such as the Reed Report, or official data such as those in the Home Office and Department of Health statistical publications. The data reported here can be compared with those from such sources.

Table 4.1: Summary of the 38 Articles

Article	Aim	Sample	Comment on quality	Comment on usefulness
Bailey, J. and MacCulloch, M. (1992a)	To study the characteristics of a 15-year cohort of discharges from a special hospital.	112 male patients discharged from Park Lane Hospital between 1974 and 1989.	15-year cohort sample from one hospital. Follow-up period varies. Data only up to 1989.	Gives demographic, diagnosis and offence data, and reconviction rates by seriousness.
Bailey, J. and MacCulloch, M. (1992b)	To study the reconvictions of a 15-year cohort of discharges from a special hospital.	106 male patients discharged from Park Lane Hospital between 1974 and 1989.	Cohort is an almost complete time sample, but follow-up period varies between six months and 14 years. One special hospital only. Latest data relate to 1989.	Comparative data relating reconviction to type of discharge and to diagnosis.
Bartlett, A., Cohen, A., Backhouse, A., Highet, N. and Eastman, N. (1996)	To examine the security needs of special hospital patients from the South-West Thames Region.	All patients in the English special hospitals (excluding those with mental impairment - about 7%) in two successive years. n=92 in 1992; n=87 in 1993.	Almost complete cohort from one NHS region. Based on questionnaires to consultant psychiatrists. Data are judgement-based. Data relate to 1992/1993.	Gives data on readiness for less secure provision. Illustrates regional variation.
Blackburn, R., Crellin, M., Morgan, E. and Tulloch, R. (1990)	To assess the frequency of specific personality disorders in a male special hospital sample.	Residents on 7 wards at Park Lane Hospital over a 2-year period (n=167). 121 (73%) agreed to participate.	73% agreement rate to participate. Selected, not complete, sample. Established measure (Millon Clinical Multi-axial Inventory) used to assess specific personality disorders. Data relate to 1988.	Age and diagnosis data given. Frequency given of specific personality disorders, with comparison of overall rates between those categorised as mentally ill and those categorised as personality disordered.
Brown, A. (1995)	To study neuropsychological impairment in patients in special hospitals.	All male re-admissions to one special hospital after discharge in a four year period (n=25), compared with a cohort of male first admissions (n=80).	Data from case records plus test of neuropsychological impairment. Relatively small sample. Study is unpublished Ph.D. thesis only. Data relate to 1991-1994.	Compares rates of neuropsychological impairment in re-admitted and first-admitted patients. Relates impairment to history of violence.
Brown, S., Shubsachs, A. and Larkin, E. (1992)	To study the outcomes of referrals for transfer from a special hospital to local mental health services.	Base sample: 376 patients in the mental illness division of Rampton Hospital. Referrals for transfer over a two-year period = 167.	Complete sample, but only of patients with a diagnosis of mental illness in one special hospital. Data relate to 1988-1990.	Describes referral outcome and reasons given for refusal of transfer. Compares refused and accepted patients on demographic data, diagnoses and offences.
Burrow, S. (1992)	To study the extent of self-harming in a special hospital, and the characteristics of patients who self-harm.	Base sample: total population of one special hospital (n=303). All self-harming incidents over a six-month period were studied (475 incidents involving 67 patients).	One hospital only, but complete six-month sample of self-harming behaviour. Data from nursing records. Data relate to 1987.	Gender and diagnosis data given for self-harming patients. Nature of the self-harming behaviour and extent of injuries are described.

Table 4.1 cont'd

Article	Aim	Sample	Comment on quality	Comment on usefulness
Burrow, S. (1993)	To describe nurses' perceptions of the security needs of special hospital patients, and to compare patients deemed to need high and low security.	76 patients rated as needing continuing maximum security, compared with 30 patients rated as low risk (ready for transfer). Samples taken from all 3 English special hospitals.	Sample only, but from all 3 English special hospitals. Classification is judgement-based. Data relate to 1991.	Compares ratings of security need by nurses and consultant psychiatrists. Identifies criteria used by nurses. Identifies gender differences in security need.
Coldwell, J. and Naismith, L. (1989)	To study patient violence on high dependency wards in a special hospital.	51 patients on 2 high dependency wards at Park Lane Hospital.	Unrepresentative sample, but compares sample with general special hospital population. Data relate to 1986.	Gives frequency of violent incidents, with demographic and diagnosis data on sample.
Cope, R. and Ward, M. (1993)	To study outcomes for special hospital patients discharged to Regional Secure Units.	All patients transferred to RSUs in the West Midlands Region who had subsequently left the RSU, over a ten-year period (n=51).	Total defined sample, but in one region only; therefore relatively small sample size. Follow-up period varied between six months and 10 years. Data from case notes. Data relate to 1991.	Gives data on patients discharged from special hospital to RSUs. Gives reasons for return to special hospital. Gives re-conviction rate for those discharged to the community.
Dolan, M., Coorey, P. and Kulupana, S. (1993)	To study patterns of recall to special hospital of discharged or transferred patients.	Patients discharged or transferred from Park Lane Hospital over an 11-year period, and from Moss Side Hospital over a 5-year period (total n=233).	Time-based sample, from 2 special hospitals (now amalgamated). Varying period of follow-up. Data relate to 1991.	Gives recall rates by type of discharge or transfer.
Dolan, M. and Parry, J. (1996)	To describe the characteristics of male patients in a special hospital who had committed homicide.	All male patients in Ashworth Hospital on a particular date who had committed homicide (n=120).	One hospital only, but complete sample. Data from case records. Data relate to 1994.	Gives demographic data and data on diagnosis, previous history, offence record and circumstances of homicide.
Gordon, H., Oyebode, O. and Minne, C. (1997)	To study homicides by patients while in the British special hospitals.	All homicides by patients while detained in the 4 British special hospitals over a 30-year period (6 incidents, 7 deaths, 8 perpetrators)	Very small incidence of homicide. Covers 30-year period (1966-1995). Identifies and describes total incidence in this period.	Gives frequency of homicide in the special hospitals. Identifies factors associated with this homicide.
Grounds, A. (1991)	To study patients transferred from prison to a special hospital.	All patients admitted to Broadmoor Hospital from prison under Section 72 of the 1959 Mental Health Act over a 24-year period (n=380).	One hospital only, but complete 24-year cohort of admissions from prison. Data from hospital records. Data relate to admissions between 1960 and 1983.	Gives demographic, diagnosis, offence and prison sentence data. Relates diagnosis to sentence.

Table 4.1 cont'd

Article	Aim	Sample	Comment on quality	Comment on usefulness
Heads, T., Taylor, P. and Leese, M. (1997)	To study the childhood experiences of a sample of special hospital patients with schizophrenia and a history of violence.	Patients at Broadmoor Hospital in the category studied (schizophrenia and violent history), comprising all women (n=33), all Caribbean men (n=29) and a random sample of white men (n=40). Total n=102.	One hospital only. Representative but not complete sample. Information from case notes. Data relate to 1993.	Describes frequency of particular childhood experiences and behaviour, giving gender differences.
Howard, R. and Lumsden, J. (1997)	To study the effectiveness of a neuropsychological measure in predicting violent recidivism in discharged special hospital patients.	44 male patients in Broadmoor Hospital, tested in 1983 and followed up in 1994.	Relatively small sample. Follow-up time of 11 years, but re-offending opportunity (i.e. time after discharge) varies.	Compares high and low risk groups on a neuropsychological measure. Describes predictive validity of measure.
Huws, R., Longson, D., Reiss, D. and Larkin, E. (1997)	To study patients transferred from prison to special hospital.	351 patients admitted to the English special hospitals from prison under Section 47 of the 1983 Mental Health Act over an 8-year period.	Complete sample of admissions in this category over an 8-year period. Data from hospital records. Data relate to 1984-1991.	Comparison made between demographic, diagnosis and offence data for this group and those for the general special hospital population.
Huws, R. and Shubsachs, A. (1993)	To study the characteristics of absconders from special hospitals, and the frequency and nature of absconding events.	All English special hospital patients who absconded during the period 1976 to 1988 (n=66). Also gives background data on the total population of the English special hospitals in this period (n=4571).	Almost complete sample over 13 years (missing some data from Broadmoor Hospital). Data only up to 1988.	Describes the nature of absconding events and the characteristics of absconders compared with non-absconding patients. Gives demographic, diagnosis and offence data. Gives data on offences committed by absconders while absent. Gives comparative background data on all special hospital patients resident between 1976 and 1988 (n=4571).
Jones, C., MacCulloch, M., Bailey, J. and Shahtahmasebi, S. (1994)	To study characteristics and reconvictions of a 15-year cohort of patients with a diagnosis of personality disorder discharged from one special hospital.	62 patients with a diagnosis of personalty disorder discharged from Park Lane Hospital between 1974 and 1989.	Complete time cohort. One diagnosis only and one hospital only. Follow-up period varies between 5 months and 15 years.	Gives demographic, diagnosis and offence data, with reconviction rates by seriousness and by index offence.
Lumsden, J., Wong, M., Fenton, G. and Fenwick, P. (1996)	To study the pre-admission violence of the female population of a special hospital.	The complete female population of Broadmoor Hospital on a particular date (n=96).	One hospital only, but complete female sample. Established rating scale of violence used. Information from case notes. Data relate to 1992.	Level of pre-admission violence given. Comparison made with equivalent data for men, from Wong *et al.* (1993).

Table 4.1 cont'd

Article	Aim	Sample	Comment on quality	Comment on usefulness
Maden, A., Curle, C., Meux, C., Burrow, S. and Gunn, J. (1993)	To describe the treatment and security needs of special hospital patients.	A 20% random sample of all patients resident in the English special hospitals for more than one year on a particular date (n=296).	Random sample of complete English special hospital population. Diagnosis from records and interviews. Ratings of security need by clinical teams and by research team. Data relate to unspecified date.	Gives demographic, diagnosis and offence data. Also data on violence within the special hospital. Data given on security needs, with criteria used.
McKeown, M. and Liebling, H. (1995)	To survey staff perceptions of the extent of illicit drug-taking amongst patients in a special hospital.	Results for 27 out of 28 wards and one off-ward department. 40% response rate by individual staff members.	Surveys one hospital only, but data available for almost all wards. Data are from staff estimates, not hard evidence. Data relate to unspecified date.	Estimates the extent of illicit drug use in the hospital, with variations between wards.
Murray, K., Rudge, S., Lack, S. and Dolan, R. (1994)	To identify the security needs of special hospital patients from the North-West Thames Region.	111 patients in the 3 English special hospitals.	Assessment of security need by consultant psychiatrists and by research panel. Some data are judgement-based. Comprehensive sample, though relatively small. Data relate to 1992.	Gives security needs of complete sample. Demographic, diagnosis and offence data given for total sample and for those for whom maximum security was deemed unnecessary.
Naismith, L. and Coldwell, J. (1990)	To study the characteristics of male admissions to a special hospital.	109 sequential admissions to Park Lane Hospital over a 2-year period.	One hospital only, but a complete 2-year cohort of admissions. Data from admission records. Data relate to 1987-1988.	Gives demographic, diagnosis, offence and previous history data. Relates diagnosis to age and to index offence.
O'Grady, J., Courtney, P. and Cunnane, J. (1992)	To describe the use of secure psychiatric services by patients from the city of Leeds.	21 patients from Leeds in the English special hospitals on a particular date.	Very small sample, but complete cohort from one city (population half a million). Data relate to 1988.	Data illustrate regional variation in prevalence. Demographic data given on sample.
Reed, J. (1997)	To identify the number of places required to meet the need for long-term medium and low security amongst current special hospital patients.	1250 patients in the English special hospitals.	Survey of judgements of consultant psychiatrists. Returns cover 84% of English special hospital population. Data are judgement-based and relate to 1994.	Identifies extent of need for long-term medium and low security, by gender and diagnosis.

Table 4.1 cont'd

Article	Aim	Sample	Comment on quality	Comment on usefulness
Shaw, J., McKenna, J., Snowden, P., Boyd, C., McMahon, D. and Kilshaw, J. (1994b)	To describe the characteristics of special hospital patients from the North-West Region, comparing those deemed to need and not to need maximum security.	112 of the 119 described by Shaw *et al.* (1994a).	Almost complete cohort of patients from one region. Classification is judgement-based (by research panel). Data from case notes, and relate to unspecified date.	Compares characteristics of those deemed to need and not to need maximum security.
Shubsachs, A., Huws, R., Close, A., Larkin, E. and Falvey, J. (1995)	To compare the characteristics of African-Caribbean men and Caucasian men admitted to a special hospital.	All male African-Caribbean admissions to Rampton Hospital over a 12-year period (n=62). A randomly selected sample of Caucasian admissions over the same period (n=62).	One hospital only, but a complete 12-year admission sample of African-Caribbean men. Data from case notes. Data relate to 1977-1986.	Comparisons given between the groups on diagnosis, offence and pre-admission history. This is the only study specifically of differences between ethnic groups.
Skelly, C. (1994)	To study the reasons for readmission to a special hospital after release to a Regional Secure Unit.	14 patients readmitted from Regional Secure Units to Ashworth Hospital.	Interviews with patients on their experiences. Data on reasons for readmission from case notes. Small sample, in only one hospital. Data relate to 1993.	Covers reasons for readmission. Elicits the views of patients themselves.
Smith, J., Donovan, M. and Gordon, H. (1991)	To review the current security needs of patients from the South Western Region in Broadmoor Hospital.	30 patients in Broadmoor Hospital (out of 97 from the region in all 3 English special hospitals).	Incomplete regional sample (one hospital only). Ratings of security need from case records and interviews with staff and patients. Data relate to 1990.	Rare inclusion of patients' own views. Gives demographic, diagnosis, offence and security need data for the sample.
Taylor, P. (1997)	Inaugural lecture as Professor of Special Hospital Psychiatry. Contains data on the English special hospitals.	Data given on patients in all 3 English special hospitals.	A review paper drawing on studies between 1986 and 1994.	Data given on age, diagnosis, offence, length of stay, admission trends, gender differences, and relationship between diagnosis and legal category.
Taylor, P., Leese, M., Williams, D., Butwell, M., Daly, R. and Larkin, E. (1998)	To examine the association between mental disorder and violence through a study of special hospital patients.	All patients resident in the English special hospitals during a six-month period (n=1740).	Complete special hospital sample. Data from hospital records. Studies symptoms as well as diagnoses. Data relate to 1993.	Demographic, diagnosis and offence data given. Relationship given between diagnosis and index offence. Symptoms described at time of offence.

Table 4.1 cont'd

Article	Aim	Sample	Comment on quality	Comment on usefulness
Taylor, P., Maden, A. and Jones, D. (1996)	To examine the size and nature of the need for long-term medium secure provision amongst special hospital patients.	Total English special hospital population (n=1700)	Study of complete special hospital population. Data on security need are judgement-based. Data relate to 1990 or earlier.	Data on offences leading to admission (from 1980-1981) by gender. Gives judgements on security need by consultant psychiatrists at one point in time (1990).
Thomson, L., Bogue, J., Humphreys, M., Owens, D. and Johnstone, E. (1997)	To describe the characteristics of patients in the State Hospital, Carstairs, Scotland.	All patients resident at the State Hospital, Carstairs, over a one-year period (n=241).	Data from case notes, interviews with patients and consultant psychiatrists, and cognitive testing. Complete cohort of patients at Carstairs. Data relate to 1992/1993.	The only study of patients in the State Hospital, Carstairs, Scotland. Gives demographic data and data on diagnosis, index offence and pre-admission characteristics.
Vielma, M., Vincente, B., Hayes, G., Larkin, E. and Jenner, F. (1993)	To describe the characteristics of male patients in a special hospital who had committed homicide.	All male patients at Rampton Hospital on a particular date who had committed homicide (n=83).	One hospital only, but complete sample of male patients at one point in time. Data from hospital records. Data relate to 1987.	Gives demographic, diagnosis and offences data for the sample, with factors associated with the homicide.
Wong, M., Lumsden, J., Fenton, G. and Fenwick, P. (1993)	To describe the pre-admission violence of the male population of a special hospital.	Complete male population of Broadmoor Hospital on a date in 1992 (n=372).	Index offence and previous record rated for level of violence using established measure. Information from case notes, which may underestimate previous violence. Complete male population, but one hospital only. Data relate to 1992.	Identifies categories of patients by previous history of violence.
Woods, P. and Mason, T. (1997)	To study admissions to one special hospital over a 20-year period, and to compare admissions from prison with those direct from court.	All admissions to Ashworth Hospital (formerly Moss Side and Park Lane Hospitals) over 20 years (n=1464). Subsamples: admissions from prison (n=330); admissions from court (n=459).	One hospital only, but complete data for 20-year period. Reason for admission taken from case notes. Data relate to unspecified date.	Gives place from which admitted for whole sample. Compares reasons for admission between those transferred from prison and those admitted direct from court.

It can be seen from the summary table that, because of the time delay between events and the carrying out of research and achieving publication of the results, many of the data reported here relate to the situation in the special hospitals in the late 1980s and early 1990s. Some cover cohorts of patients admitted as long ago as the 1960s. However, this is a comprehensive review of the academic literature published so far in the 1990s, to aid current understanding and planning of the high security health and care services involved.

In the following analysis of the characteristics of special hospital patients, the figures in square parentheses following percentages represent the estimated 95% confidence limits for the size of sample involved.

4.3 The characteristics of patients in the British special hospitals

4.3.1 Numbers of patients

In the early 1990s there were about 2000 patients resident in the four British special hospitals, around 300 in Carstairs which serves Scotland and Northern Ireland, and around 1700 in the three English Hospitals. This represents an overall rate of about 3.4 people per 100,000 population. Taylor *et al.* (1996) suggest that the population of the English special hospitals dropped in the mid-1990s to nearer 1500, the reduction being mainly due to the discharge of patients with mental impairment.

4.3.2 Gender

There is a much higher proportion of men in special hospitals than women. Taylor *et al.* (1998), from a survey of all 1740 patients in the three English special hospitals in 1993, give the proportion of men as 83%[81%,85%]. Huws and Shubsachs (1993) quote the figure for the 4571 patients resident in the English special hospitals between 1976 and 1988 as 80%[79%,81%] men.

There is evidence of considerable variation in the proportion from different regions of the country. O'Grady *et al.* (1992) report that of the 21 patients in the three English special hospitals from the city of Leeds the proportion of men is 62%[41%,83%], while Murray *et al.* (1994) report a corresponding figure for the 111 patients from the North-West Thames region as 91%[86%,96%] men.

Overall, there are at least four times as many men as women living in the English special hospitals. Thomson *et al.* (1997) give the figure for Carstairs State Hospital in Scotland as 88%[84%,92%] men.

4.3.3 Age

Taylor *et al.* (1998) give the mean age of all women in the English special hospitals in 1993 as 37, and of all men as 39; the range is 17 to 88. The mean age of all patients at Carstairs is given by Thomson *et al.* (1997) as 35, with the range 17 to 67. The mean age of admissions is likely to be in the early 30s, and of discharges in the early 40s.

4.3.4 Ethnicity

Taylor *et al.* (1998) report figures of 81%[79%,83%] white and 19%[17%,21%] non-white for men, and 90%[87%,93%] white and 10%[7%,13%] non-white for women, in the English special hospitals. As with gender, there is evidence of considerable variation amongst patients from different parts of the country. Murray *et al.* (1994) report 63%[54%,72%] white patients and 37%[28%,46%] non-white from the North-West Thames region. At the other extreme, Thomson *et al.* (1997) report that 99%[98%,100%] of the patients in Carstairs Hospital are white. Further study is needed to determine whether such variations simply reflect variations in the catchment population, or whether there are other selective factors involved.

4.3.5 Marital status

A high proportion of special hospital patients are single. O'Grady *et al.* (1992) give a figure of 76%[58%,94%] for their small but comprehensive sample. Thomson *et al.* (1997) give the figures for Carstairs as 83%[78%,88%] single and a further 12%[8%,16%] widowed, divorced or separated; only 5%[2%,8%] are married or in a sustained relationship. Bailey and MacCulloch (1992a) give the figure amongst 112 discharges from Park Lane Hospital (now part of Ashworth) as 64%[55%,73%] single and 27%[19%,35%] widowed, divorced or separated, leaving only 9%[4%,14%] married or in sustained relationship.

4.3.6 Socio-economic group

Only Thomson *et al.* (1997) give data on socio-economic group. Of those in Carstairs for whom a group could be ascertained (two thirds of the patients), 78%[73%,83%] were from groups V, IV and IIIM, 22%[17%,27%] from groups IIINM, II and I. The additional statistic is given that 77%[72%,82%] of the patients had not worked recently before their admission.

4.3.7 Legal category

Taylor (1997) gives figures for the three English special hospitals for 1986 and 1994 showing percentages of patients in the Mental Illness category as 59%[57%,61%] and 66%[64%,68%] respectively; in the Psychopathic Disorder category as 25%[23%,27%] on both occasions; and in the Mental Impairment or Severe Mental Impairment categories as 17%[15%,19%] and 8%[7%,9%]. Huws and Shubsachs (1993) give figures for all patients in the English special hospitals between 1976 and 1988 as 50%[49%,51%] Mental Illness, 27%[26%,28%] Psychopathic Disorder and 18%[17%,19%] Mental Impairment or Severe Mental Impairment (with 5%[4%,6%] classified as mixed). Possible variation amongst patients from different parts of the country is indicated by Murray *et al.* (1994) who give the figure of 77%[69%,85%] in the Mental Illness category for the North-West Thames region.

4.3.8 Length of stay and legal category

The average length of stay of patients in a special hospital is 8 years (Maden *et al.* 1993). However, there is a wide range, and the average stay varies with legal category. Table 4.2 shows the figures given by Taylor (1997) for 1994.

There is concern about the longer average stay for women than men (Taylor 1997). Until the recent increase in the discharge rate of patients with mental impairment (Taylor *et al.* 1996), patients in this category had typically experienced longer stays than other patients.

Table 4.2: Legal category by length of stay

legal category	average length of stay in years	
	men	women
mental illness	8	9
psychopathic disorder	7	8
mental impairment	9	10
severe mental impairment	14	21

Source: Taylor (1997)

4.3.9 Psychiatric diagnosis

Most of the studies reviewed here which cover psychiatric diagnosis take the data from patients' case records which give the diagnoses made by consultant psychiatrists on admission.

Taylor *et al.* (1998) report that 25%[23%,27%] of English special hospital patients have at least two psychiatric diagnoses, most often a psychosis and a personality disorder. Where a primary diagnosis is given in these cases, the mental illness diagnosis tends to gain preference over the personality disorder diagnosis. Different studies report either the rate of primary diagnoses or the cumulative frequency of primary and secondary diagnoses, thus making it difficult to compare the figures between studies.

Taylor (1997) reports figures for 1994 of primary (and therefore mutually exclusive) diagnoses for the English special hospital population of 56%[53%,59%] psychoses, 26%[24%,28%] personality disorder, 15%[13%,17%] mental impairment (and 3%[2%,4%] other). The only other study giving comparable figures for a comprehensive (though small) sample of patients in all three English special hospitals is that by Shaw *et al.* (1994a), giving proportions for the North West region of 57%[48%,66%] psychoses, 28%[20%,36%] personality disorder, 14%[8%,20%] mental impairment (and 1%[0%,3%] other).

Thomson *et al.* (1997) give figures for Carstairs of 74%[68%,80%] psychoses, 5%[2%,8%] personality disorder, 13%[9%,17%] mental impairment (plus 4%[2%,6%] other and 4%[2%,6%] unknown). Further study is required of this difference in the composition of patients at Carstairs compared with the English special hospitals. Carstairs includes some medium secure provision, and also operates under different legislation from the English special hospitals.

Taylor *et al.* (1998) report a study of all English special hospital patients in 1993, giving cumulative figures of primary or secondary diagnosis of schizophrenia in 47%[45%,49%] of patients, primary or secondary diagnosis of personality disorder in 41%[39%,43%] of patients, and primary or secondary diagnosis of mental impairment in 16%[14%,18%] of patients. Maden *et al.* (1993) give cumulative diagnosis figures for a 20% random sample of English special hospital patients as 55%[49%,61%] schizophrenia, 14%[10%,18%] other psychoses, 28%[23%,33%] personality disorder, and 24%[19%,29%] mental impairment. Such variations between studies may be due to sampling, or may reflect difficulties of precise diagnosis even within the modern guidelines of ICD-10 or DSM-IV.

A study by Blackburn *et al.* (1990), using the Millon Clinical Multi-axial Inventory to diagnose the presence of specific personality disorders, showed the presence of definite personality disorder on at least one scale in 65%[55%,75%] of the patients with a legal classification of Mental Illness, and in 73%[57%,89%] of those with a classification of Psychopathic Disorder. The difference between the groups was not significant. An implication would seem to be that, although there is a high correlation between legal category and primary diagnosis (Taylor 1997), legal category alone is not sufficient to determine individual patient needs because of a high rate of multiple or overlapping disorders.

4.3.10 Offences

Although other data on past offences are given in some studies, the most commonly reported data on offending relate to the 'index offence', i.e. the most serious offence that led to admission to the special hospital. Some patients are transferred to special hospital direct from other settings where they are considered too difficult to manage, without being charged with or convicted of an offence; where 'no offence' is indicated in the data, this refers to such patients and does not necessarily indicate either that the person has never been convicted of an offence, or that they have not committed acts which could have led to charge and conviction.

Figures for the proportion of patients in the English special hospitals with an index offence of violence against the person are given in the various studies listed in Table 4.3.

Table 4.3: Proportion of patients with an index offence

of violence against the person	Index offence of violence against the person (% of special hospital population)
Taylor *et al.* (1998)	63%[61%,65%]
Taylor (1997) (figures for 1994)	65%[62%,68%] for men 41%[35%,47%] for women
Shaw *et al.* (1994a)	49%[40%,58%]
Murray *et al.* (1994)	69%[60%,78%]
Maden *et al.* (1993)	69%[64%,74%]
Huws and Shubsachs (1993)	50%[49%,51%]
Naismith and Coldwell (1990)	73%[65%,81%]

figures in parentheses represent 95% confidence intervals

Violence against the person is thus the predominant index offence. The studies quoted give figures ranging from 19% to 28% for the proportion of index offences involving homicide. Other proportions given by these studies are approximately 10% sexual offences, 10% arson and property damage offences, and 15% no offences.

Taylor (1997) gives comparative figures between men and women in 1994 which show that the index offences of women are less likely to involve violence than those of men (41%[35%,47%] against 65%[62%,68%]; 13%[9%,17%] against 22%[20%,24%] involving homicide), and that women are more likely than men to have been convicted of arson or property damage (21%[16%,26%] against 8%[6%,10%]) or to have no index offence (38%[33%,43%] against 15%[13%,17%]).

Thomson *et al.* (1997) again indicate a rather different picture for patients in Carstairs: violence 26%[20%,32%] (homicide 16%[11%,21%]), sexual offences 6%[3%,9%], arson or property damage 3%[1%,5%], no index offence 52%[46%,58%]. This latter figure may reflect more diversion of offenders to special hospital before trial in Scotland and Northern Ireland than is the case in England and Wales, or a different pattern of use of Carstairs from the English special hospitals.

4.3.11 Relation between diagnosis and offence

Only one study (Taylor *et al.* 1998) relates diagnosis to index offence for the complete English special hospital population, as shown in Table 4.4.

Table 4.4: Diagnosis related to index offence

Diagnosis:	% of total index offences in each category of offence				
	Homicide	Other violence	Sexual offence	Arson or property damage	
Mental impairment	14[10,18]	63[57,69]	10[6,14]	13[9,17]	→100
Psychosis only	34[30,38]	52[48,56]	7[5,9]	7[5,9]	→100
Personality disorder only	27[23,31]	40[35,45]	15[12,18]	18[14,22]	→100
Psychosis + personality disorder	31[25,37]	51[45,57]	10[6,14]	8[5,11]	→100

figures in parentheses represent 95% confidence intervals
Source: Taylor *et al.* (1998)

People with mental impairment are less likely than other groups to have an index offence of homicide. People with personality disorder are more likely to have an index offence of sexual or property offences than other groups. People with psychosis are slightly more likely to have index offences of acts of violence than people with personality disorder alone.

Naismith and Coldwell (1990) studied 109 consecutive admissions of men to Park Lane Hospital in 1987-1988. They relate the index offence of these men to three diagnoses - paranoid schizophrenia, non-paranoid schizophrenia, and personality disorder - as shown in Table 4.5.

Table 4.5: Diagnosis related to index offence

Diagnosis:	% of total index offences in each category of offence				
	Homicide	Other violence	Sexual offence	Arson or property damage	
Paranoid schizophrenia	38[25,51]	46[33,59]	7[0,14]	10[2,18]	→100
Non-paranoid schizophrenia	38[19,57]	35[17,53]	10[0,22]	18[3,33]	→100
Personality disorder	17[3,31]	58[40,76]	21[6,36]	4[0,11]	→100

figures in parentheses represent 95% confidence intervals
Source: Naismith and Coldwell (1990)

Bearing in mind the small sample (reflected in the 95% confidence intervals shown), the following conclusions may be drawn. Men with schizophrenia are more likely than those with personality disorder to have an index offence of homicide. Men with personality disorder are more likely than those with schizophrenia to have an index offence of sexual offence. Men with non-paranoid schizophrenia are slightly more likely than other groups to have an index offence of arson or property damage.

4.3.12 Male homicide cases

Vielma *et al.* (1993) studied all those with an index offence of homicide resident at Rampton Hospital in 1987 (n=83) and Dolan and Parry (1996) studied all those with an index offence of homicide resident at Ashworth in 1994 (n=120). There is remarkable agreement between these two studies on the characteristics of this group, as shown in Table 4.6.

Table 4.6: Characteristics of patients with an index offence of homicide

	Vielma *et al.*	Dolan and Parry
Age:		
- mean and range		41, range 19-75
Ethnicity:		
- white	80%[71%,89%]	78%[71%,85%]
- non-white	20%[11%,29%]	22%[15%,29%]
Economic class:		
- unskilled/semi-skilled	75%[66%,84%]	
Education:		
- tertiary level	6%[1%,11%]	5%[1%,9%]
- secondary level with exams	25%[16%,34%]	20%[13%,27%]
- less than secondary exam level	69%[59%,79%]	75%[67%,83%]
Primary diagnosis:		
- schizophrenia	61%[51%,71%]*	45%[36%,54%]*
- other psychoses	9%[3%,15%]*	26%[18%,34%]*
- other mental illness	1%[0%,3%]	2%[0%,5%]
- personality disorder	24%[15%,33%]	23%[15%,31%]
- mental impairment	5%[0%,10%]	3%[0%,6%]
Other:		
- previous conviction for serious violence	42%[31%,53%]	38%[29%,47%]
- had consumed alcohol at time of offence	36%[26%,46%]	34%[26%,42%]
- offence psychotically driven (delusions)	35%[25%,45%]	36%[27%,45%]

figures in parentheses represent 95% confidence intervals

*Combined totals for schizophrenia and other psychoses (70%[60%,80%] and 71%[63%,79%]) are very similar for both studies; the discrepancy in differential diagnosis between schizophrenia and other psychoses (asterisked) seems to be due to different allocations of some cases of paranoid schizophrenia to each group.

4.3.13 African-Caribbean patients

Shubsachs *et al.* (1995) point to important differences between the African-Caribbean population in special hospitals and the Caucasian population. In a study of 62 admissions of African-Caribbean men to Rampton Hospital between 1977 and 1986, compared with an equal number of randomly selected Caucasian men, they found the African-Caribbean men to be much more likely than the Caucasian men to have a legal classification of Mental Illness (87%[79%,95%] against 52%[40%,64%]) and correspondingly less likely to have a classification of Psychopathic Disorder (6%[0%,12%] against 36%[24%,48%]). Amongst those classified as Mentally Ill, a diagnosis of schizophrenia was much more common in the African-Caribbean group (61%[48%,74%] against 34%[18%,50%]). There was little difference in the pattern of index offences between those in each group classified as Mentally Ill.

In a study of transfers from prison to special hospitals, Huws *et al.* (1997) also found a much higher proportion of non-white patients diagnosed as having psychosis than white patients (significant at the 1% level), and correspondingly less with personality disorder.

4.3.14 Admissions from prison

Three studies give data specifically on patients transferred from prison to special hospitals.

Huws *et al.* (1997) studied all patients admitted to the three English special hospitals from prison between 1984 and 1991. These constituted 23%[21%,25%] of all admissions during this time. There were no differences between this group and the general special hospital population in gender, age, ethnicity or legal classification. Prison transfers were more likely than the general special hospital population to have committed a homicide.

Grounds (1991) studied all patients admitted to Broadmoor Hospital from prison between the years 1960 and 1983, constituting 15%[14%,16%] of all admissions. 93%[90%,96%] were men; mean age was 32; 71%[66%,76%] had a legal classification of Mental Illness and 29%[24%,34%] Psychopathic Disorder; 27%[23%,31%] had committed homicide, 29%[24%,34%] other violent offences, 9%[6%,12%] sexual offences, 4%[2%,6%] arson, and 31%[26%,36%] other offences. 28%[23%,33%] were serving life sentences, and there was a significantly higher proportion of Mental Illness category patients and a lower proportion of Psychopathic Disorder patients in this group than amongst those with determinate sentences.

Woods and Mason (1997) studied all admissions to Ashworth over the last 20 years, comparing the 23%[21%,25%] of admissions from prison with the 31%[29%,33%] of admissions from court. As might be expected, the primary reasons for admission from court related to the commission of offences of violence or property damage. Primary reasons for transfer from prison related to behaviour in prison, including in over a third of cases suicide threats, self-injury, hallucinations or delusions.

4.3.15 Record of violence

Wong *et al.* (1993) and Lumsden *et al.* (1996) studied the complete male and female populations respectively, resident at Broadmoor Hospital in October 1992. There were 372 men and 96 women. A scale first devised by Robertson *et al.* (1987) was used to rate the level of violence of the index offence and of previous record of violence. Levels of overall violence assessed are given in Table 4.7.

Wong *et al.* (1993) identify a group of 19%[15%,23%] of male patients who have a severely violent index offence but no previous record of violence. 72%[62%,82%] of these have a diagnosis of psychosis and their violent offence is likely to be related to delusions or hallucinations. Taylor *et al.* (1998) also give data to show that at least 75% of violent index offences by special hospital patients with psychosis are driven by delusions.

Apart from this group, Wong and colleagues found a correlation between the violence of the index offence and the previous history of violence, the index offence often representing an escalation of the previous violent history. 16%[12%,20%] of the men had a moderately or severely violent index offence and a history of at least three previous convictions for violence.

Table 4.7: Ratings of levels of violence

	men	women
low level	6%[4%,8%]	22%[14%,30%]
moderate level	64%[59%,69%]	64%[54%,74%]
high level	30%[25%,35%]	14%[7%,21%]

figures in parentheses represent 95% confidence intervals

Sources: Wong *et al.* (1993) and Lumsden *et al.* (1996)

4.3.16 Childhood experiences and behaviour

One recent study of antecedents of mentally disordered offending relates specifically to a special hospital population.

Heads *et al.* (1997) studied the childhood experiences and behaviour of 102 patients in Broadmoor in 1993 who had a diagnosis of schizophrenia and a history of violence. 32%[23%,41%] had lost a parent by death or loss of contact before age 17.

Amongst the men, over 40% had experienced conflict between their parents; over 30% had experienced mental illness in the family; and over 20% had family experiences of criminality, alcohol abuse, violence, neglect, rejection, poor relationships, poor parenting, and poverty. Amongst the women, over 50% had family experience of mental illness, conflict between the parents, and violence; over 40% had family experience of alcohol abuse and sexual abuse; over 30% had experienced poverty; and over 20% had experienced neglect. Significantly more women than men had experienced alcohol abuse in the family and had been sexually abused; significantly more men than women had experienced poor relationships with their parents.

Amongst the men, the childhood behaviour of over 30% had shown delinquency, truanting, school failure and social difficulties, and over 20% had shown aggression, early use of alcohol or drugs, referral to a psychologist or psychiatrist and serious physical illness. Amongst the women, over 50% had engaged in truanting and had social difficulties, over 40% had shown delinquency and aggression, over 30% had had school failure and a diagnosis of mental illness before age 17, and over 20% had shown early use of alcohol or drugs, nervousness, and referral to a psychologist or psychiatrist. Girls showed significantly more aggression, truanting and early-onset mental illness than boys.

4.3.17 Behaviour within the special hospital

Surprisingly, there seem to have been few recent studies of the extent and nature of violence by patients while resident in the special hospitals. Coldwell and Naismith (1989) describe the level of violence on two high dependency wards at Park Lane Hospital in 1986. Of 51 patients, 47 had schizophrenia. A higher proportion than amongst the general special hospital population had been admitted from other psychiatric hospitals, indicating a group of patients with a history of being difficult to manage.

During the 12-month period, incidents of violence were committed by 61%[48%,74%] of patients; violent patients were younger than those not violent (mean age 34 against 37). About half of these patients only committed one incident; at the other end of the spectrum, 12% of patients committed 62% of incidents. 24%[16%,32%] of incidents were classed as serious (causing bruising, lacerations, fractures, loss of consciousness, or damage to property).

The overall picture represents one incident per week on each ward, of which one incident per month on each ward was serious. Since this was a study of wards for particularly difficult patients, the overall level of violent incidents in special hospitals is likely to be less than this.

Maden *et al.* (1993) give figures for violent incidents within the hospital for their sample of patients from all three English special hospitals over a 12-month period. 36%[31%,41%] of patients committed acts of violence. There were 81 incidents of serious or life-threatening violence, which would be equivalent to an annual total of around 400 serious incidents for the whole English special hospital population, or about three per week per hospital.

Do any of the violent incidents result in death? Gordon *et al.* (1997) review homicides by in-patients in all four British special hospitals for the 30-year period 1966 to 1995. In this period there were 6 incidents (one every 5 years, or one every 20 years per hospital), involving 8 patients, all male, and 7 deaths (6 of fellow patients and one of a nurse). Factors associated with these incidents appeared to be sexual liaisons or escape attempts.

Huws and Shubsachs (1993) studied absconding by patients while under the care of the English special hospitals during a 13-year period, 1976 to 1988. There were 66 absconsions: 30 while on trial leave, 23 from rehabilitation or compassionate outings outside the hospital, 6 from outside working parties, and only 7 from within the hospital. No violence was used in any of the escapes studied (although Gordon *et al.* 1997 recount the death of a patient and a nurse in an escape from Carstairs in 1976). 69%[58%,80%] of absconders were caught again within 24 hours, and only 11%[3%,19%] were absent for more than a month; all were eventually found. Only 11 offences were committed while absent; 3 of these involved violence (including one homicide).

Huws and Shubsachs calculate the risk of absconding as 1 in 93 while on trial leave, and 1 in 1400 while on a rehabilitation outing. On average there is only one escape from within each special hospital every 6 years.

McKeown and Liebling (1995) report on the extent of illicit drug use within one special hospital, as perceived by ward staff. Results are given for 27 out of the 28 wards in the hospital, and one off-ward recreation department. On 15%[2%,28%] of the wards there was said to be a definite problem, with between 3 and 10 patients on each ward using illicit drugs. On a further 44%[25%,63%] of wards it was thought there might be a problem, with between one and 6 patients possibly using illicit drugs. On 41%[22%,60%] of wards there was no perceived illicit drug use. The recreation department estimated illicit drug use by between 20 and 30 patients in the hospital.

Burrow (1992) studied the extent of deliberate self-harming behaviour amongst patients in one special hospital during a six-month period in 1987. For the population of 303 patients there were 475 incidents recorded in nursing notes during the six months. One male patient accounted for 19% of the incidents, being engaged in almost constant self-injury. Otherwise, 66 patients were involved, 21%[16%,26%] of the hospital population. There was a marked gender difference in incidence: 58%[48%,68%] of the female population showed self-harming behaviour, compared with only 7%[4%,10%] of the male population. Excluding the one male severely self-harming patient, there were 405 injuries caused, of which 13%[10%,16%] required invasive medical attention such as suturing or surgery. Self-harming patients tended to be young and to have personality disorder.

Taylor (1997) mentions a study of suicide within the special hospitals, about to be published (Butwell *et al.*, forthcoming).

4.3.18 Security needs

One of the areas of concern about the special hospitals in recent years has been the apparently high proportion of patients who do not need to be contained in conditions of such high security. To the extent that high security can hinder effective treatment, this is a clinical as well as a planning and human rights issue. An acknowledged problem is the lack of long-term medium secure provision for patients to move on to.

Taylor *et al.* (1996) describe the conclusions of an earlier study (Taylor *et al.* 1991) which involved a survey of the security needs of all 1705 patients in the English special hospitals in March 1990, as judged by their consultant psychiatrists. 41%[39%,43%] were judged to require conditions of maximum security; 44%[42%,46%] had a medium security requirement; 15%[13%,17%] had low security need only.

Maden *et al.* (1993) report the rating of security need of their sample of patients in the English special hospitals by clinical teams and by a research team. 50%[44%,56%] of patients were rated by their clinical team as not requiring maximum security; 63%[57%,69%] of patients were not considered to need maximum security by the research team. (This study is reported in more detail in book form by Maden *et al.* 1995.)

Reed (1997) also carried out a survey of patients in the English special hospitals, receiving estimates of security need from the consultant psychiatrists of 1250 patients. 51%[48%,54%] of the sample were said to need long-term provision, but in conditions of medium or low security only.

Several health regions have carried out their own surveys of the security needs of their own patients currently in special hospitals. Bartlett *et al.* (1996) reviewed all patients (other than those with mental impairment) from the South-West Thames region in 1992 and 1993. In 1993, 40%[30%,50%] of the sample were judged ready to leave to at least medium secure provision; this rose to 76%[67%,85%] if long-term medium secure provision were available.

Murray *et al.* (1994) similarly studied special hospital patients from the North-West Thames region. Only 21%[13%,29%] were considered definitely to need maximum security. A further 14%[8%,20%] were considered 'doubtfully' to need high security; they were judged not to be receiving optimal treatment and thus possibly not to need high security if they were to receive better treatment.

Shaw *et al.* (1994a) studied patients from the North West region. Patients' consultant psychiatrists judged 55%[46%,64%] to need maximum security, but a research panel judged only 33%[25%,41%] to need this. As is seen in the study by Bartlett *et al.* (1996), consultants may be judging more people to need high security because of the lack of long-term medium secure provision. Shaw *et al.* (1994b) estimate 39%[30%,48%] of patients as needing a long-term medium secure service.

Smith *et al.* (1991) describe similar judgements about patients in Broadmoor Hospital from the South West region. They included interviews with the patients themselves. 43%[25%,61%] were considered to continue to require maximum security; a further 10%[0%,21%] no longer required this level of security but were strongly opposed to leaving. 13%[1%,25%] were judged to require long-term medium security. Transfer was already being explored for the remaining 33%[16%,50%].

Finally, Thomson *et al.* (1997) report judgements of consultant psychiatrists at Carstairs that maximum security is not required by 60%[54%,66%] of the patients there; for about a third of these transfer is not yet being explored.

Shaw *et al.* (1994b) and Burrow (1993) indicate some of the factors associated with judgements that patients do still require high security. Shaw and colleagues identify the following factors:

- admitted directly as a result of commission of an offence
- extensive offence history
- no insight if mentally ill
- non-compliance
- short time since admission
- aggression
- social impairment
- violent incidents within the special hospital

Burrow describes nurses' ratings of security needs, rather than those of psychiatrists used in other studies. Factors associated with need for high security as judged by nurses were:

- disordered perception
- depression
- lack of insight
- suicidal preoccupation
- suspiciousness
- verbal aggression
- violence
- self-injury

There were also some positive patient attributes associated with nurses' judgements of continuing dangerousness: high self-esteem, good health and good skills.

However, Burrow also finds that nurses tend to rate security risk as lower than psychiatrists do. For a sample of patients rated as high risk by psychiatrists, nurses rated 38%[27%,49%] as not presenting this degree of risk. Burrow discusses possible reasons for this discrepancy. (See also Woods 1996 on nurses' assessments of the dangerousness of special hospital patients.)

It should be noted that most of the studies quoted do not define 'high', 'medium' or 'low' security, and do not distinguish between physical and observational/supervisory security measures. This is a major problem in interpreting these studies.

4.3.19 Referrals for discharge

What are the patterns and outcomes of referrals for discharge from the special hospitals?

Brown *et al.* (1992) describe referrals from Rampton Hospital to other mental health services over a two-year period between 1988 and 1990. The rate of such referrals was 15%[11%,19%] of patients per year. Only 50%[42%,58%] of these referrals were successful. 28%[21%,35%] were rejected immediately and 22%[16%,28%] after independent assessment of the patient. Main reasons for refusal of a place are given in Table 4.8.

The only demographic, diagnosis or offence factor significantly associated with rejection was a prior history of violence within non-special psychiatric facilities. Factors associated with acceptance were assessment by an independent consultant, compliance with medication, and not being considered to need long-term care.

Table 4.8: Reasons for refusal of a request for transfer

	% of refusals giving this as main reason
- not from the relevant catchment area:	28%[21%,35%]
- patient too disturbed:	20%[14%,26%]
- facilities inadequate:	18%[12%,24%]
- patient likely to require too long a stay:	15%[10%,20%]
- insufficient progress evident in special hospital:	12%[7%,17%]

figures in parentheses represent 95% confidence intervals

Source: Brown *et al.* (1992)

4.3.20 After discharge

Cope and Ward (1993) studied all discharges from special hospitals to regional secure units in the West Midlands region over a ten-year period, 1981 to 1991, who had subsequently left the regional secure unit. Of these cases (n=51), 31%[18%,44%] had been returned to a special hospital; a further 8%[1%,15%] had been convicted of offences after discharge to the community (4 people, the offences being robbery, arson, homicide and rape). Main reasons for return to special hospital were: for men with personality disorder, concern about danger to the public, and no evidence of change; for men with mental illness, intractable psychosis plus inappropriate sexual behaviour, assault or self-mutilation; for women, self-mutilation, assault or arson.

Skelly (1994) interviewed 14 patients re-admitted to Ashworth Hospital from regional secure units. The main reasons for re-admission were sexual behaviour, absconding, deterioration of mental state, or failure to make rehabilitative progress. The patients expressed some dissatisfaction with the regional secure units, seeing placement there as a 'backward step' in terms of processes of admission and re-assessment, restriction of movement, institutional practices, stigma and violence. (Reed 1997 also quotes the patients' council at Broadmoor Hospital as expressing concern about possible loss of opportunities for occupational, sporting and social activities in moves to smaller accommodation.)

Dolan *et al.* (1993) give figures on patients discharged or transferred from Park Lane and Moss Side Hospitals between 1981 and 1991. The average annual statistics for Park Lane were 10 patients transferred and 7 discharged, with 2 being recalled to the hospital (14%[9%,19%]). For Moss Side the annual averages were 8 transferred, 2 discharged and one recalled (10%[2%,18%]).

Bailey and MacCulloch (1992a, 1992b) studied all discharges of patients from Park Lane Hospital directly to the community between 1974 and 1989 (n=112). They examine re-convictions for offences over a follow-up period which varies for individuals between 6 months and 14 years. Rates are given for overall re-convictions and for re-convictions for serious offences (defined as murder, manslaughter, attempted murder, kidnapping, abduction, rape, indecent assault, robbery or arson). For those with a legal classification of Mental Illness the re-conviction rate was 21%[11%,31%], serious re-conviction rate 10%[2%,18%]. For those with a legal classification of Psychopathic Disorder, the rates were 55%[41%,69%] and 26%[14%,38%].

There was also an association of re-conviction with whether the discharge had been conditional or absolute: re-conviction rate amongst those with conditional discharges was 27%[17%,37%], serious 12%[5%,19%]; amongst those given an absolute discharge the rates were 63%[46%,80%] and 30%[14%,46%]. There was a 79%[58%,100%] re-conviction rate (36%[11%,61%] serious) amongst patients with a Psychopathic Disorder classification given an absolute discharge.

The 19 cases of serious re-offending are discussed in detail in three further papers by MacCulloch *et al.* (1993a, 1993b and 1994).

Jones *et al.* (1994) looked specifically at those patients in the Bailey and MacCulloch sample who were classified as having Psychopathic Disorder. Their history revealed a high rate of previous convictions before the special hospital admission. All had had at least one conviction; the mean number of previous convictions was 17 with a range up to 66. 84%[75%,93%] had received a custodial sentence before admission to special hospital. 53%[41%,65%] of this sample were convicted of offences after discharge, 26%[15%,37%] committing serious offences. There was an association of re-conviction with a sexual element in the index offence that led to the original special hospital admission.

4.3.21 Neuropsychological characteristics

Though beyond the scope of this review, mention can be made of a few studies of neuropsychological functioning in special hospital patients. Taylor (1997) reports that a recent study by her colleagues (Lumsden *et al.*, forthcoming) shows almost 50% of admissions to special hospital as having measurable organic dysfunction.

Measurable impairment may relate to re-offending or re-admission to special hospital after discharge. Howard and Lumsden (1997) report a measure ('contingent negative variation') that was 68% better than chance in predicting violent re-offending among discharged special hospital patients (44 male patients from Broadmoor Hospital) over an 11-year follow-up period. Brown (1995) studied neuropsychological characteristics of 25 patients re-admitted to an English special hospital after discharge and found them more impaired than a comparison group of first-time admissions. Frontal lobe dysfunction and impulsivity were indicated in the re-admitted group.

4.4 Summary

From the data presented here, bearing in mind that they come only from academic sources and that the time periods covered are sometimes not very recent, it can be concluded that:

1) there are about 100 patients in special hospitals per 3 million population;
2) there are four times as many men as women in the special hospitals;
3) the age range is predominantly young, with an average age in the 30s; however there is a wide age range;
4) non-white groups are over-represented in the English special hospitals as they are in other parts of the psychiatric service system, a diagnosis of schizophrenia being more likely than for white patients;
5) the great majority of patients are not married or in a sustained relationship;
6) the majority are of low socio-economic status and had not worked recently before admission;
7) about two-thirds of patients are legally classified as Mentally Ill and about a quarter as having Psychopathic Disorder; the number of patients with Mental Impairment is small and growing smaller;
8) the average length of stay is 8 years with a rather longer stay for women than for men;
9) more specific diagnoses show considerable overlap between those with a mental illness and those with a personality disorder;
10) about two-thirds of patients have an index offence of violence against the person; for about a quarter of all patients the index offence has involved homicide;
11) there may be a different pattern of both diagnoses and offences amongst the patients at Carstairs than for those in the English special hospitals, possibly related to the inclusion of medium secure facilities there and the different legislation under which Carstairs operates;
12) almost a quarter of admissions to special hospitals are from prison;
13) the serious offending leading to admission may be of two main types: that driven by psychotic delusions, particularly in the case of those with paranoid schizophrenia, and that which is an escalation of a previous long history of violent offences;
14) African-Caribbean patients are more likely than white patients to be classified as Mentally Ill, particularly with a diagnosis of schizophrenia, and correspondingly less likely to be classified as Personality Disordered;
15) many patients are likely to have had a childhood of poor relationships, abuse and negative experiences;
16) there is a level of serious violence amongst a substantial minority of in-patients within the special hospitals, at about the rate of three serious incidents per week in each hospital; homicide within the hospitals is rare;
17) there is occasional absconding by patients on outings or leave, but escape from within the hospitals is rare;
18) there is a level of illicit drug use within the special hospitals;
19) self-harming behaviour is common amongst the female special hospital population; there are likely to be two or three incidents per week in each hospital requiring invasive medical attention such as suturing or surgery;

20) it is widely agreed that at least half the patients in the special hospitals do not require that level of security; the number requiring high security provision is less than 50 per 3 million population;
21) many patients, however, do require long-term treatment and care in conditions of some security;
22) some patients may not wish to leave the special hospitals, and some patients have expressed concern about possible loss of freedom, status and activities that may accompany moves to small units;
23) patients likely to continue to need high security include those with a long history of violence who continue to show violent behaviour, and those displaying overt signs of delusional psychosis;
24) patterns of patient characteristics and security needs vary amongst those from different parts of the country; specific regional surveys will be necessary to determine future local need;
25) there are economic and civil rights arguments, as well as clinical ones, for ensuring that optimal treatment is given to patients within the special hospitals to minimise future security needs;
26) referrals for discharge to less secure facilities are often unsuccessful, pointing to a need for greater integration between the special hospitals and other secure psychiatric services;
27) about a third of patients discharged to less secure provision are returned to the special hospitals, and about 15% of those discharged to the community are re-convicted of serious offences; this points to the need to develop better supervision and continuing treatment services for patients discharged from special hospitals;
28) many patients, probably including those with the most risk of violent re-offending, may have identifiable organic brain dysfunction, a clear area for future research.

CHAPTER 5 - STUDIES OF THE GENERAL PSYCHIATRIC POPULATION

5.1 Introduction

Thirty three articles are reviewed in this chapter, all studies based in the U.K. The articles are reviewed in groups relating to the stages of passing through the psychiatric system.

The five groups of articles are studies of

i) Violence/offending by people with psychiatric diagnosis in the community or in out-patient services (8);
ii) Violence/offending before or during admission to in-patient service (5);
iii) Violence/offending by psychiatric in-patients (7);
iv) Follow-up studies of violence and offending after discharge from psychiatric provision (3);
v) A study of the criminal careers of people with schizophrenia.

Each group of studies is presented in tabular form and then discussed. The chapter concludes with a review of the general themes that emerge and the implications for further research.

5.2 Violence/offending by people with psychiatric diagnoses in the community or in out-patient services.

The eight articles reviewed here constitute a rather mixed bag and include five relating to people with learning disabilities, two of which deal specifically with sex offending. Two of the three studies of people with mental illness provide information that is often absent and hence a possible source of bias in other studies. One relates to those who are diagnosed with schizophrenia but are never admitted to hospital and the other focuses on those referred to a forensic psychology out-patient service who do not attend.

Kiernan and Dixon (1995) at the Hester Adrian Research Centre, University of Manchester, have also studied offending by people with learning disabilities. Unfortunately, their work was not available in time for inclusion in this review.

Table 5.1: Summary of studies of violence/offending by people with psychiatric diagnoses in the community or in out-patient services.

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Brown and Stein (1997)	Comparison of sexual abuse of adults with intellectual disabilities (I.D) perpetrated by men with intellectual disabilities (peer abuse) with those committed by other known male perpetrators	N = 51 men with I.D N = 67 other men Data were part of large scale study of sexual abuse of adults with I.D (offence against children excluded). Population of Health Authority was 3,658,200. N = 228 cases of sexual abuse which met criteria for corroboration. Of these 169 (74%) met the requirements for the case to be probable or highly suspected. Offences by women and by strangers were excluded from the analysis as atypical leaving the number of offences analysed as 153.	Official reports of incidents gathered from a range of statutory and voluntary agencies in the south East Thames Regional Health Authority. Two surveys in 1989 and 1991 - 92.	Analysis was of 76 offences committed by 51 men with I.D compared with 77 offences committed by 67 male staff, volunteers and family members. **Victims** / **Alleged perpetrators** **I.D** / **Non-I.D** Women: 43 44% ($\mp$ 10) / 55 56% ($\mp$ 10) Men: 33 60% ($\mp$ 13) / 2 40% ($\mp$ 13) Men with I.D were more likely to choose male victims. This difference was statistically significant (χ^2 = 305; P < 0.1) **Types of sexual abuse** **Worst act alleged** / **I.D** / **Non I.D** Non contact abuse: 0 / 2 Sexual touch: 34 62% $\mp$ 13 / 21 38% $\mp$ 13 Masturbation: 14 93% $\mp$ 13 / 1 7% $\mp$ 13 Attempted or actual penetration: 27 35% $\mp$ 14 / 51 65% $\mp$ 14 Unable to classify: 1 / 2 Men with I.D were more likely to be reported for touch and masturbation, and less likely to have committed acts of actual or attempted penetration.	Requirement for a high level of corroboration means that figures represent a firm baseline/minimum. Corroboration was more likely for acts by men with I.D than for other offenders. Abuse of strangers by men with I.D would not be picked up by this system of data collection. Multiple offences by or against one person can skew the results. Numbers of cases mean that confidence intervals are wide and conclusions cannot be firmly made on most results.	Study provides limited support for hypothesis that sex offenders with I.D are different from their non-I.D equivalents in terms of victims, types of abuse and outcome of investigation. However the study does provide good evidence of the prevalences of sex offending by men with I.D, albeit that the figure is very likely to be an underestimate. Prevalence of 51 men with I.D in a population of 3,658,200 over a two-year period means an annual prevalence of 0.7 per 100,000 population.

Table 5.1 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Brown and Stein (1997) (cont)				(Continued) **Outcome of investigation** **Action taken** **I.D** **non-I.D** None 34 54% ∓12 29 46% ∓12 Police involved but no prosecution 5 28% ∓21 13 72% ∓21 Police prosecution 3 23% ∓23 10 77% ∓23 Other e.g. warning by staff 32 62% ∓13 20 38% ∓13		

Table 5.1 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Day (1994)	To describe the characteristics and offence behaviour of male mentally handicapped men referred to the Northgate Hospital (Northumberland) for antisocial sexual behaviour.	N = 47 patients Sample was all those referred over 18-year period (1970-1988). 30 had at least one hospital admission whilst 17 were assessed and treated at out-patients. N = 191 offences/incidents	Retrospective case note survey. Mental handicap, personality type and psychiatric disorder classified using ICD-9. Data on those referred by courts included statements by offender, victim, and witnesses. In the absence of a conviction incidents were classified according to likely charge or description of incident.	47 patients had committed 191 offences/incidents involving 202 victims. **Age** (at first referral) Average 23.9yrs (15-63 range) **Age** **No** **%** <20years 15 32 (∓ 13) 20 - 30 25 45 (∓ 14) 31 - 40 8 17 (∓ 11) >40 1 2 (∓ 4) **I.Q.** (N = 40) Borderline 23 (∓ 12) Mild 58 (∓ 14) Moderate 19 (∓ 11) **Psychiatric history** Psychiatric referral 15 32 Reactive depression 6 13 Psychosis 5 11 Manic depression 3 6 Reactive depression 6 13 Chronic paranoid psychosis 1 2 Arteriosclerotic dementia 1 2 **Offence/incident N = 191 offences** Indecent exposure 47 24.6 Heterosexual 106 55.5 Rape & attempted rape 1 0.5 Actual bodily harm 3 0,5 Unlawful intercourse (<13yrs) 1 0.5 Unlawful intercourse (13-16yrs) 3 1.5 Indecent assault 62 32.3 Inappropriate advance 23 12.0 Exploiting severely M.H 5 2.6 Other, including peeping 8 4.1	Sample is spread over a long period of time. No data on area or population served. Study is useful in providing a typology of sex offending for the mentally handicapped adults, with factors which were significant. This would provide the basis for planning further research in this area. It is useful to have factors identified which discriminate between those needing specialist provision and those who do not.	Serious offences were rare. Common reason for non-reporting or non-prosecution of offence were: offence was a minor one; victim did not press charges because perpetrator was mentally handicapped; incident happened in a service setting; incident involved another mentally handicapped individual; offender already receiving appropriate care. Statistical analysis revealed two distinct groups of mentally handicapped sex offenders. The sex offence only group exhibit low prevalence of psychosocial pathology and

Table 5.1 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Day (1994) (cont)				**Offence/Incident** (cont) **N = 191 offences** **No** **%** **Homosexual** 24 12.4 Buggery 2 1 Gross indecency 2 1 Indecency with male <16yrs 2 1 Indecent assault on a male 12 6.3 Indecent advances 6 3.1 **Other** Cross dressing 8 4.2 Stealing female underwear 6 3.1 **Seriousness of offences** Serious 13.6% Involved violence 3.6% **Police involvement** No police involvement 40% Police involvement but no prosecution 23% Convictions 37% **Sentencing N = 72 offences** Hospital order with restriction 4 5 Hospital order 22 32 Psychiatric Probation order 17 23 Non-psychiatric disposal 29 40 **Personality type = 47 patients** Immature, shy, isolated 30 63 Personality, disorder (I.C.D 9) 22 47 sociopaths 18 schizoid 2 anankastic 2		are less likely to be brain damaged, exhibit behaviour problems or experience residential placement. They are typically shy, immature individuals, with little or no sexual experience. They have a high recidivism rate but commit minor offences and are rarely committed. Their offending is no more than crude attempts at normal sexual behaviour. The other group by contrast are markedly more damaged. High sociopathy, prevalence of psychosocial deprivation and brain damage, with long histories of antisocial behaviour. More

Table 5.1 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Day (1994) (cont)				**Comparison of sex offences only and sex plus other offence** (excluding 3 cross-dressers) **S.O only** N = 22 / **S.O + other** N = 22 Mean I.Q: 59 / 64 Mean age at first conviction: 27.17yrs / 19.05yrs Mean age at first sex offence: 22.3 / 18.8* Brain damage (definite): 1 (5%) / 6 (27%)** Behaviour problem: 13 (59%) / 21 (95%)* Sociopathic personality: 2 (9%) / 14 (64%)* Delinquent neighbourhood: 3 (14%) / 8 (33%)** Psychosocial deprivation: 7 (32%) / 15 (68%)* Family criminality: 1 (5%) / 10 (45%)* Residential placement: 7 (32%) / 21 (95%)* 3 or more sex convictions: 2 (9%) / 8 (36%)* All shown were significant difference using χ^2 at * P < 0.01 ** p < 0.05		likely to commit serious sex offences and become persistent sex offenders. They require specialist assessment and treatment services. The other group need a mixture of sex education and counselling, and social skills training.

Table 5.1 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Geddes and Kendell (1995)	To study those with a diagnosis of schizophrenia but not admitted to hospital to see if they are different from those admitted to hospital within 3 months of diagnosis.	n = 66 not admitted n = 66 control group Cases from Lothian Psychiatric Case Register 1978-1989 and not admitted by Dec 1991.	ICD-10 classification using OPCRIT based on case notes. Follow-up study was by face-to-face interview. Outcome measure was Strauss-Carpenter outcome scale.	66 - 37 males, 29 females Mean age at first diagnosis was 33.1 in males and 46.2 in females. The group makes up 5.3% of total number of 1st diagnoses of schizophrenia in 12-year period, 6.7% after adjustment for misclassification. A mean of 73% were admitted on first contact.	Does not include those who never had contact with psychiatric services but 97.5% of those diagnosed with schizophrenia in Scotland are estimated to be referred to a psychiatrist.	Those not admitted had less florid symptoms and less disturbed behaviour. Fewer were violent, suffered from hallucinations or showed signs of neglect. Were more often unemployed, had a longer duration of illness and were diagnosed by a consultant.

Table 5.1 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Gibbons *et al.* (1984)	To study care received by schizophrenic patients and their supporters from new District General Hospital unit during one year.	n = 364 patients who had contact with psychiatric services between 1.2.81 and 31.1.82; of these n = 183 lived with a supporter.	Patients counted as schizophrenic if met one of four criteria. Patients with supporters were interviewed using PSE. Interviews with supporters used General Health Questionnaire and Social Behaviour Assessment Schedule.	Of 364 patients: 209 male 155 female Mean age 40.2 years 54% had been married 26% currently married 2% were widowed 18% were divorced or separated. Women were more likely to have been married (70%) than men (27%); and to be married (40% women; 13% men). **Household** Mothers living with sons (45) and husbands with wives (61) were biggest groups (out of a total of 183 living with carers) **Employment** Only 27% of men employed (compared with 80% locally) **Harmful threatening behaviour** Shown by 49% of those with carers (n=183).	High quality methodology but not very specific about offending behaviour. Total population and good research instruments used. High inter-rater reliability.	Prevalence of schizophrenia in 16-65 range is 2.2 per 1,000. Amongst those with carers (183) about half present harmful threatening behaviour in one year period.

Table 5.1 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Hambridge (1990)	Examines non-attenders at a Forensic Psychology out-patient service to see what are the risk factors for non-attendance.	N = 69 non-attenders N = 201 attenders. All new referrals to out-patient service over 3 year period 1986-1989. No referrals were for compulsory assessment or treatment under court order.	Referral information.	**Attenders N = 201** / **Non-Attenders N = 69** **Sex** M = 88.6% / 81.3% F = 11.4% / 8.7% **Age** <20 13.9 / 7.2 20-29 34.3 / 53.7 30-39 25.9 / 21.7 40-49 11.4 / 4.3 50-59 3.0 / 0.0 >60 2.5 / 0.0 Not known 9.0 / 13.1 **Referral Agency** Probation 40.3 / 60.9 Forensic Psych 14.4 / 15.9 Psychiatry 3.5 / 2.9 Solicitor/Court 19.9 / 4.3 Self 7.0 / 5.8 Other 14.9 / 10.2 **Reason for Referral** Aggression 17.9 / 37.7 Child sex 25.8 / 8.7 Sex 10.4 / 8.7 Gambling 10.0 / 13.0 Theft 6.5 / 11.6 Diagnostic advice 9.5 / 7.3 Other 19.9 / 13.0	No information about psychiatric diagnosis. No hard information about offences (e.g. charges). May not be typical of other forensic services e.g. Psychiatry. No referrals for compulsory assessment or treatment. But is information that is useful for identifying possible bias in studies of referrals.	Probation referrals are more likely to not attend. Non-attenders are more likely to have committed aggressive offences. They are also more likely to be between 20-29 years old.

Table 5.1 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Lyall *et al.* (1995a)	To establish outcome for arrested adults with learning disabilities, and to compare these with similar groups without learning disabilities.	N = 251 people arrested and screened at City Police Station, Cambridge, between 18.1.93 and 18.3.93. N = 12 suspects who had attended schools for pupils with moderate or severe learning disabilities. N = 191 suspects who had attended mainstream schooling. All came from Health District with a population of 280,000. Total number of people arrested in this period was 992. Follow-up was over 9 months.	Screening was by custody officer using a brief questionnaire. Learning disability was identified by self report. Follow-up was by inspection of daily court record.	**Prevalence** 12 cases out of 251 screened from a total population of 280,000 produced an annual prevalence for suspects with a learning disability of 4.3 per 100,000. The 12 cases represent 4.8% [±2.6] of those screened. **Outcome at Police Station** L.D. Group: No 12; Bailed or remanded 7 (58%); Property offence 5 (71%); Violent/sexual offence 1 (14%); Other 1 (14%) Mainstream Group: No 191; Bailed or remanded 71 (37%); Property offence 13 (68%); Violent/sexual offence 1 (16%); Other 3 (16%) **Sentence** (N = 7): NFA/Caution 0 (0%); Probation 0 (0%); C.S.O 1 (14%); Cond. discharge 0 (0%); Fine 5 (71%); Prison 0 (0%); Information not available 1 (14%) (N = 19): NFA/Caution 3 (16%); Probation 0 (0%); C.S.O 1 (5%); Cond. discharge 1 (5%); Fine 3 (16%); Prison 1 (5%); Information not available 10 (53%) 3 of the L.D. group had the help of a solicitor whilst in police detention.	Sample size of people with L.D. is too small to allow meaningful analysis of subsets of data. Learning disability is identified by self report only. Follow-up data not available on over 50% of comparison group.	Data on prevalence are useful but the remainder are only indicative of factors which affect flow. Those with learning disability seemed to have a similar pattern of offending, being charged and sentenced to the comparison group. In no cases was there any attempt to divert suspects to the health service. Lack of computerized records shared between agencies such as police and courts made data collection very difficult and time consuming.

Table 5.1 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Lyall *et al.* (1995b)	a) To identify all adults with learning disabilities living in residential homes or attending day services in Cambridge Health District in contact with criminal justice system during 1992. b) To evaluate the responses of service involved. c) To investigate the attitudes of staff and the police service to offending behaviour.	n = 358 people using L.D. services of which n = 7 had contact with the criminal justice system during 1992. Health area population of 369,000.	Details of offences were gathered from case records and interviews with senior staff. Attitude of staff investigated by semi-structured questionnaire. Retrospective study.	7 out of 358 (1.9%) had contact with police. **8 Offences** committed by 7 people: Acquisitive offence 2 Sexual offence 2 Assault 1 Wasting police time 1 Offence against Public Order Act 1 Traffic offence 1 **Outcome** None prosecuted, 6 had informal warnings and 1 was cautioned. Referrals to health service were inconsistent. **Tolerance** High levels of tolerance by staff were found. Theft and criminal damage hardly ever reported. Sexual assault - staff in 12/30 establishments would always report a major assault.	Sample was good in that only one hostel did not co-operate. But total population of people with learning disabilities in District was 800. Only 358 covered by study. Those missed may have offended. Relied on knowledge of staff interviewed.	Staff reluctance to report is a major issue. Difficulty of distinguishing between challenging and offending behaviour. Prevalence of 7 per 369,000 per annum = 1.89 per 100,000 per annum.

Table 5.1 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Thomas and Singh (1995)	To carry out a follow-up study of offenders with learning disability referred to a non-specialised community based mental handicap service.	n = 20 (16 male, 4 female) Referrals over 7 year period (1981-1988) followed up 3 years later. Represents all referrals of the type for West Glamorgan, population 360,000. Follow-up traced 17 patients (others were one deceased and two in prison).	Retrospective case note study of original group followed up by contacting a wide range of relatives, professional groups and organisations.	**Age:** Range16 - 46 years Mean 24 years **Degree of Learning Disability** **No** Mild 14 Moderate 3 Severe 0 Borderline 3 **Type of Offence** Sexual 6 Property 4 Person 3 Arson 1 Sexual and person 2 Property and person 2 Sexual and person 1 Arson and property 1 **Psychiatric disorder** P.D. + drug + epilepsy 1 P.D. 2 Epilepsy 2 **Sexual offences** **No** Indecent exposure 3 Indecent assault 3 Rape and attempted rape 3 **Situation on Follow-up** In psychiatric hospital 7 On section of Mental Health Act. 6 **Re-offending** In prison 2 Re-offended at least once 10	No information about the total number of referrals to the service in the 7 year period. Comparison of re-offenders with non re-offenders is based on subsets of n = 10 and n = 7 respectively. The data are not presented due to the size of sample.	Re-offenders cannot be managed by community- based team even when well organised and staffed. There is a real need for a semi-secure or secure environment for some offenders with learning disabilities because of violent behaviour or persistent offending. Prevalence of re-offenders: 0.4 per 100,000 per annum.

5.2.1 General studies of people with learning disabilities

The two articles by Lyall *et al.* (1995a and b) report on three studies designed to investigate the numbers of adults with learning disabilities in Cambridge who commit offences, how these are viewed and managed by the police and by care staff, and what the outcome is for those who are arrested. Two of the studies attempted to establish a true prevalence rate for offending behaviour for this study group, the first by a prospective study of those taken into custody in a two month period in 1993, the second by a survey of all the adults using Learning Disabilities Services in the year 1992.

In the custody study (Lyall *et al.* 1995a) there were 992 people arrested during the two-months research period and 251 of these were screened by the custody officer using a brief questionnaire. This identified 12 people (4.8% ∓ 2.6) who reported attending a school for pupils with moderate or severe learning disabilities. The population covered by this police station was 280,000, which produced an annual prevalence rate of 4.3 per 100,000 population for adults with learning disabilities who are suspected of offending.

The second study by Lyall *et al.* (1995b) covered all the adults living in residential homes or attending services for people with learning disabilities. Only one hostel did not cooperate with the research, so 358 individuals from 30 establishments were included in the study. The data on contact with the police were obtained from case records and by interviews with senior staff. The study revealed 7(1.9% ∓ 1.4) out of 358 people who had had contact with the police during that year. The population of the health authority was 369,000, which gives an annual prevalence of 1.89 per 100,000 for adults with learning disabilities who had contact with the police.

The authors suggest several reasons why this figure is probably an underestimate. The known total population of adults with learning disabilities in the area was about 800 but only 358 were covered by this survey. Another major source of under reporting was the tolerance of the staff. When their attitudes were investigated by semi-structured questionnaire it emerged that they rarely reported offences such as criminal damage. Even with an offence such as sexual assault in only 12 out of the 20 establishments would staff always report a major assault.

Both studies reported the outcome for the adults with learning disabilities who had contact with the police. The seven offenders identified from specialist services (Lyall *et al.* 1995b) committed 8 offences which included one assault and two sexual offences. None of these were prosecuted, 6 receiving informal warnings and 1 a caution. For those identified at the point of arrest (Lyall *et al.* 1995a) it was possible to compare outcomes for the 12 adults with those for 191 people arrested in the same period who had attended mainstream schooling. This showed similar patterns of offending, being charged and sentenced for the two groups. However the sample is too small for findings to be considered significant.

The difficulties which surround the use of small samples are also evident in the third study of offenders with learning disabilities carried out by Thomas and Singh (1995). This study involved a retrospective case note analysis of all offenders with learning disabilities referred to a community based out patient clinic over a 7-year period (1981 to 1988). The 20 adults (16 male, 4 female) were

followed up 3 years later through community specialist services, professionals and relatives to establish which of the sample had re-offended. 17 were traced and of these 2 were in prison and 10 in total had re-offended at least once. 7 of the 17 were psychiatric inpatients, 6 of these under a section of the 1983 Mental Health Act. It is perhaps not surprising that the authors concluded that there was a small number of offenders with learning disabilities who cannot be managed by community based teams however well organised and staffed. They argue the need for a semi-secure or secure environment for such offenders because of violent behaviour or persistent offending. However the numbers involved are very small. This service covered a population of 360,000 people. From their study it would appear that such an area is likely to have in a 7-year period about 10 offenders with learning disabilities who need such provision. This is an annual prevalence of 0.40 per 100,000 population.

It is interesting to note that 80%(∓17.5) of those referred were male, and that 85%(∓15.6) had a mild or borderline degree of disability. This was also a young group with a mean age of 24 years. Data on offences show that 45%(∓21) of those referred had committed a crime with a sexual element.

5.2.2 Studies of sexual offenders with learning disabilities

Two studies are reviewed here, those by Day (1994) and Brown and Stein (1997). The study by Day (1994) is of all those male patients with learning disabilities referred to Northgate Hospital, Northumberland, over an 18-year period (1970 to 1988), for anti-social sexual behaviour. 47 men were identified by retrospective case note survey and these had committed 191 offences/incidents involving 202 victims. Since the study provides no figures about the population served it is not possible to use the data to calculate prevalence.

The data are gathered from an 18-year period during which new mental health legislation was introduced. It is likely that during this time there were changes in police and sentencing policy in relation to both sex offenders and offenders with learning disabilities, all of which suggests caution in the interpretation of the results. Nevertheless the factor analysis on the data does yield some interesting differences within this particular group of offenders.

The average age of the group was 23.9 years and included 15 men aged under 20 years. Of the total group 23% were in the borderline range and 58% were mildly mentally handicapped. Statistical analysis suggested two distinct groups of sex offenders, the principal differentiating characteristic being whether or not they had also committed non-sex offences. The sex offence only group can be seen to have a low prevalence of psychosocial pathology and to be less likely to be brain damaged, exhibit behaviour problems or experience residential placement. They were typically shy, immature individuals with little or no sexual experience, who tended to keep committing minor offences but were rarely convicted. Their treatment needs seemed to be essentially a mixture of sex education, counselling and social skills training.

The other group by contrast were markedly more damaged, presenting with a high level of sociopathy, prevalence of psychosocial deprivation and brain damage, and with long histories of anti-social

behaviour. They were more likely to commit serious offences and to become persistent sex offenders. They were considered to need specialist assessment and treatment.

The Brown and Stein (1997) article was based on a larger study that they conducted of sexual abuse of adults with intellectual disabilities (ID) in the South East of England. This study did not include children with ID, nor did it include any victims who did not have an ID. It was however rigorous about whether a reported offence could be corroborated, and so the figures produced do seem to be reliable though almost certainly an under-report.

The article compares offences against adults with ID committed by other adults with ID (peer abuse) with those committed by adults without ID. These results do indicate some differences between the two types of perpetrators but the size of the subsets of data renders comparisons of limited value. The authors do also identify a number of sources of likely bias in the data, including the likely under-reporting of offences by adults without ID (difficulties of corroboration).

Comparing the Brown and Stein (1997) paper with Day's (1994), it is clear that rather different groups are being studied. Day's research does identify the likely characteristics of those most likely to need more specialist provision and is therefore helpful in working out flow. Brown and Stein's data are reliably gathered and can therefore be used with confidence. However the source of the data and the exclusion of child victims mean their figures are very likely to be an underestimate. It also seems that the sorts of sexual offences are at the lower end of seriousness in that the police were only involved in 8/76 cases and only followed through to prosecution in 3 cases.

Brown & Stein (1997) found that men with ID were more likely to be reported for touch and masturbation incidents and less likely to have committed acts of actual or attempted penetration. They were also more likely to choose male victims. On the basis of these data, an annual prevalence of 0.7 per 100,000 population can be calculated.

5.2.3 Studies relating to possible sources of bias in other studies

The last two articles in this section cast some light on possible sources of bias in studies of mentally disordered offenders. Geddes and Kendell (1995) identified 66 cases of people diagnosed with schizophrenia as out-patients but not subsequently admitted to hospital. These cases were found by examining the Lothian Psychiatric Case Register for 1978–1989 and checking admissions up to December 1991. This group of 37 male and 29 females made up 6.7% of all first diagnoses of schizophrenia in this 12-year period.

When followed up and compared with a control group, those not admitted had generally less florid symptoms and less disturbed behaviour. Fewer of them were violent, suffered from hallucinations or showed signs of neglect. This unsurprising finding does indicate that studies of schizophrenia based solely on in-patient groups are likely to produce higher rates of violence than would be found if all those diagnosed with schizophrenia were studied. This article also includes the information that 97.5% of those diagnosed with schizophrenia in Scotland have seen a psychiatrist but this does mean that a small number have not and are managed solely by the primary health care team.

Hambridge (1990) looked at those who failed to keep Forensic Psychology out-patient appointments. 69 non-attenders over the period 1986-1989 were compared with 201 attenders and it was found that referrals from the Probation Service were the most likely not to attend. As this agency was the largest source of referrals this was an important source of bias. It was also found that non-attenders were more likely to have committed aggressive offences and to be aged between 20–29 years. However this study provides no hard information about offences or psychiatric diagnosis so is of limited value.

5.2.4 Study of schizophrenic patients and their supporters

The study by Gibbons *et al.* (1984) is of 364 patients and their carers during a one-year period in 1981-1982. 183 of the patients lived with carers, and of these carers about half reported the patient presenting harmful threatening behaviour in the period. Though this is generally a high quality study, the data on offending behaviour are not easy to generalise, due to a rather non-specific definition of 'harmful threatening' behaviour.

5.2.5 Summary

The main value of this group of articles is the varied perspectives shed on those with learning disabilities who commit offences. The Cambridge studies (Lyall *et al.* 1995a and b) produced an annual prevalence figure for arrests for the group of 4.3 per 100,000 population and an annual prevalence figure for police contact of 1.89 per 100,000. Possible sources of under-reporting in the second study were incomplete coverage of the total population of adults with learning disabilities (only those using residential or day care services being included) and staff tolerance of offending behaviour. Both studies revealed generally very low numbers of people with learning disabilities coming to the attention of the police.

The study by Thomas and Singh (1995) highlighted a very small number of people with learning disabilities who could not be managed by community based teams and who needed a more secure environment in order to manage their violent behaviour or persistent offending. From their study of a seven-year period an estimated annual prevalence of 0.40 per 100,000 population for the group can be calculated. Of these nearly half had committed a crime with a sexual element.

Day's study (1994) did not cast any more light on prevalence figures but did suggest a differentiation amongst sex offenders with learning disabilities. Those who had only committed sex offences tended to keep committing minor offences and were rarely convicted. Their needs were not thought to require specialist provision. However the other group who committed a variety of offences including sex offences presented with high levels of sociopathy, psychosocial deprivation and brain damage. They were more likely to commit serious offences and were considered to need specialist assessment and treatment.

The Brown and Stein (1997) study was solely of sexual abuse within the adult learning disability population and therefore excluded victims outside that group whether child or adult. With these constraints it produced a picture of offences by men with learning disabilities at the lower end of

seriousness of offences. This was reflected in the fact that the police were only involved in 8 out of 76 cases. These data produced an annual prevalence of 0.7 per 100,000 population.

The last two articles reviewed here highlight the difficulty of research in the area of mental disordered offenders by drawing attention to possible bias in studies based on in-patients and those who actually attend out-patient clinics. Geddes and Kendell (1995) reported on those with a diagnosis of schizophrenia who never enter hospital and showed they are less violent and disturbed. Hambridge (1990) showed that those not attending an out-patient forensic psychology clinic were more likely to commit aggressive acts than those who did attend.

5.3 Studies of violence/offending before or during admission to in-patient services.

Five studies are reviewed, two of which are large scale studies covering all diagnoses and three of which focus specifically on first admission of those with non-affective functional psychosis or schizophrenia.

Table 5.2: Summary of studies of violence/offending before or during admission to in-patient services

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Castle *et al.* (1994)	a) to calculate the proportion of patients with non-affective functional psychotic illness who were not admitted to hospital on first contact with the psychiatric services of an Inner London Borough. b) to determine trends in admission habits over two decades from the mid 1960s. c) to examine which socio-demographic and illness factors were likely to result in admission.	n = 484, a 90% sample of first contact patients between 1965-84.	Case records looked at by two researchers. Data on criminality picked up from case records and checked with Criminal Records Office. Psychiatric diagnosis using OCCP1.	About 20% of patients were not admitted. The following were found to be non-predictors of admissions: **Sex:** (M - 77%, F - 79%) **Marital Status:** Married/Co-hab 79% Single 78% **Employment:** Employed 79% Unemployed 78% People with history of cannabis use were less likely to be admitted (65% *vs* 81%), history of drinking also less likely but this was not statistically significant. History of criminality was less common in those admitted but not significantly. If police were involved there was greater chance of admission (93% *vs* 79%). Violence predicted admission (91% *vs* 78%). All patients with violence to self were admitted. Phenomenological variables (symptoms) did identify predictors of admission: **Variable** **n** **% with characteristic admitted** **% without characteristic admitted** Bizarre behaviour 215 86 73 Persecutory delusions 368 82 68 Grandiose delusions 102 87 77 Persecutory hallucinations 279 86 68	High Quality study which provides excellent data on flow into in-patient population, and the factors which could bias studies of that population. Inner London catchment area may be atypical so generalisation could be difficult.	Findings on non-predictors were unexpected and at variance with other studies. Police involvement and violence to others were predictors of admission. Current behaviour is biggest influence. Admission of all who were a threat to self represents safe psychiatric practice.

Table 5.2 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Humphreys *et al.* (1992)	To study potentially life- threatening behaviour which occurred before admission for first schizophrenic episode. To examine the relationship between violence and the length of the illness, whether or not it was a precipitant of admission, and in what proportion of cases it clearly occurred in response to psychotic symptoms.	n = 52 cases drawn from the Northwick Park Study of first episodes of schizophrenia. The cases all involved potentially life-threatening behaviour.	Behaviour classified using Disturbed Behaviour Rating. Personal details from past history and sociodemographic schedule. Symptoms determined from the Present State Examination. Relationship of violence to admission determined from correspondence and case summaries.	N = 52, represents 20% of first episodes M = 35 F = 17 Mean age 26 years Range 16 - 50 years In 85% of cases the violence was deliberate and directed at particular person(s). In only 19/52 cases had violence led to admission. **Dangerous behaviour** **No. of patients** Personal attack without weapon 31 with weapon 8 Fire setting 3 Dangerous driving 2 Other not classified above 4 Not specified 4 **Length of illness before admission** 0 - 1 month 1 2 - 12 months 14 13 - 60 months 20 >60 months 4 No information 13 **When did dangerous behaviour occur** >12 months preceding admission 16 <12 months preceding admission 36 **Clear relationship between violence and delusion and/or hallucination** Definite link 23 Life threatening behaviour secondary to delusions (not clear) 21 No link 8	Good quality study but presentation of results made it difficult to analyse data.	It is not clear why violent behaviour did not lead to admission more often. It may be due to high tolerance of behaviour seen to be part of an illness. This emphasizes the difficulty of studying relationships between violence and schizophrenia where violence is only measured by criminal conviction.

Table 5.2 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Johnstone *et al.* (1986)	Study of presentation of illness and problems relating to admission of first episodes of schizophrenia.	N = 253 from 462 cases referred to nine medical centres over a 28 month period (The Northwick Park Study). 209 cases excluded, of which 62 did not meet diagnostic criteria, 65 had previous admissions, and 15 had organic illness, 64 could not be examined. Period of study 1.8.79-2.12.81.	1) Symptoms: PSE 2) Demographics: past history and Socio-Demographic Data Schedule - completed by interview with patients and relatives. 3) Disability Assessment Schedule 4) Camberwell Family Interview 5) Disturbance Behaviour Rating.	**Racial Origin** **No** **%** White European 166 65 Caribbean 41 16 African 12 5 Asian 25 10 Chinese 1 Mixed 8 3 **Household** Alone 104 41 With parents 85 34 With spouse 41 16 Co-habiting 10 4 Other relatives 13 4 **Onset** <5 days/acute 31 12 7 - 30 (subacute) 40 16 Insidious > 30 days 93 37 No information 89 35 **Interval between Onset and Admission** < 2 months 71 28 2 - 6 months 62 25 6 - 12 months 24 9 >1 year 66 26 Could not be ascertained 30 12 **Number of contacts before admission*** 0, 1 or 2 73 29 9 or more contacts 46 18 * Contacts include Hospital, G.P., Social Workers and others.	Information is good and useful though generalisation difficult where large gaps exists. Nevertheless this highlights the long time that can elapse before admission and the difficulties that may arise. Useful for understanding flow.	No reasons given for delays. N.B. these were first admissions so relatives may not know who to contact. Delays are a serious problem in generating risky situations in the community.

Table 5.2 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Lelliott *et al.* (1994)	To audit the new long-stay patients in the U.K. on a particular date.	N = 905 new long-stay patients in U.K.. psychiatric hospital beds on 25.3.1992. All 18-64 years, in hospital from 6 months to 3 years.	FACE Profile (Clifford 1993) modified for this research. Administered by psychiatrists in each Health District/Authority with responsibility for audit activity. Profile completed in conjunction with worker who knew patient best.	N - 905 **Where placed** **No** **%age** Acute Wards 249 28 Intensive Care 49 5 Psychogeriatric 23 3 Rehab/continuing care 681 64 **Gender** Male 523 58 Female 382 42 **Ethnicity** White 817 90 Black-Caribbean 40 4 **Age** Average age 42 years (s.d.=13.2) **Marital Status** Married 106 12 Single 570 63 Sep/divorced 177 19 Widowed 52 6 **Lived with** Lived alone 227 25 With family/friend 431 48 **History of Dangerous to others** Act of Violence 163 18 Other dangerous or criminal act 102 11 Admitted to Special Hosp. 23 3	Health authorities which returned served population of 15.2 million people. Population covered varied by country: N. Ireland 82% Wales 41% England 26% Scotland 7% Participating and non-participating authorities in England and Wales did not vary much when compared on centrally collected health service indicators.	Men in cohort significantly younger than the women [40 ($\mp$ 12.5) *vs* 46 ($\mp$ 13.4)]. Men were more often single (78% *vs* 43%) and had serious history of violence or dangerous behaviour (43% *vs* 17%). Men more likely to have diagnosis of schizophrenia (68% *vs* 44%) and less likely to have affective disorder (10% *vs* 28%) or personality disorder (2% *vs* 8%). The young men more likely to have a serious history of violence than the older men (43% *vs* 14%). High percentage of detained patients (29%), and they were likely to be more violent, have more positive symptoms, more

Table 5.2 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Lelliott *et al.* (1994) (cont)				**No %age** **Dangerousness as in-patient** Moderate or severe 176 19 Sexual assault 20 2 **Employment** Employed or students 55 6 Homemaker 56 6 Unemployed 648 72 **Retired (on medical grounds mostly)** 106 16 **Diagnosis** Schizophrenia 517 57 Affective psychosis 131 14 Personality disorder 65 7 Learning disability 41 5 Alcohol/drug 34 4 Other 117 14		often abuse alcohol and drugs, and be more sexually assaultive.

Table 5.2 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Owens *et al*. (1991)	To compare compulsory and informal admissions for U.K.-born white and African-Caribbean patients.	N = 55 African-Caribbean compulsory; N = 55 white UK compulsory; N = 65 African-Caribbean informal; N = 100 white UK informal. Admissions over 2 years for African-Caribbean subjects. 55 consecutive admissions over 3 months in 1986 for white compulsory group. Random sample over two years for white informal group. 2 year period September 1984 to August 1986. Cases from admissions within a Nottingham Health District.	Case notes retrospectively, and enquiries to relevant staff and patients. Information about compulsory admission circumstances obtained within a few days of admission by enquiries to patients, relatives, medical and social work agencies.	There were 2279 admissions to general adult psychiatric wards during the 2-year period, 2,000 informal and 279 (12%) compulsory. Of all admissions, 120 were of African-Caribbeans, 55(46%) of them on a compulsory basis, while only 10% of white patients were compulsorily admitted. African-Caribbeans make up 3% of informal admissions and 20% of compulsory admissions. **Age** **16-29 30-44 45-65 Total** **At Risk Population Number** African-Caribbean 3,436 1,779 2,220 7,435 Non-African-Caribbean 122,303 113,492 113,292 349,087 **Compulsory Admission Percentage** African-Caribbean 25 18 12 55 Non-African-Caribbean 49 94 81 224 Relative risk 18 12 7.6 95% Confident Intervals 11-29 7.4-20 4.1-14 **For Compulsory Admissions only** **African-Caribbean** **Non-African-Caribbean** Violent, threatening or bizarre behaviour In public 53% 52% In non-public place 36% 30% Police involved in transport to hospital 62% 31%	Well described study with a lot of data clearly presented.	Much higher rate of compulsory admission among African-Caribbeans relative to informal admission and in absolute rates for the at-risk population. Absolute risks varied by age but stretch from 9 to 18 fold relative risk for African-Caribbeans compared to other groups. There was no significant difference in relation to ethnicity and violence in compulsory admissions, though the police were more likely to be involved in transporting African-Caribbeans to hospital.

5.3.1 Large-scale studies

Owens *et al.* (1991) studied admissions in the Nottingham Health district in the two year period 1984-1986 and found 2,000 of these were informal and 279 (12%) compulsory. Their interest was in comparing the risks for UK Whites with African-Caribbeans; they found that African-Caribbeans had a much higher rate of compulsory admission, relative to informal admissions and absolute rates for the at-risk population. Absolute risks varied by age but ranged from 9- to 18-fold risk compared to other groups. When the rate of violence in compulsory admissions was considered there were no significant differences between African-Caribbean and UK white patients, with about half of all such admissions involving violent, threatening or bizarre behaviour in a public place. Interestingly, the police were twice as likely to be involved in transporting African-Caribbeans to hospital.

It can be seen that this study identifies a general association of compulsory admissions with violence, but did not find any difference in the rate of this association between different ethnic groups. However, police involvement in compulsory admissions did show a different pattern for African-Caribbean patients and this indicates the possibility of different pathways for different ethnic groups.

Lelliott *et al*. (1994) report on 905 new long-stay patients in the UK. These were identified from audit returns from health authorities serving about 15.2 million people. The rate of return was very low from Scotland (7%) and very high from Northern Ireland (82%). In England (26%) and Wales (41%), the participating and non-participating health authorities were compared and found not to vary very much. The definition of long-stay was from 6 months to 3 years, the age range covered was 18–64 years and the audit date was 25th March 1992.

The relevance of this study for the epidemiology of mentally disordered offenders was that it included data on the patient's history of dangerousness to others. Overall 32% of the cohort had a history of dangerousness or criminality prior to the index admission, including 23 (3%) who had previously had an admission to Special Hospital. This provides a point prevalence for mentally disordered offenders being admitted to general psychiatric provision of 288 in 15.2 million or 1.9 per 100,000 population served. This figure of course excludes admissions of people who do not become long-stay patients.

The study also provides information about violence during the period as an in-patient. In the three months before assessment 19% (n=176) of patients had displayed a moderate or severe degree of violence towards others (staff, family, other patients) and an additional 2% (n = 20) had displayed a similar degree of sexual assaultiveness. This gives an annual prevalence figure of 196 in 15.2 million, or 1.29 per 100,000.

Unfortunately, the group with a history of violence is not analysed separately, so risk factors cannot be calculated from the data presented. However for the whole new long-stay population men are in the majority (58%), and the men tend to be younger than the women (40 years *vs* 46 years). The men were more often single (78% *vs* 43%) and had a serious history of violence (43% *vs* 17%). Men were more likely to have a diagnosis of schizophrenia (68% *vs* 44%) and less likely to have affective disorder (10% *vs* 28%) or personality disorder (2% *vs* 8%). Younger men were more likely to have a history of violence than older men (43% *vs* 14%). There was a high percentage of detained patients

(29%) and they were more likely to be violent, have more positive symptoms, more often abuse alcohol and drugs and be more sexually assaultive.

5.3.2 Studies of first admissions

Two of the three studies reviewed here are based on the Northwick Park Study (Johnstone *et al.* 1986, and Humphreys *et al.* 1992) and it is important to note that the data being analysed and presented are based on admissions between 1.8.79 and 2.12.81. The third study by Castle *et al.* (1994) is based on data from the Camberwell Cumulative Psychiatric Case Register and examines trends in first admissions over the period 1965–1984. All three articles contain useful findings derived from well conducted research, but the age of the data does severely limit its utility when reliable information about the contemporary situation is needed.

Johnston *et al.* (1986) reported on referrals to 9 medical centres over a 28-month period. Of the 462 people assessed 253 were found to meet the study criteria of being diagnosed with schizophrenia and this being their first episode of the illness. All of the 253 cases were eventually admitted to hospital, but there were wide variations in the length of time involved, including 66 cases (26%) where there was a gap of more than one year between onset and admission. There was also considerable variation in the amount of activity required to bring about an admission, with 45 cases (18%) having 9 or more contacts with a variety of agencies before admission.

The article also reports that 15 (6%) of the cases were repeatedly displaying behaviour potentially threatening to the lives of others and a further 33 (13%) did so once or twice. However, there is no linking of these data so it is not clear whether delays in admissions are related to potentially threatening behaviour. The article also does not identify the reasons for the delay though makes the important and obvious point that with first admissions relatives are unlikely to know who to contact. It is also relevant that 104 (41%) of the cases lived alone and their admission may have not involved relatives but will have had referral dynamics. For example, their disordered behaviour may have had to be in a public place to occasion referral in which case the police would probably have been involved.

Humphreys *et al*. (1992) do provide an analysis of the subset of 52 cases from the Northwick Park study where there was potentially life-threatening behaviour. These 52 cases represented 20% of first episodes and excluded those who were only verbally aggressive and those who may have considerably threatened the lives of others in the course of primarily suicidal behaviour. In only 19 of the cases had the dangerous behaviour led to admission. The reasons why fewer than half of the patients were admitted because of their dangerous behaviour were not clear. However, this finding does go some way to explain why there are people in the community with a diagnosis of schizophrenia who are known to the psychiatric services and are a danger to others.

Castle *et al.* (1994) in a high quality study provide information about admission trends over the period 1965 to 1984 using five-year time bands. The percentage of patients admitted varied between 74 and 82 of those assessed over the time period. The sample of 484 was analysed to identify risk factors, and the results on non-predictors were probably the most interesting. Gender, marital status and

employment status were all found to be non-predictors, which was unexpected. People with a history of cannabis use were less likely to be admitted as were those with a history of drinking, but the latter finding was not statistically significant. Violence did predict admission (91% *vs* 78%), but a history of criminality was less common in those admitted (but not significantly). Police involvement in admissions was a predictor of admission (93% *vs* 79%). All patients with violence to self were admitted. The study goes on to examine the significance of particular symptoms and found that bizarre behaviour, persecutory delusions, grandiose delusions and persecutory hallucinations all did predict admission.

5.3.3 Summary

The small number of studies found do raise doubts about the comprehensiveness of this review on violence/offending before or during admission, and it may be that a different search strategy focussing on admissions would have yielded a greater number of useful studies.

On the basis of the five studies reviewed, relatively few conclusions can be drawn. The three studies of first admissions of those with schizophrenia do highlight the importance of knowing more about the factors which delay admissions and lead to people who exhibit dangerous behaviour not being admitted to hospital, but they do little to increase understanding of what these factors might be.

It is also interesting to note that Castle *et al.* (1994) found that, whereas violence did predict admission, a history of criminality was less common amongst those admitted. This reinforces the need for research to distinguish clearly between violence and offending, and also the need to define and measure violence in ways that produce valid and reliable figures. The age of the primary data in two of the studies does emphasise the need for research based on more recent data.

The larger scale studies include the worrying finding that African-Caribbeans are 9 to 18 times (depending on age) more likely to be compulsorily admitted than their white counterparts. A more general finding was that about a half of all the compulsory admissions studied (279) involved violent, threatening, or bizarre behaviour and there was no significant difference between the two groups in this rate. African-Caribbeans were twice as likely to be transported to hospital by the police.

Lelliott *et al.* (1994) in their study of new long-stay patients came up with a figure of 32% of the cohort of 905 who had a history of dangerousness or criminality prior to admission. 29% of the cohort were detained and the authors report that detained patients were more likely to be violent.

5.4 Studies of violence/offending by psychiatric in-patients

Seven studies are reviewed in this section, five of which relate to the general psychiatric population and two of which, Shah *et al.* (1992) and Tutton *et al.* (1990), concentrate on hospitals for mentally handicapped people. Of the five relating to the general psychiatric population only two, Powell *et al.* (1994) and Walker and Caplan (1993) are published in the 1990s. The Noble and Rogers (1989) study includes data about trends over the period 1976-1987, and is included for this reason. The other two studies by Edwards *et al.* (1988) and Pearson *et al.* (1986) are included because they are commonly cited and are well designed studies.

Table 5.3: Summary of studies of violence/offending by psychiatric in-patients

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Edwards *et al.* (1988)	To collect data on assaults, assaultive patients and victims in a psychiatric unit during a 12 month period and to compare with data from a control group of patients.	N = 37 incidents by 25 patients in period 1.11.82 - 31.10.83 in Royal South Hants Hospital, serving Southampton and S.W. Hampshire, a population of 300,000 inhabitants. Only adults with mental illness were admitted to the four wards being studied. Control group n = 25 chosen from patients of same sex who were in ward at same time and matched as closely as possible for age.	All patients, victims and witnesses interviewed within a day, using structured schedule. Also used Eysenck Personality Inventory and Buss-Durkee Hostility Inventory for both patients and victims. Assault defined as "any physical contact with hostile intent"; severity rated on 8-point scale.	**Prevalence** 37 incidents by 25 patients (24 of them in-patients). All patients admitted in this period were 644 patients (333 men; 311 women). All admissions (including re-admissions) were 890 (459 men, 431 women) ∴ Prevalence 1 in 17 patients 1 in 24 admissions or 0.39 assaults/bed/year **Degree of injury** Slight contact, no injury 22 Some injury 15 **Outcomes** Physical restraint/seclusion 24 Extra psychotropic drugs 3 Deprivation of privileges 2 Reported to police 1 No change of treatment 7 **Victim** Patients 14 Staff 23 Male 13 Female 24	Well designed study - clear definition of assaults and rating of severity. Control groups and data well presented. But small numbers, no information on internal checking nor on how diagnosis was arrived at.	Equal number of men and women assaulters. Higher proportion of schizophrenic patients in the assaultive group is consistent with other studies, and not explained by longer stays for that diagnostic group. Near absence of those with personality disorder, alcoholism and drug abuse could be due to non-admission or speedy discharge of such patients.

Table 5.3 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Edwards *et al.* (1988) (cont)				**Assaultive patients (N=25)** / **Non-assaultive patients (N=25)** Men 13 Women 12 ≤45 years 20 80% >45 years 5 20% Married 2 8% 7 28% Single/Sep, Divorced 23 92% 18 72% **Legal Status** Informal 18 72% 24 96% Committed 7 28% 1 4% **Diagnosis** Schizophrenia 17 68% 9 36% Manic 5 20% 6 24% Depression 1 4% 4 16% Other 2 8% 8 32% **History of assaults** Yes 13 52% 4 16% No 12 48% 21 84%		

Table 5.3 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Noble and Roger (1989)	To study the register of violent incidents to identify trends over time (1976-1987) and to compare the case notes of those who committed assaults in 1982 with matched controls.	N = 137 in-patients who committed assaults in Bethlem Royal and Maudsley Hospitals in 1982. N = 137 control group of in-patients matched for ward, age and sex. N = 470 assaults.	Register of violent incidents, which includes assaults and threatening incidents, victim, circumstances of the assault and the nature of any injury. Assaults rated for severity on a three point scale derived from Fortrell (1980). Other information gained from case notes.	**Trends** There was a progressive increase in violence from 1976 to a peak in 1984. Some, but not all, of the sharp increase from 1982 to 1984 was attributable to the opening of the two new units. Since 1984 there had been a modest decline. **n = 137 patients** **n = 470 assaults** **No. of assaults** **No. of patients** 1 65 multiple 72 **Severity** (of most serious incident) No. of patients % Severity I (least severe) 81 59 Severity II 53 39 Severity III (most severe) 3 2 **Victim** (more than one victim in some cases) Nurses 78 Other patients 53 Doctors 7 Other staff 7 Visitors 2 **Diagnosis** **Violent Group** **Control Group** **No %** **No %** Schizophrenia 61 44.5 34 24.8 Depressive psychosis 24 17.5 30 21.9 Mania or hypomania 6 4.4 5 3.6 Personality disorder 11 8.0 21 15.3 Drug addiction 0 0.0 2 1.5 Alcohol abuse 1 0.7 7 5.1 Mental Retardation 3 2.2 1 0.7 Other/ not known 30 21.9 37 27.0	Changes in number of beds and opening of new units illustrated the difficulty of mapping trends at a local level. Measuring severity by level of injury caused makes no allowance for serious incidents which are successfully managed by staff. Some risk factors of violence such as "being held formally" are not independent variables. Not clear if data on previous convictions were reliable. They were obtained retrospectively from case notes.	Though Violent Group showed a raised proportion of those with schizophrenia, delusions and hallucinations, this was not statistically significant. Most violent patients were not on their first admission. African-Caribbeans were overrepresented in the Violent Group. Use of restrictions and compulsory measures was associated with African-Caribbeans, most notably in the non-violent control group.

Table 5.3 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Noble and Roger (1989) (cont)				**Previous aggression and antisocial behaviour** **Violent Group Control Group** **No % No %** Previous conviction (non-violent) 27 19.7 22 16.1 Previous conviction (violent) 12 8.8 11 8.0 Damage to property* 38 27.7 9 6.0 Verbal aggression* 82 59.8 40 29.2 Threatening behaviour* 50 36.5 5 3.6 Absconding 35 25.5 33 24.1 * Differences are significant statistically **Use of Mental Health Act** Admitted formally 29 21.2 26 19 Held formally at some stage* 61 44.5 32 23.3 Male patients held formally at some stage 25 39.7 18 28.6 Female patients held formally at some stage 36 48.7 14 18.9 * The difference was statistically significant but as violence occasioned "sectioning" this was not an independent variable **Previous Psychiatric Admission** First admission 18 13.1 37 27.0 10 or more admissions 21 15.3 14 10.2 The violent group had significantly more previous admissions than the control group.		

Table 5.3 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Noble and Roger (1989) (cont)				**Ethnic Factors** **Violent Group** **Control Group** Caucasian 89 107 African-Caribbean 35 23 Other 13 7 **Control Group** **Severity I Offences** **Severity II Offences** African--Caribbeans 16.8% 19.8% 33.9% Tendency for African-Caribbeans to commit more serious violence was significant. **African-Caribbean** **Caucasian** Detained formally at some stage (Violent group) 54.3% 39.3% Detained formally at some stage (Control group) 55.3% 16.8% In locked ward (Violent group) 37.1% 15.7% In locked ward (Control group) 52.2% 14.0% All these differences were statistically significant.		

Table 5.3 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Pearson *et al.* (1986)	A retrospective analysis of the violent incident forms returned over a one-year period. A comparison of offending patients with the average daily in-patient population to identify what risk factors there were.	n= 283 incidents n= 144 patients All incidents for year June 1983 - May 1984 were analysed. Average daily number of in-patients (n=435). The age, sex and diagnosis of all in-patients at the end of the study (n =420) were determined from case notes, and the figures scaled up proportionately. Area served was a population of about 200,000. Regional Secure Unit was excluded from study.	Violent incident forms, rated for severity using Fortrell's three stage classification. (Fortrell 1980).	**Characteristics** **Average Inpatient Daily (N=435)** / **Violent Patient (N=144)** **Sex** **No** **%** **No.** **%** Male 218 50 52 64 Female 217 50 52 36 **Age** <45 80 18 58 40 45-64 114 26 35 24 65+ 241 56 51 36 **Diagnosis** Schizophrenia 132 30 81 56.5 Affective psychosis 86 20 20 14 Dementia 145 33 29 20 Neurosis 22 5 2 1.5 Personality disorder 15 4 9 6 Mental handicap 19 4 3 2 Alcoholism 16 4 0 0 **Ward Types** **Violent incidents (N = 283)** **Average no. of pts. (N = 435)** Acute 57 13 69 24 Alcohol 16 3.5 0 0 Rehabilitation 25 5.5 5 2 Medium stay 48 11 63 22 Long-stay 40 21 86 30 Psychogeriatric 178 41 53 19 Mental handicap 21 5 7 3	Being a retrospective study, information from forms could not easily be improved on in terms of reliability. No inter-rater reliability given for assessing severity of violent incidents. Method of obtaining average daily population is likely to produce some errors for high turn-over wards. Study is of a large psychiatric hospital and may be dated because of this.	Risk factors are: male, under 45, diagnosis of schizophrenia. No difference in characteristics between those involved in single and multiple incidents.

Table 5.3 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Pearson *et al.* (1986) (cont)				**Seriousness of injury** (N=283 incidents) **No** **%** No visible injury 197 69.9 Superficial cuts & bruises 8229.0 Serious injury 4 1.4 **Victims** (N=283 incidents) Other patients 114 40.3 Nursing staff 92 32.5 Other 77 27.2 **Number of offences** (N=144 patients) 1 offence only 103 71.5 Multiple offences 40 27.8 33 offences 1 0.7		

Table 5.3 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Powell *et al.* (1994)	To identify, classify and measure the relative frequency of events preceding violent incidents in psychiatric hospitals.	n = 188 individuals involved in "untoward incidents" in 3 hospitals (in-patient, day and out-patient) over 13 months, Oct 1990 - Nov 1991. Patients cared for: approx. 20,000 looked after by 1,550 staff. n = 1000 incidents based on 1093 reported. n = 1608 incidents - an overlapping series (data used for location of violence). 3 hospitals in Bethlem Royal and Maudsley Hospitals Special Health authority	"Untoward incidents" recorded by staff, 95% of them by nurses, and analysed by researchers. Physical and verbal violence included in definition. Diagnosis on discharge from Patient Administration System data set using ICD.9 codes.	**n = 188** **Diagnosis** **No** **%** Schizophrenic psychosis 84 44.7 Affective psychosis 47 25 Personality disorder 22 11.7 Neurotic disorders 20 10.6 Alcohol and drug disorders 16 8.5 Senile dementia 6 3.2 Mild retardation 6 3.2 Epilepsy 8 4.3 Physical illness 13 6.5 **Where incidents took place (n = 1608)** In-patients on locked wards 1458 91 In-patients on open wards 53 3 Day patients 31 2 Out-patients 31 2 Other settings e.g. O.T. 35 2 (N.B. Locked ward included secure unit for MDO.) Some **history of violence** by patient involved in incident 1406 87 **Severity of violence (n = 1000)** Injury to victim 176 18 **Most common antecedent (n = 931)** Patient generally agitated 286 30 Restrictions (Clinical & Legal) 192 21 Provocation by other patients, relatives or visitors 175 19	Inter-rater reliability on classifying antecedent of incidents was 82%. 921 (92%) of 1000 incidents could be assigned to one of the 15 categories of antecedent. Of 275 patients who were involved in the original 1093 incidents, discharge data were only available for 188 (68%). Antecedents were of three types: i) characteristics of patient; ii) feature of hospital regime; iii) interaction with other individuals. But measure of violence was of one type and from one perspective - staff.	A small minority of patients (21/275, 8%) contributed over 40% of incidents reported. Mild mental impairment was not a common diagnosis (3%) but was recorded for about 40% of patients involved with 10 or more incidents. Schizophrenic psychosis, paranoid type, was not related to frequency of involvement in incidents but it was associated with assaults producing the most severe injuries. In the community there is a strong interaction between major mental illness and substance abuse. Alcohol is less

Table 5.3 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Powell *et al.* (1994) (cont)				**Number of incidents by an individual** / **Detained Patient** / **Detained female pt** ≥10 incidents (range 10-56 incidents): 19/21; 10/11 1 incident only: 47/110; 14/49 All 21 individuals in 10+ group were on 8 locked wards. Mental Impairment ward was associated with most violence, 95% had a history of violence noted. Mental Impairment 10+ incidents: 3/13 patients 1-9 incidents: 3/175 patients		available in hospital. On its own, alcohol was only a feature in 3/1000 incidents. In the 1608 study it was found that none of the 40 alcohol related incidents were in emergency services; 36 were in locked wards.

Table 5.3 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Shah . (1992)	To compare the characteristics of those patients on a high dependency mental handicap ward who were violent, with others from the same ward who were not. To ascertain the level of violence on the ward. To examine factors concerning the patients or their case which may have been associated with high levels of violence. To identify ways of reducing violence.	n = 26 patients admitted to a 20-bedded high dependency locked ward during the 21-month period Jan 1986 - Sept 1987. n = 18 patients who were violent n = 8 patients who were not violent. Ward is all male. Hospital in which ward was situated was 800-bedded mental handicap hospital on edge of London. n = 620 violent incidents.	Retrospective analysis of standard ward incident forms which had been completed by nursing staff. Definition of violence: "any act of actual physical aggression involving physical contact, irrespective of outcome". Included self-harm, property as well as staff and patients as targets.	**N = 620 violent incidents** **Target of Violence** **No** **%** Staff 69 11 Other patients 284 46 Self 126 20 Property 141 23 4 patients accounted for 74% of the violence **Time of day** 97% of incidents occurred during the day **N = 26 patients** Violent patients 18 69% Non violent 8 31% When compared the violent group were significantly younger (median 27.4 years) than the control group (34.7 years). Seven of the violent patients (39%) had an abnormal EEG compared with none in the non-violent group. There was no association between epilepsy and the violent group, nor between the degree of mental handicap and the four categories of violent behaviour. 2 of the 4 most violent patients died unexpected deaths during the study. Symptoms were consistent with being assaulted! No significant correlations were found between levels of violence and admission rates, bed occupancy, nursing staffing levels, leave periods for junior doctors and consultants, and closure of day activities in the hospital.	Definition is so broad that it makes analysis difficult. Size of sample is small and a locked, high dependency ward is atypical in terms of levels of violence. The combination of a small number of patients accounting for most of the violence makes detailed statistical analysis problematic.	In this study other patients are the most common victim. As a study of the most violent male patients with a mental handicap it is of limited value as it does not include any detail about psychiatric diagnosis.

Table 5.3 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Tutton *et al.* (1990)	To assess the prevalence and severity of difficult behaviour in a residential hospital for mentally handicapped people.	N = 218 patients who presented management difficulties. These were selected from the total hospital population of 722 (excluding Admission and Assessment Unit).	Report by district care staff on incidents in the preceding month. Three instruments used: i) checklist of behaviour; ii) a severity questionnaire; iii) a semantic differential scale to measure difficulty to manage.	N = 218 **Type of behaviour** — **Men (N=135)** % / No — **Women (N=83)** % / No Physical violence to others: 47 / 63 — 46 / 38 Fire lighting: 1 / 1 — 0 / 0 Prevalence in hospital population of 722 101/722 = 14%. When analysed by age there was little difference between 21-30 year old age band and 61-70 year old age band in relation to physical violence.	Physical violence not defined. No detail of level of disability and type of diagnosis of resident population. No survey date specified (though the year 1985 is implied). Hospital served approximately 1 million, but due to changes of catchment area in preceding 20 years the population reported on had not been admitted from the present catchment area. It is not clear how typical the hospital was in 1985. It is likely that it is quite atypical in 1998.	Because of the limitations on data reported, this study provides little data which can be generalised.

Table 5.3 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Walker and Caplan (1993)	To compare the psychiatric hospital assault rates and the violent crime rates for two District Health Authorities in 1988.	Psychiatric hospital assaults in Nottingham (n = 103 incidents; n = 57 patients) and North Lincolnshire (n = 26 incidents; n = 16 patients). Crime statistics on "violence against the person" in the two Health districts.	Definition of assault: "any physical contact with hostile intent between a patient and another person." Incidents taken from official system for reporting incidents rated on a 3-point scale of severity. Crime statistics, by police subdivisions, for the two areas being studied.	The two areas were chosen because of their differences. **Nottingham** **N. Lincs** Population covered 597,000 276,000 Type of population Urban/suburban Rural Deprivation (using % of electoral wards with Jarman scores > 20) 16.3% 1.4% Psychiatric (acute) beds per 100,000 pop. 30 34 Admission rates per 100,000 pop. 238 292 "Violence against person" 4082 781 (per 100,000 pop.) (684) (283) Violent incidents in hospital 103 26 by severity rate 1 (least) 68 14 2 34 12 3 (most) 1 0 **Patients** 57 16 **Age** 17-29 24 7 30-44 22 5 45+ 11 4 **Sex** Male 30 7 Female 27 7 **Legal Status** Informal 23 11 Detained 34 5	No breakdown by diagnosis limits utility of study. Crime figures are notoriously difficult to use as a measure of criminal activity.	Study confirms other studies' findings: i) Only a small proportion of patients are responsible for violence. ii) The age of most assaultive patients is less than 40. iii) There is generally an equal sex ratio. iv) Majority of assaults cause little or no injury. v) A high proportion of assaultive patients in Nottingham had been admitted compulsorily (60%). (N.B. On average compulsory admissions form about 8.7% of admissions in Nottingham.) Difference between Nottingham and N. Lincs is difficult to explain. Nottingham has more that 2× the number of assaults per admission and nearly 2.5× the rate of violent offences. This supports the hypothesis of a link between the two.

5.4.1 Studies of the general psychiatric population

Powell *et al.* (1994) studied "untoward incidents" recorded in three hospitals in the 13-month period October 1990 to November 1991. Verbal and physical violence were included in their definition. The main focus of the study was 1093 incidents involving 188 individuals, though an overlapping series of 1608 incidents was analysed for the data on location of violence. The clearest finding was that a small minority of the patients (21/275; 8%) contributed over 40% of the incidents reported. When they studied those involved in more than 10 incidents, a diagnosis of mild mental impairment was found in about 40% of the cases compared with 3% in the whole patient population.

The picture of a small group of patients presenting a recurrent problem of violence is reinforced by the finding that there was a history of violence in 87% of the incidents. Schizophrenia was the most common diagnosis for those involved in incidents (44.7%), but the authors conclude that even for paranoid type schizophrenics, frequency of involvement in incidents was not statistically significant. However, for the paranoid type there was an association with assaults producing the most severe injuries.

When the location of violence was studied, over 90% of incidents were found to occur on locked wards. The locked wards included the secure unit for mentally disordered offenders. Other settings such as open wards, out-patients, day patients and occupational therapy each contributed less than 3% of the total number of incidents.

Alcohol (which is often a contributor to violence in the community), being less available in hospital, was only involved in 40 out of 1608 incidents, 36 of which were in locked wards.

The study by Walker and Caplan (1993) provides a detailed comparison of psychiatric assault rates and violent crime rates in Nottingham and in North Lincolnshire. The findings about in-patient assaults were that only a small proportion of patients are responsible for violence, that the age of most assaultive patients is less than 40, and there is generally an equal sex ratio. The majority of assaults caused little or no injury. The study also found that a high proportion of assaultive patients in Nottingham had been compulsorily admitted (60%), whilst compulsory admissions made up only 8.7% of admissions. However, lack of data about diagnosis means that more detailed analysis is not possible.

Nottingham was more deprived than North Lincolnshire, using as a measure the percentage of electoral wards with Jarman scores of more than 20. Nottingham had more that twice the number of assaults per admission and nearly two-and-a-half times the rate of violent offences in the community. This finding confirms that regional variation exists, and supports the hypothesis that there is a link between assaults in psychiatric hospital and violence offences in the community.

Noble and Rogers (1989) studied the register of violent incidents at the Bethlem Royal and Maudsley Hospitals over the period 1976-1987 to identify trends over time. They found a progressive increase in violence from 1976 to a peak in 1984, with a modest decline from 1984 to 1987. Some, but not all

of the sharp increase from 1982 to 1984 was attributable to the opening of two new units. However the Regional Interim Secure Unit was not included in the study.

The same study included a comparison of the case notes of those who committed assaults in 1982 with controls matched for ward, age and sex. In this period there were 470 assaults and 72 patients (53%) committed 405 (86%) of these. The most common victims were nurses, followed by other patients; assaults against doctors, other staff and visitors were much less frequent. The measure of severity of incident was the level of injury caused and this showed few very severe incidents. However, this measure of severity makes no allowance for those incidents which were successfully managed by staff. Though the violent group showed a raised proportion of those with schizophrenia, delusions and hallucinations this was not statistically significant.

When previous criminality was studied it was found that previous convictions for both violent and non-violent offences were not risk factors, though damage to property, verbal aggression and threatening behaviour all were significant statistically. There may be some doubts about the adequacy of the information on previous convictions as it was obtained retrospectively from case notes. Other risk factors for the violent group were having been held formally at some stage and having more previous admissions.

African-Caribbeans were overrepresented in the violent group and the tendency for them to be overrepresented in cases of more severe violence was statistically significant. Use of restrictions and compulsory measures was also associated with African-Caribbeans, most notably in the non-violent control group.

This study is helpful both in providing information about trends and in allowing a comparison to be made between the violent group and the control group. It is not clear how typical either set of data would be for other psychiatric hospitals and units. The Bethlem Royal and Maudsley Hospitals constitute a major teaching centre for psychiatry which attracts referrals from all over the UK. In 1982 of the 1529 admissions only 568 (37%) were from the local catchment area.

The study by Edwards *et al.* (1988) is not likely to be subject to this source of bias as it covers admissions from the Southampton and S.W. Hampshire area. It does however involve considerably smaller numbers (37 incidents and 25 patients) which again limits its generalisability. The research is a well designed prospective study with a clear definition of assault which does not depend on degree of injury for the measurement of its severity. Interviews with patient, victims and witnesses took place within a day of the incident. Prevalence in this study was expressed in terms of 1 in 17 patients and 1 in 24 admissions, or 0.39 assaults/bed/year. It could also be expressed as 25 assaultive patients per year for a catchment area of 300,000, an annual prevalence of 8.3 per 100,000 population.

The most common victims were staff, followed by patients. In the assaultive group there were roughly equal numbers of men and women. The higher proportion of schizophrenia patients in the assaultive group (68% *vs* 38%) is not explained by longer stays for that diagnostic group. The low

figures for those with personality disorder, alcoholism and drug abuse were notable and could be due to either non-admission or speedy discharge of such patients.

The research by Pearson *et al.* (1986) is also problematic in terms of its generalisability as it reports on violent incidents in Hatton Hospital, Warwickshire, one of the many large Victorian hospitals that have been closed or considerably reduced in size in recent years. Though it is a retrospective study based on violent incident forms, the sample is reasonably large. Data are provided about diagnosis for both the study group and all the in-patients at that time, allowing comparisons to be made. In the period June 1983 to May 1984, 283 incidents were logged involving 144 patients. The average daily number of in-patients was 435 though the Regional Secure Unit was excluded from the study.

Using seriousness of injury as a measure of severity of assaults, about 70% produced no visible injury and 29% caused only superficial cuts and bruises. There were four incidents which resulted in serious injury. Patients were the most common victim in this study, followed by nursing staff. 103 (72%) of the assaultive patients were involved in only one incident whilst 41 (28%) patients were involved in the remaining 180 (64%) incidents. This included one person who was involved in 33 incidents.

The risk factors for being involved in violent incidents were being male, aged under 45, and having a diagnosis of schizophrenia.

5.4.2 Studies of mental handicap hospitals

Both studies reported here have considerable limitations for the purposes of this review. The research reported by Tutton *et al.* (1990) set out to assess the prevalence and severity of difficult behaviour in a residential hospital for mentally handicapped people. The difficult behaviour included screaming, overactivity and withdrawn behaviour. Though data are presented on physical violence to others and on fire-lighting, neither is defined. It is also not clear when the data were gathered, and the participating hospital is not identified. The level of disability and psychiatric diagnosis (if any) of the study population is not provided. This means that though the paper contains a lot of sophisticated statistical analysis, there are few data that pertain to this review.

The 218 patients who presented management difficulties made up about 30% of the total hospital population of 722 (Admission and Assessment units were excluded). In this group there were 135 men and 83 women. Just under half of both men and women who presented management difficulties were involved in physical violence towards others; only one person (a man) was involved in fire-lighting. The prevalence of physically assaultive patients in this hospital population was 101 in 722 or about 14%. Interestingly, when analysed by age band there was little difference between the 21-30 year olds and the 61-70 year olds in relation to physical violence. The limited number of hospitals of this type and size still remaining renders these figures of limited value for any purposes of generalisation.

The study by Shah (1992) is of patients admitted to a 20-bedded high-dependency mental handicap ward in the 21-month period January 1986 to September 1987. 26 patients were admitted in this time, 18 of whom were violent. The remaining 8 were used as a control group. This was an all male ward

situated in an 800-bedded mental handicap hospital on the outskirts of London. In the study period there were 620 violent incidents. The data were collated retrospectively from standard ward incident forms, working with a definition of violence that included self-harm and damage to property as well as attacks on staff and other patients.

The most striking finding was that four patients accounted for 74% of the violence. It was also startling to read that 2 of these 4 patients died unexpected deaths during the study period with symptoms that were consistent with their being assaulted. It was not clear that there had been any police investigation of these deaths.

The violent group was significantly younger than the control group. Seven of the violent patients had an abnormal EEG compared with none in the non-violent group. There was no association between epilepsy and the violent group, nor between the degree of mental handicap and the level of violence.

5.4.3 Summary

Despite the wide variation in definitions of offending behaviour used in the studies it is possible to come to some conclusions on the basis of the research reported here. Noble and Rogers (1989) confirm that levels of violence can both rise and decline over a period of eleven years and that this can in part be attributed to service changes such as the opening of new units. Walker and Caplan (1993) provide evidence that in-patient violence does vary regionally, and they produce data that suggest this may be related to the rate of violent offending in the local community.

Many of the studies identified a pattern of a small proportion of those involved in violent incidents being multiple "offenders" and making a disproportionate contribution to the overall figure. This was most vividly illustrated in relation to those in the high dependency male mental handicap ward described by Shah (1992) where 4 men accounted for 74% of the violent incidents.

It was possible to generate some prevalence figures from the data, but comparisons are difficult given the wide variation in definitions of violence, the lack of detailed information about levels of ability and/or diagnosis in some studies, and the variations in types of wards studied. The latter is best illustrated by the different decision made in three studies about whether or not to include wards such as secure units.

Pearson *et al.* (1986) found that the risk factors for being involved in violent incidents were being male, aged under 45 and having a diagnosis of schizophrenia. However, equal risks for men and women were found by Walker and Caplan (1993) and Edwards *et al.* (1988), though the latter study did provide confirmation of schizophrenia being a risk factor even after allowing for the typically longer hospital stays for this group.

The low profile of such diagnostic categories such as personality disorder and alcoholism was remarked on and may well be attributable either to non-admission or to early discharge. This is an important research question and may well hold the key to both understanding flow in and out of the

general psychiatric population. This in turn could identify how to reduce the number of mentally disordered potentially dangerous people in the community.

Mental impairment by contrast with schizophrenia was a relatively infrequent diagnosis but was found by Powell *et al.* (1994) to be disproportionately represented in the violent group. The two studies specifically of mental handicap wards threw little light other than to suggest that about 14% of the population of the large mental handicap hospital had been involved in physical violence towards others. Of the small number of mentally handicapped people admitted to a high dependency ward, 18 out of 26 were violent. Those in the violent group were younger and were more likely to have an abnormal EEG.

5.5 Follow-up studies of violence/offending after discharge from psychiatric provision

Three studies are reviewed here. The first (Harrison *et al.* 1994) is a 13-year follow-up of an incident cohort of 99 psychotic patients first seen in Nottingham in a two-year period 1978-80. The second study, by Dayson (1993), is the TAPS Project (Team for the Assessment of Psychiatric Service) which researched the closure of the Friern and Claybury Hospitals. It reports on data about the first year out of hospital of 278 long-stay patients discharged between 1985 and 1988. The third study, by McGovern *et al.* (1994), is a follow-up of between 5 and 10 years of a group of 75 young people (aged 16-29 years) first admitted in the Birmingham area in a four-year period 1980-84. The aim of this study was to compare outcomes for African-Caribbean and white British young people admitted with a diagnosis of schizophrenia.

Table 5.4: Summary of follow-up studies of violence/offending after discharge from psychiatric provision

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Dayson (1993)	Prospective study of the extent of crime, vagrancy, death and re-admission in a cohort study of long-term mentally ill patients during the first year out of hospital.	N = 278 All long-stay psychiatric patients discharged from Friern and Claybury Hospitals between 1985-1988. Three cohorts Sept 85-Aug 86 n=44 Sept 86-Aug 87 n=117 Sept 87- Aug 88 n=117 Long-stay patients defined as someone resident in hospital for a minimum of one year, excluding those over 65 with a primary diagnosis of dementia. Cohort members were matched with another long-stay patient who was likely to remain in hospital for a further year.	Mental state data using PSE (Wing *et al.* 1977), Social Behaviour Schedule (Wykes and Sturt 1986) and Social Network Schedule (Dunn *et al.* 1990). Follow-up via key-carer and key-professional.	**N = 278** **Value** **95% CI** Mean age: years 54.0 53.3-55.8 Male: % 53.9 48.1-59.8 Married % 6.6 4.0-10.3 Compulsory admission % 6.2 3.7-9.8 Mean total time in hospital: years 15.5 13.8-17.3 **Catego classes** Schizophrenia-type % 74.2 69.0-79.4 Affective psychosis % 8.7 5.7-12.7 Depressive neurosis % 9.5 6.3-13.5 Other neurosis % 7.6 4.8-11.4 **Police contact** **No** **%** Informal 12 4.3 Perpetrator of crime 9 3.2 Victim of crime 5 1.8 One person was imprisoned and he was subsequently returned to hospital under an order. This person and 2 others were involved in violent situations (3 in total). 6 people were lost from follow-up. They were thought to have become vagrant. 98% follow-up. Readmission 6% were re-admitted in the year and have remained, mainly due to mental deterioration. Others were re-admitted but returned to the community.	Follow-up rate was very high. Information at follow-up from two sources. Thorough piece of well designed research, but restricted in scope to old long-stay patients, predominantly those with schizophrenia.	Dominant diagnostic group is schizophrenia- type. Personality disorder does not appear as a category. Evenly distributed by gender, and most in 50's. Very few admitted compulsorily. Very low rates of offending for this group. This study suggests that fears of negative outcomes of hospital discharge for this group are not supported by the evidence. This study does not include those with frequent short admission or those left behind in hospital.

Table 5.4 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Harrison *et al*. (1994)	To establish the residential history of an incident cohort of psychiatric patients 13 years after their first contact with the psychiatric services.	n = 99 patients with psychotic symptoms who made their first ever contact with psychiatric services in Nottingham between 1.8.78 and 31.7.80. n = 95 of these patients whose whereabouts could be established 13 years later. This is a 96% trace rate. In addition there were several types of checking in 1980 to discover whether any cases of psychotic disorder had been missed. 9 cases were found, 3 of which were very likely to have been diagnosed with schizophrenia. These cases were not included in the follow-up. Study was in Mapperley area of Nottingham with a population of 390,000.	Diagnosis originally established by consensus diagnostic meetings reviewing standardised assessments of mental state, using ICD-9. Follow-up included Present State Examination for psychiatric diagnosis, and Life Chart Schedule (WHO 1992) for eliciting longitudinal data on residence, symptoms and treatment. Information gathered from both patients and a key informant, GP and hospital records.	**Information on cohort in 1980 (n=99)** **Diagnosis** Schizophrenia 67 Other psychotic disorder 32 **Gender** Men 65 Women 34 **Age** Mean 29.7 years; s.d. 10.1 years **Reason for first ever contact (more than one reason in some cases)** Potentially dangerous to self 12 Attempted suicide or self harm 10 Behaviour seen as threatening 21 **Information at follow-up** **Main residence in 2 years preceding follow-up:** Acute psychiatric ward 1 Supervised residence: Temporary 1 Permanent 1 Living independently (alone) 23 Living with family or friends 62 Died more than 2 years previously 7 Not traced 4 **Services received by those living in unsupervised accommodation (n=85)** Visits from CPN or SW 17 Depot clinic or outpatients 24 No contact with specialist services 44	Very high quality study. Sample was substantially complete and representative of psychotic patients making contact with services in a large urban area. Tracing rate was high (96%). Instruments used were well tested and though inter- rater reliability is not stated diagnosis was by consensus meeting.	Most patients did not experience prison, destitution or years in hospital. Only 13/96 had experienced any of these things in the 13-year follow-up. The findings challenge the view that schizophrenia and related psychoses have a poor prognosis. About half of those living in unsupervised accommodation had contact with specialised services. About 20% of the original sample presented with threatening behaviour.

Table 5.4 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Harrison *et al.* (1994) (cont)				**Residency during 13 years since first presentation (n=96)** Only 13 had experienced at least one of the following: Supervised residence 9 (including 2 in Probation Hostel) Long-stay psychiatric ward 2 Homeless (range 3-12 months) 6 Prison (range 2-24 months) 4 Of these 13, eleven had been assigned an initial diagnosis of schizophrenia. **Deaths** Suicide 4 Suspicious circumstances 3		

Table 5.4 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
McGovern *et al.* (1994)	Long-term follow-up of young African-Caribbean Britons and white Britons with first diagnosis of schizophrenia.	n = 35 white patients n = 42 Black patients aged between 16-29 years on first admission to a Birmingham hospital between 1.1.80 and 31.12.84. Total catchment area from which admissions came was just under 400,000. (N.B. all admissions for this age group and time period are in this study). Follow-up was in Sept-Dec 1989, giving a minimum period of follow-up of 4.75 years and a maximum of 10 years.	Psychiatric diagnosis using PSE, Krawiecka and Goldberg Scale, and Schedule for Assessing Negative Symptoms. Social functioning measured by Disability Assessment Schedule. Clinical information from case notes and assessed by a psychiatrist without knowledge of patients' ethnicity. ICD-9 and DSM-III used. Black RMN present for interview with Black respondents.	**White patients** n = 33 All traced and information gathered from staff, relatives and friends. 30(91%) of patients interviewed. 1 patient had been murdered and 2 refused interview. **Black patients** n = 42 All but one person traced, 40 interviewed and 1 refused. **Gender** **Male** **Female** White 25 8 Black 27 15 All 52 23 **Mean age** White 22.3 Black 22.1 No significant difference in length of follow-up between Blacks and White groups. **Demographics** Only statistically significant data recorded **White** **Black** Separation from parents for >1 year in childhood 1(3%) 16(41%) Never left parents' home 6(20%) 0(0%) **Well-being prior to first admission** Only statistically significant data recorded Living alone 4(13%) 16(40%) Employed for less than 50% of time from school to first admission 8(27%) 20(51%) Convictions 7(21%) 19(48%) Imprisoned 1(3%) 9(21%)	98% trace rate on follow-up. Study focussed on age range where criminality is generally highest. This is therefore a useful focus on a high risk group. The number of African-Caribbeans included provides data on an even higher risk group. Offending behaviour is not broken down beyond convictions and imprisonment.	Greater understanding needed of the interaction between agencies such as police, social workers and psychiatrists at crucial times of decision making. More Black patients re-admitted than white, over twice as many. Comparing indicators of social well-being, there was not much evidence of social deterioration except in relation to employment. Convictions had decreased. Worse outcomes for African-Caribbeans in terms of re-admissions and admissions to RSU and hospitals, and re-admissions from prison.

Table 5.4 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
McGovern *et al.* (1994) (cont)				**Well-being between 1st admission and follow-up** **White** **Black** Living alone 4(13) 15(44%) Employed for less than 50% of time 18(60%) 29(73%) Convictions 5(16%) Imprisoned 3(9%) **Lifetime risk of offending** Criminal convictions 9(31%) 24(58%) (χ^2 = 5.7; P < 0.05) Imprisonment 3(9%) 11(28%) (χ^2 = 3.53; P < 0.1) **Place of residence (current)** Hospital 3(9%) 10(24%) (χ^2 = 2.77; P = 0.1) Long-term patients 2 6 In prison (remand) 0 2 Homeless 0 2 Living with parents 13(42%) 6(17%) **Re-admission** Total number n = 43 n = 101 Number of patients 18(55%) 32(78%) (χ^2 = 4.61; P < 0.05) Mean number of re-admissions 1.3 2.4 (Wilcoxon sample test P < 0.05) **Contact with Services** In contact 20(63%) 29(71%)		

Table 5.4 cont'd

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
McGovern *et al.* (1994) (cont)				**Method of re-admission** **WhiteBlack** Compulsory Section of Part II of Mental Health Act 8(19%) 33(33%) Use of Part III of Mental Health Act 1(2%) 13(13%) (χ^2 = 3.87; P < 0.05) Re-admission from prison 1(2%) 13(13%) (χ^2 = 3.87; P < 0.05) Re-admission using police 3(7%) 8(89%) N.B. 6 Black patients (19%) were admitted to RSUs and 2 (6%) to Special Hospitals. No white patients were.		

5.5.1 The studies

The Harrison *et al.* (1994) study was of 99 patients, 65 of whom were male, with a mean age of 29.7 years (s.d. 10.1 years). Most had a diagnosis of schizophrenia (67%) and 21 initially presented with behaviour which was seen as threatening. When followed up 13 years later 96% of the cohort were traced. Only 4 people had been in prison during that period and 2 had been in a long-stay psychiatric ward. Of the 85 living in unsupervised accommodation more than half (44) had no contact with specialist services.

This high quality study was part of the WHO study on determinants of outcome of severe mental disorder. The sample was well described and the study produced epidemiological data that can be relied on. The level of psychiatric services in Nottingham may not be typical for the UK, which does limit the generalisability of the findings somewhat. However, this study produces a general picture that most psychotic patients had not experienced prison or re-admission to psychiatric hospital in a 13-year follow-up from first diagnosis. Taken with the other measures used such as vagrancy, it does seem that these findings challenge the view that schizophrenia and related psychoses have a poor prognosis.

A similar positive picture emerges from Dayson's (1993) account of one-year follow-up after discharge of 278 long-stay patients, approximately three- quarters of whom had a diagnosis of schizophrenia. There was a 98% follow- up rate and only 9 people (3.2%) were found to have committed a crime. Three people were involved in violent situations, one of whom was imprisoned though he was subsequently transferred to hospital.

Again, this was a well designed study with good sources of information about the patients. However, this old long-stay group is no longer typical of those receiving psychiatric services, so it may be difficult to generalise from these encouraging findings. The authors emphasize that the study does not include those who have short admissions to hospital nor those who were not considered ready for discharge, a group with a higher level of social disability than those followed up. Nevertheless the study suggests that fear of negative outcomes of hospital discharge for this group is not supported by the evidence.

The study by McGovern *et al.* (1994), of all first admissions of young people (aged 16-29 years) with a diagnosis of schizophrenia to a Birmingham psychiatric hospital over a four-year period 1980-1984, produced a less reassuring picture. Of the 75 first admissions 42 (56%) were of African- Caribbeans and 52 (69%) were male. The mean age for white patients was 22.3 years and for the Black patients, 22.1 years. No demographic information was given for the catchment area, but the figure of 56% of first admissions being of African-Caribbeans seems high.

The African-Caribbean group appeared disproportionately at risk with the following factors representing statistically significant difference between the two groups. For the Black patients 40% lived alone prior to admission (13% for white patients); 51% had been employed for less than half the time since leaving school (27% for white patients); 48% had convictions (21% for white patients); and

21% had been in prison (3% for white patients). 41% of the Black patients had experienced more than one year's separation from their parents during childhood compared with only 3% for white patients.

A similar pattern of disadvantage was evident on follow-up 5 to 10 years after first admission. Of the Black patients 44% were living alone (13% for white patients); 35% had convictions during the follow-up period (16% for white patients); and 17% had been imprisoned in this period (compared with 9% of white patients). Only in relation to being employed for less than 50% of the time was the group at similar risk, with 73% of Black patients and 60% of white patients falling into this category.

5.5.2 Summary

It is reasonable to assume from those three well designed studies that generally speaking the diagnosis of schizophrenia is not a risk factor for convictions and imprisonment. However young people with this diagnosis do carry a higher risk and this is particularly true of African-Caribbeans. The authors conclude that much greater understanding is needed of the interactions between agencies such as the police, social workers and psychiatrists at crucial times of decision making. This suggests some qualitative studies of decision making are needed as well as more qualitative studies of young people with a first diagnosis of schizophrenia.

5.6 A study of the criminal careers of people with schizophrenia

The one study reviewed here, by Wesseley *et al.* (1994), is a high quality population-based longitudinal study of all incident cases (N = 538) of schizophrenia in the London Borough of Camberwell between 1964 and 1984. The cases were selected from the Camberwell Cumulative Psychiatric Case Register and included all those having their first contact with psychiatric services; this was not restricted to hospital admissions and included domiciliary visits, out-patients and emergency contacts. The study was done in 1990, so follow-periods varied from 6 to 25 years, but time at risk of conviction was calculated for each subject. Controls were drawn from the same case register at the same time and so were subject to the same age and time period variables. Table 5.5 summarises this study.

Table 5.5: Summary of a study of the criminal careers of people with schizophrenia

Article	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality/utility	Conclusions drawn
Wessely *et al*. (1994)	To test the hypothesis that schizophrenia is associated with an increased risk of acquiring criminal convictions, compared to other disorders.	n = 538 cases n = 538 controls All drawn from the Camberwell Cumulative Psychiatric Case Register, incident cases between 1965 and 1984. Cases were of all who received ICD-9 diagnosis of schizophrenia or a closely related diagnosis. Controls were matched by sex and age; they had any diagnosis except schizophrenia. Follow-up was in 1990 which means there are different periods of follow-up, ranging from 6 to 25 years.	Diagnostic information using OCCP1. Data on drug and alcohol abuse from case records. Offending was based on convictions obtained from Criminal Records Office. Time at risk of conviction calculated for each subject.	**n = 538 cases** **Frequency (%)** **Diagnosis** — **Males** — **Females** No diagnosis 15 (5.4) 5 (1.9) Major depression 4 (1.4) 7 (2.7) Bipolar disorder 0 (0) 1 (0.4) Major affective disorder with psychosis 19 (6.8) 39 (15.1) Atypical psychosis 49 (17.6) 49 (18.9) Schizophreniform 24 (8.6) 27 (10.4) Schizophrenia 114 (40.9) 90 (34.7) Delusional disorder 32 (11.5) 18 (6.9) Missing 22 (7.9) 23 (8.9) **Total** **279** **259** **n = 538 controls** **Frequency (%)** **Diagnosis (ICD-9)** — **Males** — **Females** Depressive disorders 94 (34) 135 (52) Anxiety, phobic and obsessive compulsive disorders 34 (12) 22 (9) Alcohol 29 (10) 7 (3) Drugs 18 (6) 0 (0) Personality disorders 41 (15) 14 (5) Forensic 8 (3) 0 (0) Dementias 6 (2) 28 (11) Other organic disorders 12 (4) 11 (4) Eating disorder 0 (0) 4 (2) Somatoform 3 (1) 5 (2) Hypomania 1 (0.5) 3 (1) Mental impairment 2 (1) 0 (0) Others 21 (8) 22 (8) No diagnosis made 10 (4) 8 (3) **Total** **279** **259** For other results see Table 5.6	Inter-rater reliability of Kappa 0.74 for psychiatric diagnosis. Data on convictions estimated to be at least 90% accurate. Outcome data obtained for 93.4% of cases and 95.4% of controls. Very high quality design of study with most possible sources of bias addressed. Sophisticated statistical analysis throughout. Sample not restricted to hospital discharge.	Rate of conviction for women with schizophrenia is increased compared to other disorders for most offence categories (rate ratio = 3.3). For men overall rates do not differ, though there is an interaction between gender, schizophrenia and ethnicity with young Black men being most at risk. The rate ratio for violent offences in men with schizophrenia is 3.8. Schizophrenia does make a small independent contribution to the risk of acquiring a criminal record (hazard ratio = 1.4), but gender, substance abuse, ethnicity and age of onset were more substantial factors.

The largest diagnostic group in the controls was depressive disorders (male 34%, female 52%), followed by personality disorders (male 15%, female 5%), anxiety, phobic and obsessive compulsive disorders (male 12%, female 9%), alcohol-related disorders (male 10%, female 3%) and drug-related disorders (male 6%, female 5%).

Table 5.6 shows that the overall rate of conviction for males did not differ between cases and controls, but the rates of assault were significantly higher in male cases with a threefold increase in rate of conviction for assault and serious violence. The female cases showed an overall increased rate of conviction for all offences, and also for both violent convictions and theft. The rate ratios for criminal damage and sexual offence are based on small numbers and the sexual offences (6) include four of prostitution.

The data on men revealed two opposing effects, with schizophrenia increasing the risk of conviction in African-Caribbeans, ratio 3.4 (95% CI 1.9-6.3), adjusted for class, but for other ethnic groups (nearly all Caucasian) schizophrenia reduced the risk, ratio 0.6 (95% CI 0.5-0.7).

The authors concluded that schizophrenia did make a small independent contribution to the risk of acquiring a criminal record (hazard ratio = 1.4) but gender, substance abuse, ethnicity and age of onset were more substantial influences. Though subjects with schizophrenia were more likely to acquire a criminal record than others, their criminal careers began later and were of shorter duration than those of controls.

Table 5.6 Rates ratios for convictions by offence categories: cases versus controls

	All ICD-9 diagnoses				DSM-III-R schizophrenia only			
	Males		Females		Males		Females	
Offence	Rate ratio (95% CI)	P	Rate ratio (95% CI)	P	Rate ratio (95% CI)	P	Rate ratio (95% CI)	P
All	1.0 (0.9-1.2)	0.27	3.3 (2.3-4.7)	< 0.001	1.4 (1.2-1.5)	< 0.001	4.1 (1.7-10.0)	< 0.001
Assault and serious violence	2.1 (1.5-2.9)	< 0.001	3.1 (1.3-7.4)	< 0.001	3.1 (1.8-5.5)	0.01	-	
Theft	0.9 (0.8-1.0)	0.04	3.1 (2.0-4.7)	< 0.001	0.9 (0.7-1.2)	0.25	0.38 (1.3-11.5)	< 0.001
Criminal damage	1.2 (0.9-1.6)	0.09	2.5 (0.8-8.0)	0.10	2.0 (1.2-3.2)	0.003	2.0 (0.4-11.1)	0.33
Alcohol and drug related	0.9 (0.6-1.3)	0.19	-		1.3 (0.7-2.4)	0.29	-	
Sexual	0.8 (0.4-1.6)	0.20	6.6 (0.8-54.7)	0.05	0.5 (0.2-1.5)	0.7	-	

Data from Wesseley *et al.* (1994)

5.7 Other studies identified

Table 5.7 lists 6 studies giving primary data of potential relevance to this chapter, but which were excluded from review for the reasons given in the Table.

Table 5.8 lists 4 papers which, though detailed data from them are not reviewed here, constitute additional useful sources which have been used in the discussion.

Table 5.7: Studies excluded

Authors	Title	Reason for exclusion
Barker, A., Forshaw, D., and Moxom, T. (1991)	Four-year retrospective survey of fire incidents in a psychiatric hospital.	No data on diagnosis. Includes both deliberate and accidental fires and false claims.
Davies, S., Thornicroft, G., Leese, M., Higgingbotham, A. and Phelan, M. (1996)	Ethnic differences in risk of compulsory psychiatric admission among representative cases of psychosis in London.	No data on offending behaviour.
Emerson, E. and Bromley, J. (1995)	The form and function of challenging behaviours.	Very wide range of challenging behaviour included in definition. Sample included adults and children but results are not presented separately for these two groups.
Falkowski, J., Watts, V., Falkowski, W. and Dean T. (1990)	Patients leaving hospital without the knowledge or permission of staff - Absconding.	No information on offending behaviour.
McGovern, D. and Cope, R. (1991)	Second generation African-Caribbeans and young whites with a first admission diagnosis of schizophrenia.	No information on offending behaviour.
Moodley, P. and Perkins, R.E. (1991)	Routes to psychiatric inpatient care in an Inner London Borough.	No information on offending behaviour.

Table 5.8: Useful additional studies

Authors	Title	Usefulness
Aquilina, C. (1991)	Violence by psychiatric in-patients	Comprehensive review of studies of in-patient violence.
House, A. (1996)	Homicides and suicides by mentally ill people	Pertinent critique of partial nature of data being collected about homicides and suicides by mentally ill people.
Mulvey, E.P., Shaw, E. and Lidz, C.W. (1994)	Editorial: Why use multiple sources in research on patient violence in the community?	Important review of the measurement of patient violence in the community and the difficulties of relying on any single measure.
Steadman, H.J., Mulvey, E.P., Monahan, J., Robbins, P.C., Appelbaum, P.S., Grisso, T., Roth, L.H. and Silver, E. (1998)	Violence by people discharged from acute psychiatric inpatient facilities and by others in the same neighbourhoods.	Most recent study from this highly influential research group provides an example of how research in this area should be conducted.

5.8 Conclusion

It is clear from the studies reviewed in this chapter that the prevalence of mentally disordered offenders in the general psychiatric population is small. Generally speaking, people who have been diagnosed with schizophrenia or learning disabilities are not dangerous to others nor do they commit criminal offences at a greater rate than the general population. However, it is also clear that there are small numbers of people with both diagnoses who do present a danger to others both in hospital and in the community and need specialist provision. For learning disability it was possible to calculate an annual prevalence figure of 0.4 per 100,000 population from the study by Thomas and Singh (1995). In this group nearly half had committed crimes which had a sexual element.

The data on patients with schizophrenia and violence do contain some contradictions. The study by Geddes and Kendell (1995) indicates that those who are never admitted to psychiatric hospital are less likely to be violent. This association of admission of those with a diagnosis of schizophrenia and violence is confirmed in other studies (see Castle *et al.* 1994). Gibbons *et al.* (1984) report that about half of the carers of 187 schizophrenic patients reported harmful threatening behaviour in the year prior to admission. Such an association may not be found for other diagnostic groups and so it is not surprising that some studies of inpatient violence (e.g., Edwards *et al.* 1988) reveal a higher proportion of schizophrenic patients in their assaultive group compared with the control group.

However, Powell *et al.* (1994) in their study of untoward incidents in hospital found that a diagnosis of schizophrenia was not statistically significant but there was an association between paranoid type schizophrenia and severe assaults.

These findings contrast with those from Dayson (1993) on the old long-stay group of patients. This group of 278 patients, who had an average stay in hospital of nearly sixteen years, showed a low level of violence on admission (6.2%), yet three quarters of the group had a diagnosis of schizophrenia. When followed up in the first year of discharge only three people had been involved in violent situations. This closely mirrors the results from the high quality WHO study conducted by Harrison *et al.* (1994). They followed up 99 patients, most of whom had a diagnosis of schizophrenia, some thirteen years after discharge and found that only four people had been in prison in that period, despite the fact that about 20% had initially presented with threatening behaviour.

With such a confusing picture, it is only possible to come to sound conclusions on the basis of large-scale high quality studies which go wider than the in-patient population. The longitudinal population-based study of 538 incident cases of schizophrenia in Camberwell conducted by Wesseley *et al.* (1994) meets these criteria. The data discriminate between criminality and violence. The conclusions are that the rate of conviction for women with schizophrenia is increased for most offence categories (rate ratio 3.3), though the numbers are relatively small and 'offences' include prostitution; for men, overall rates do not differ, though there is an interaction between gender, schizophrenia and ethnicity with young Black men being most at risk. In fact the data on men revealed two opposing effects, with schizophrenia increasing the rate of conviction in African-Caribbeans (rate ratio 3.4, adjusted for class) but for other ethnic groups schizophrenia reduced the risk (rate ratio 0.6). The authors' conclusion was that schizophrenia makes a small independent contribution to the risk of acquiring a criminal record (hazard ratio = 1.4), but that gender, substance abuse, ethnicity and age of onset were more substantial influences. Interestingly, the criminal careers of those with schizophrenia began later and were of shorter duration than those with other diagnoses.

In relation to schizophrenia, the studies identified some important areas of concern. With regard to admission, it is not clear why there are delays of up to a year for people who appear to be both ill and a danger to others (Humphreys *et al.* 1992). The in-patient studies were difficult to draw conclusions from, due to the range of definitions of violence and offending behaviour used and the variety of types of wards studied. Variations over time in one health authority (Castle *et al.* 1994; Johnstone *et al.* 1986) and between regions were demonstrated, pointing up a need for comparable studies to be conducted over time and geographically spread.

For both learning disability and schizophrenia, it did seem that a relatively small group of individuals made a large contribution to overall rate of in-patient violence towards others, both patients and staff (see Powell *et al.* 1994; Pearson *et al.* 1986). Research which pinpoints the characteristics of these high risk people is therefore potentially very helpful. However the sort of risk factors which generally emerged, e.g. being young and male, with Black people overrepresented, are very similar to the risk factors found in more general studies of those charged with criminal behaviour.

The follow-up studies reported, which were all in relation to schizophrenia, included one focussing on the younger age group (McGovern *et al.* 1994). This study compared risks for Black and white patients at admission and at follow-up. The statistically significant factors between the two groups included living alone, previous convictions and imprisonment, and childhood separation. A concentration on these risk factors would seem to be a fruitful focus for further research. The large study reported by Wesseley *et al.* (1994) indicates the scale and rigour of research design that is required if such risk factors are to be fruitfully explored.

Such characteristics are in fact much more typical of those with personality disorder, a group that appeared rarely in the studies reviewed (e.g., Edwards *et al.* 1988). This may be because of the confusion of statistical categories which can arise with dual diagnosis. For example the high risk group of men with learning disabilities was made up of people with anti-social behaviour of one sort or another, who presumably would or could have an additional diagnosis of personality disorder.

However, the low prevalence rate of people with personality disorder and drug or alcohol misuse was commented in some studies. It seems likely that people presenting with these characteristics are either not admitted to psychiatric provision or are rapidly discharged from it. An indication that this may be the case can be gleaned from the unexplained delays in admission of people whose behaviour was considered life-threatening (Humphreys *et al.* 1992). Research on the processes surrounding admission of those with personality disorder is a priority.

A major concern about much of the research reviewed in this chapter is the age of the data. Given the changes in service provision and mental health policies since 1990 it is remarkable that so little research evidence appears to be available to inform decision making at a national or regional level.

Much of the research reviewed concentrated on the characteristics of the patients, their diagnoses and behaviour. This is helpful but of limited value. Recent studies (e.g. P. Taylor, forthcoming) indicate a greater emphasis on particular symptoms and less emphasis on life-time diagnostic labels, fluctuating as these can due to changes in behaviour by patients and in diagnostic practice by psychiatrists.

Some studies included contextual data and it does seem important that this receives a greater priority. For example, studies of in-patient violence (Noble and Rogers 1989; Pearson *et al.* 1986) included data such as the time and day of the week when incidents occurred. The results of these studies were variable and the discussion made clear that it was the dynamics of the patients' day that were the key variables, e.g. structured *vs* unstructured time, meal times, levels of staffing. It seemed that quantitative data such as time of day were being collected, as this could be easily recorded, but what was needed were qualitative studies which would identify and reveal the interactions between variables.

A similar observation can be made about the data concerning the very high risk for young African-Caribbeans of being admitted compulsorily to hospital, of showing violent behaviour, and of being subject to police involvement in their admission (Owens *et al.* 1991). The evidence about this was systematically reviewed by Cochrane and Sashidharan (1996) and there is a pressing need to evaluate

whether services offered along the lines they outline can impact on these risk figures. It is not hard to envisage a comparison of outcomes between a demonstration service and existing services.

The final point is that the quality of research design in many of the studies is not high enough to produce reliable figures that can be generalised. For example, definitions of violence varied across studies and rarely were a range of measures used as advocated by Mulvey et al (1994). The seriousness of violence was graded differently by different researchers with the consequence identified by Aquilina (1991) that effects and intent are not separated out. In fact Aquilina's list of common methodological problems still rings true:

1. The population studied is very small, or is studied over a very short period of time.
2. There is rarely any control population for comparison.
3. Assault is very poorly defined and graded.
4. Under-reporting is rife and is worst in retrospective studies.
5. Few studies consider institutional factors like admission policies, staff attitudes and the physical design of the institution.

(Aquilina 1991, p.311)

The dangers of conducting research with these sorts of weaknesses can be imagined. House (1996) points out, for example, that even prestigious studies such as the *Report of the Confidential Inquiry into Homicides and Suicides by Mentally Ill People* (Royal College of Psychiatrists 1996) is based on an estimated 20% (39/150) rate of return for homicides and an even lower rate for suicides.

However, conducting high quality research is not easy in this field where numbers are small and dispersed, and the infrastructure of research is under- developed. The recent report from The MacArthur Violence Risk Assessment Study (Steadman *et al.* 1998) shows the quality of study that is needed if reliable conclusions are to be drawn on the relationship between violence and people with psychiatric diagnoses. This prospective study of people discharged from acute psychiatric facilities included a large sample (1136 male and female patients) drawn from three geographical areas, covered a full range of psychiatric diagnoses, had a community comparison group of 519 people and measured violence using three different measures. Patients were followed up 5 times in the first year of discharge.

It can be seen that research of this type requires considerable funding, but it also demands co-operation between major psychiatric centres and a high level of research sophistication and leadership. This review shows that there are centres in the U.K., such as that at the Institute of Psychiatry in London and that in Nottingham, which have this capability and have some of the required infrastructure for research, e.g. established Case Registers. However, inadequate funding and a lack of clear national research priorities are holding back the development of large-scale prospective studies which could provide authoritative and generalisable findings.

CHAPTER 6 - STUDIES OF HOMICIDE

6.1 Introduction

In other sections of this report studies in a particular setting are discussed. These are, in most cases, studies of offences of a general type. This section is somewhat different since here a specific offence is studied, but there is no restriction as to the study setting. The offence singled out for study here is the most serious offence of all: homicide. Table 6.1 lists the 27 studies of homicide reviewed here.

6.2 Descriptive studies

Four of the studies located (Leong and Silva 1995, Noreik and Gravem 1993, Lindqvist 1991, and Wilcox 1985) are purely descriptive: they describe the characteristics of mentally disordered homicide offenders.

Leong and Silva (1995), working with a small sample (n = 25) of psychotic murder defendants in the USA, found the majority to be young men. 76% of defendants had no prior history of criminal or violent activities and 48% had no previous psychiatric hospitalisation. This suggests that it may have been difficult to predict their alleged offence. However, almost half of the subjects had an alcohol/drug use disorder in addition to their psychosis so that the two diagnoses together may be predictive.

Noreik and Gravem (1993) studied all defendants of homicide or attempted homicide in Norway between 1980-89 who were referred for psychiatric evaluation. Of these 14% were psychotic; more than half of the psychotics were schizophrenic. The vast majority of psychotics were men and two-thirds of victims were members of the same family. There was an increase in the average number of cases with time.

Wilcox (1985) had a slightly larger sample (n = 71) of convicted murderers in the USA. His paper is mainly concerned with verbal descriptions of the histories of ten particular subjects. He states that 69% of the murderers were mentally ill (14% with schizophrenia). Anti-social personalities and alcohol/drug dependence were common (precise numbers are not clear). Again, Wilcox opines that the mentally disordered homicides could not have been predicted.

Lindqvist (1991) also has a sample of size 71, but these subjects came from Sweden and were homicide offenders with psychiatric diagnoses of alcohol/drug abuse. He finds that deprivation, personality disorder and a prior violent criminal or psychiatric record were common. So, for this particular type of mentally disordered homicide offending, prior prediction of the offence may be feasible (of course, this study cannot say how many with the ‘correct’ antecedents will not commit homicide). Lindqvist concludes that alcoholism is a major, but not generally the sole, factor responsible for the homicide. Alcohol-related homicides generally depend upon the victim’s participation in an unfortunate situation, such as a fight.

Table 6.1 : Summary details on studies of homicides

Author	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality	Conclusions drawn
Beaudoin *et al.* (1993)	Comparison of schizophrenic and non mentally disordered homicide offenders. Schizophrenics divided into those found guilty and not guilty by reason of insanity.	n = 12 + 14 + 15 men aged 17-55 located in Canadian institutions.	DIS, GHAP, SCID. Police and hospital records.	See Table 6.2 Two groups of schizophrenics have similar mental health. In other ways convicted schizophrenics are similar to the non mentally disordered. Convicted schizophrenics began committing criminal acts earlier (average 9 years) than those not guilty.	Participation rate only 21% in non mentally disordered group. Sample sizes very small.	Suggests that mentally disordered murderers might consist of two groups: those who first offend in childhood and those who do not offend until they are adults. Only the latter are found not guilty due to insanity.
Boscredon-Noé *et al.* (1997)	Analysis of trends in the number of mentally disordered homicides over the period 1838 – 1995.	n = 108 men who committed homicide (n = 52) or tentative homicide and then were confined in the Albi psychiatric hospital in the mid-Pyrénées (southern France).	Hospital records.	Annual rate of mentally disordered homicide offenders hospitalised remained constant at 0.23 – 0.30 per 100,000 per year. Family members are victims of the attack in 55% of cases: most often the woman who lives with the offender is the victim.	(In French) Changes in definitions and catchment areas over time may cause problems. Not every mentally disordered homicide offender is necessarily included.	No trends in mentally disordered homicide over time. Family members often targeted.
Bourget and Bradford (1990)	Comparison of parental and other homicide offenders.	n = 13 (parental) n = 48 (other) cases referred to a forensic psychiatry service in Ottawa.	DSM-III-R	Mean age was 27 years (parental group) and 29 years (comparison group). 69% of parental group were female (compares to 19% in other group); 62% of parental group were married c.f. 17% of other. Psychiatric diagnoses were similar in the two groups although only the parental group had any subjects with major depression (31%).	Only considers cases sent for psychiatric evaluation. Very small number of parental homicides studied.	Murder of one's own children appears to be a multi-faceted phenomenon. A preventative approach needs to consider the parents' potential to abuse, the vulnerability of the child and the presence of a crisis that might precipitate the abuse.
Clark (1993)	Study of matricide.	n = 26 defendants of murder or culpable homicide of their biological mother in Scotland during 1957-87.	High court indictments and then criminal and health service records.	88% were male. 76% were single. 60% had a history of psychiatric treatment (42% as in-patients). At the time of the crime 8% were in contact with psychiatric services, 38% were psychotic (60% of these had schizophrenia), 15% had alcohol dependence syndrome, 19% had personality disorder.	Purely descriptive. Small numbers of subjects. Restricted to one type of homicide.	High likelihood of psychiatric illness amongst those committing matricide.

Table 6.1 cont'd

Author	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality	Conclusions drawn
Côté and Hodgins (1992)	Comparison of the lifetime prevalence of mental disorder amongst homicide offenders and other convicted criminals.	n = 87 homicide offenders n = 373 others men sampled in Quebec prisons.	DIS	35% of the homicides but only 21% of the other offenders had a major mental disorder ($p = 0.01$). The only specific diagnosis that was significantly different was schizophrenia (13% *vs* 5%; $p = 0.03$)	Re-application of DIS in a sample had $\kappa = 0.78$. Participation rate was 71%.	Homicide offenders are more likely to be schizophrenic and to have any major mental disorder than other criminals. Suggests that homicides are more likely to have a major depression in combination with anti-social personality disorder and alcohol/drug problems.
Eronen (1995)	Study of mental disorder and homicide amongst women.	n = 27 female homicide offenders referred for psychiatric evaluation in Finland (1980-92). Comparisons with North American populations.	DSM-III-R.	Amongst all identified homicide offences, 8% were committed by women. Homicide offenders were 11 times more likely to have schizophrenia, 49 times more likely to have alcohol abuse/dependence and over 70 times more likely to have either anti-social personality disorder, alcoholism with personality disorder or alcoholism with schizophrenia.	The control population is possibly inappropriate. The statistical calculations are flawed. Odds ratios quoted are really relative rates; confidence intervals are incorrect. High rate of detection in homicide cases, high rate of psychiatric assessment (with automatic verification procedures) and ease of identifying subjects makes Finland an ideal setting for a study.	Homicides are rarely committed by women. Women who have killed are more likely to be schizophrenic, have anti-social personality disorder and/or alcoholism than are other women.

Table 6.1 cont'd

Author	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality	Conclusions drawn
Eronen *et al.* (1996a)	Analysis of the relationship between mental disorders and homicide.	n = 693 homicide offenders referred for psychiatric evaluation in Finland (1984-91). Comparisons with the Epidemiological Catchment Area Study in the USA.	DSM-III-R.	Amongst all identified homicide offenders, 92% were male and 70% were sent for psychiatric evaluation. Mean age of male offenders was 34 years. Schizophrenia increased the risk of homicide by a factor of 8; anti-social personality disorder by 12; alcoholism by 11. For women the corresponding figures were 34 years, 6, 54 and 38. Major depression and mental retardation had little effect.	See Eronen (1995). Note that this was analysed as a case-control study, in contrast to Eronen (1995), but the same problems occur.	Homicides are rarely committed by women. Schizophrenia, anti-social personality disorder and alcoholism are all risk factors for homicide.
Eronen *et al.* (1996b)	Analysis of factors associated with homicide recidivism.	n = 36 male recidivists, identified from forensic psychiatric assessments after the offence, in prisons or the appropriate state mental hospital in Finland (1981-93). Comparison with national data on all homicides.	DSM-III-R.	Prevalence of recidivism is estimated as 2%. Mean age at 1st homicide = 28 years; 2nd homicide = 37 years (45% committed their 2nd homicide within a year of release). 67% were alcoholics and 64% had personality disorder (58% had both). 11% had schizophrenia, 6% had major depression and only 1/36 had no diagnosis. Those with a prior homicide offence had 10.4 times the chance of committing homicide, compared with the general male population in Finland, rising to 13 times when alcoholic and 26 times with schizophrenia. Within the first year of release they were 254 times more likely to kill.	Appropriate control population used; otherwise see comments on Eronen (1995).	Most recidivists have alcoholism and/or personality disorder. Homicide offenders are much more likely to commit another homicide, especially when mentally ill, than are other people.

Table 6.1 cont'd

Author	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality	Conclusions drawn
Eronen *et al.* (1996c)	Study of the relationship between schizophrenia and homicide.	n = 86 men and women homicide offenders referred for psychiatric evaluation in Finland (1980-91) who were diagnosed as schizophrenic. Comparisons with North American populations.	DSM-III-R.	Amongst all homicide offenders, the prevalence of schizophrenia was 86/1423 = 6%. The presence of schizophrenia raised the risk of committing homicide by a factor of 10 amongst men and 9 amongst women. With alcoholism present as well, these relative risks become 17 and 81 (the latter being very imprecise). About a half of the study sample had paranoid schizophrenia. 48% were alcoholics.	For comments see Eronen *et al.* (1996a).	Schizophrenia is not particularly common amongst homicide offenders. However, schizophrenia is a risk factor for homicide, especially when combined with alcoholism.
Gottlieb *et al.* (1987)	Description of mentally disordered homicides over the period 1959-83.	n = 251 men and women defendants of homicide referred for psychiatric evaluation in Copenhagen.	ICD-8	86% were men. 23% were psychotic (6% had schizophrenia and 7% had depression). Alcohol/drug abuse was less common amongst the psychotic subjects for each sex ($p < 0.02$). The number of psychotic male defendants doubled between 1959 and 1979 (no change for women). Overall psychotic homicide defendant rates were 1.1 for 1959-71 and 2.5/year/million population for 1971-83. Psychotics were more likely to kill people they know (96%) than were non-psychotics (22%).	Purely descriptive. Not possible to estimate rates of homicide overall since only those tried are included.	Suggests that increase in psychotic homicides might be due to closures of psychiatric hospital beds.
Gottlieb and Gabrielsen (1990)	Follow-up of mentally disordered homicides after release from prison.	n = 52 male homicide offenders with non-psychotic diagnosis released and living in Denmark.	Retrospective search of national registers of crime and mental illness.	Predictors of subsequent crime are young age at release and long prison stay. Lack of suicidal behaviour before the homicide is an extra predictor of violent crime.	No control group. Presentation and statistical analysis are not ideal. Depends upon completeness of records.	To be used with caution.

Table 6.1 cont'd

Author	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality	Conclusions drawn
Gottlieb and Gabrielsen (1991)	Description of mentally disordered homicides over the periods 1959-83 and 1984-9.	n = 251 (1959-83) n = 89 (1984-89) (as in Gottlieb *et al*. 1987).	ICD-8	Trends towards more homicides by alcohol intoxicated men. In the 1980s overall homicide rates were stable, although the rate of female homicide increased. Schizophrenic homicides increased by a factor of 5 from 1959-83, then stayed static at 1-2/year.	(In Danish) As Gottlieb *et al.* (1987)	Suggests that changes away from small communities have changed the nature of homicides. More are now outside the family and associated with alcohol abuse.
Gabrielsen *et al.* (1992)	Modelling reasons for changes in mentally disordered homicide rates between 1959 and 1983.	n = 251 (as in Gottlieb *et al*. 1987).	ICD-8	Expected numbers of homicides per million per year of 8 for non-psychotic non-alcohol/drug abusers, 180 for psychotic non-abusers, 224 for non-psychotic abusers and 1142 for psychotic abusers for men. For women the corresponding figures are 1, 47, 48 and 749. Differences for extra- and intra-family homicides were found.	Assumes a constant exponential growth. A very limited number of variables were considered. Estimates reflect prevalence of risk factors as well as their effect. The analysis does not show that the factors are important in relative terms (i.e. as predictors of homicide)	Increasing number of non-psychotic extra-family homicides; increasing number of psychotic intra-family homicides. Increase in homicide seems to be due to increases in substance abuse.
Gudjónsson and Petursson (1982)	Description of trends in homicide in Iceland from 1900-79. Description of the characteristics of the crimes and the psychological status of the perpetrators.	n = 47 homicides or suspected homicide offenders identified from police and court records in Iceland, 1900-79.	Psychiatric reports after arrest; hospital case notes from previous contracts.	There were only 2 known homicides from 1900-1940. Intentional homicide rates increased after 1970, to 0.97 per 1000. 94% of all homicide offenders were men. 28% were psychotic, 21% had personality disorder, 13% had alcohol/drug dependence. 57% had previous criminal convictions. Psychotic, unlike other, homicides do not have any systematic pattern over time or day of the week.	Purely descriptive. Relies upon psychiatric assessments over 50 years ago.	Homicide rates have increased over time. Over 60% of homicides are related to mental illness. The majority of homicides had a previous criminal conviction. Motives of the mentally disordered homicides were invariably related to emotional or delusional factors.

Table 6.1 cont'd

Author	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality	Conclusions drawn
Gudjónsson and Petursson (1990)	Studies the trends in homicides in Nordic countries 1946-88.	All recorded homicides in Denmark, Iceland, Finland, Greenland, Norway and Sweden.	Statistical yearbooks or academic publications.	Homicides have been increasing, apart from in Finland. Range of rates in 1985: 0.6 per 100,000 for Iceland to >23 per 100,000 for Greenland. Personality disorder, schizophrenia and (especially) alcohol/drug abuse were common amongst Nordic homicides.	Most of the results come from earlier papers. New data is not linked to mental health.	Increasing rates of homicide (possibly related to alcohol and drugs), but great variation between countries (possibly partially related to the number of large cities).
Langevin *et al*. (1982)	Comparison of psychiatric health of killers, non-violent offenders and community controls.	n = 109 (killers) n = 38 (non-violent offenders) n = 54 (non-violent, non-patients) retrospectively sampled from forensic service records in Toronto.	CAPER, MMPI, 16PF, Clarke vocabulary, Raven Standard Progressive Matrices, Feighner *et al*. research diagnoses, ICDVA8.	Previous psychiatric care: 44% for killers, 71% for non-violent offenders ($p < 0.01$). No differences in diagnoses between these two groups. Psychoses accounted for <15% of diagnoses in both groups. More killers were considered mentally ill at the time of the offence (35% *vs* 10%; $p < 0.01$). Mean IQ was significantly lower for killers than for non-violent offenders; their performance IQ was also lower than for the controls.	Where possible two raters were used: variables with low κ were excluded. This does not include diagnoses. Potential bias: all subjects had previously been assessed for psychiatric health.	Diagnosis and personality pathology in general are not related to homicide any more than for other offences. Killers have normal intelligence, but with relatively low IQ. Psychiatric diagnosis may be irrelevant to the study of homicide.
Leong and Silva (1995)	Retrospective study of the characteristics of psychotic homicide offenders.	n = 25 defendants accused of having committed murder, diagnosed as psychotic in Los Angeles.	DSM-III-R	Mean age = 35 years. 88% were male. 24% African-American, 12% Asian/Pacific, 20% Hispanic white, 8% Hispanic black, 36% other white. 64% were single. 60% were actively delusional at the time of the alleged murder. 60% had schizophrenia; 48% also had a substance use disorder. 52% had previous psychiatric hospitalisation. 32% had a prior history of physical violence.	Purely descriptive.	Mentally disordered homicides come from a variety of ethnic backgrounds (similar to the make up of the parent population). Many are single men. Their age suggests that psychosis itself cannot easily explain the homicides. Although criminal or violent histories are associated with homicide, the majority (76%) had no prior history of either sort.

Table 6.1 cont'd

Author	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality	Conclusions drawn
Lindqvist (1991)	Retrospective study of alcohol and/or drug abusing homicide offenders.	n = 71 homicide offenders attributed with the diagnosis abuse, alcoholism or narcomania at a psychiatric examination in Sweden.	Autopsy, police and court records, psychiatric examinations.	59% had separated parents. 97% did not continue after elementary school. 18% had stable employment. 52% were living alone. 79% of the alcohol abusers had a record of alcohol offences; all were under the influence at the time of the homicide. Half of all subjects had a criminal record involving violence. Only 6% had no prior criminal or psychiatric record. 58% also had a personality disorder.	Purely descriptive.	Alcoholism is not generally the sole reason for homicide, but it can be a major factor. Alcohol-related deaths often involve participation by the victim (e.g. fights). Deprivation and prior histories of contact with official sources were common amongst homicide offenders who are abusers.
Millaud *et al.* (1996)	Study of parricide (defined as murder of one's parents).	n = 12 men who attempted or committed parricide and who were admitted to a forensic psychiatric institute in Quebec.	DSM-III-R. Medical, legal, police files and interviews.	Mean age = 31 years. All of the patients had one or more Axis I diagnoses. Prevalence of paranoid schizophrenia and alcohol/drug abuse were each 42%. 67% had persecutory delusions. Personal and family history of violence and psychiatric pathology were frequent (50-75%)	Only considers cases sent for psychiatric evaluation. Very small number studied.	Schizophrenia and alcohol/drug abuse are equally common amongst those who commit parricide. Psychiatric history and violent history are the most common factors associated with parricide.
Nestor and Haycock (1997)	Comparison of homicide offenders found not guilty by reason of insanity and convicted murderers.	n = 13 insane homicides n = 15 murderers referred to a secure psychiatric facility in Massachusetts.	DSM-III-R	Mean age of both groups was around 35 years. None of the insane homicide offenders, but 27% of the murderers abused substances at the time of their crime. 69% of insane homicide offenders killed blood relatives compared to 7% for murderers. However, for significant others the corresponding percentages were 23% and 60%. Both groups were similar in intelligence tests and were in the average range.	Control group is not randomly sampled: specific types are excluded.	People found not guilty by virtue of insanity are broadly similar to murderers although their victims are more likely to be blood relatives.

Table 6.1 cont'd

Author	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality	Conclusions drawn
Noreik and Gravem (1993)	Description of mentally disordered homicide offenders	n = 493 men and women defendants of homicide/attempted homicide referred for psychiatric evaluation in Norway	ICD-9	71/493 were psychotic. Of these 59% were schizophrenic and 17% had paranoid psychoses. 90% were men. 67% of homicides were within families.	(In Norwegian) 100% sample of judicial psychiatric observations	The cause of increased mentally disordered homicides is suggested to be liberal and short duration treatment strategies.
Raine (1993)	Testing the hypothesis that borderline personality characterises extreme violence. Also considers schizotypal personality.	n = 13 murderers n = 5 violent offenders n = 19 non-violent offenders. All Caucasian males incarcerated in a top-security prison in England.	DSM-III. Diagnostic Interview for Borderline.	Mean age = 32 years. Murderers had higher borderline personality scores than non-violent offenders ($p < 0.05$). There were no group differences for schizotypal personality, age, social class and IQ ($p \geq 0.76$)	Volunteer sample.Small sample size.	Violent crime is associated with borderline personality, but not to schizotypal personality. Specifically, 'effective instability' and 'unstable, intense relationships' were the borderline traits elevated in murderers.
Steury and Choinski (1995)	Comparison of violent criminals: mentally disordered vs others	#	Court records. Local mental health records	Table 6.3 Mentally disordered defendant crimes were less likely to have a 'normal' motive, more likely to follow an argument, more likely to involve a knife and less likely to involve drugs/alcohol. These factors together are the four most powerful at distinguishing the two groups.	Only 38% of defendants were charged with homicide. Apparently no allowance for overlapping membership of the dyads (will affect any tests carried out).	Mentally disordered very violent crimes are more impulsive and unpredictable, but tend to be less serious in their consequences.
Tiihonen and Hakola (1994)	Study of psychiatric characteristics of homicide recidivists.	N = identified from prisons and mental hospitals in Finland	Forensic psychiatric examinations (n = 12) or criminal records (n = 1).	Case series data is presented. 85% were type 2 alcoholics. All but one of these also had an anti-social personality; all had an onset of alcohol abuse or criminal behaviour aged ≤ 20. The remaining 15% were schizophrenics.	Purely descriptive. Small number of subjects.	Homicide recidivists all appear to be mentally ill (but see quality note).

Table 6.1 cont'd

Author	Aims of study	Characteristics of subjects	Instruments/ sources used	Main findings	Comments on quality	Conclusions drawn
Tilhonen (1995)	Analysis of risk factors for homicidal behaviour.	Synthesis of existing publications, all based in Scandinavia.	DSM-III.	Relative risks of homicidal behaviour amongst men (general population = 1) are for, severe cognitive impairment 1.7 major affective disorder 1.8 alcohol dependence without personality disorder 2.1 schizophrenia 5.7 psychosis 6 alcohol dependence with personality disorder 15.8 all personality disorders 18.7 type 2 alcoholism 22.8	Basis of computations is obscure and almost certainly flawed. Calculations use data from North American studs, which may not be directly applicable (See also Eronen, 1995).	Schizophrenia, personality disorder and/or alcoholism are risk factors for homicide.
Wilcox (1985)	Description of the psychiatric health of homicides.	n = 71 convicted murderers in Contra Costa County, California.	Case histories	Case series descriptions are given for 10 subjects. Average rate of 6.4 homicides per year per 100,000 population. 69% of homicides were mentally ill. 14% of these had schizophrenia, about a half had anti-social personalities and drug/alcohol dependence was quite common.	Purely descriptive and largely not quantified. The psychiatric diagnoses were given by two or more examining psychiatrists.	Most homicides are not legally incompetent or mentally ill by common standards, but may have anti-social personalities and/or alcohol/drug dependence. In the main, the mentally disordered homicides could not have been predicted.

Table 6.1 cont'd

Yarvis (1990)	Description of the characteristics of murderers. Some comparisons given with community data.	n = 100 men, charged with homicide, referred for psychiatric evaluation (geographical source is not clear, but likely to be in California).	DSM-III. All relevant administrative records.	Axis I unique diagnoses: Substance use disorder 35%; schizophrenia 21%; other psychoses 8%; dysthymic disorders 9%; others 13%; no diagnosis 14%. Axis II: anti-social 38%, borderline 18%; others 18%; no diagnosis 26%. Different types of homicide are also considered separately in the paper. Compared to the community, the relative risk is between 2.6 and 16 for substance abuse, 13 and 26 for psychoses, 1.7 and 7.5 for dysthymic disorders and 18 and 63 for anti-social disorder.	All data items analysed were verified from an independent source.	Few psychiatric diagnoses are required to classify most murderers. Such diagnoses are more common than in the general population. However there was not simple diagnostic categorisation of particular types of murder or murderer: hence therapeutic strategies must be flexible.

6.3 Studies of trends

Five studies describe trends in homicide or mentally disordered homicide over time: Boscredon-Noé *et al.* (1997), Gottlieb *et al.* (1987), Gottlieb and Gabrielsen (1991) and Gudjónnson and Pétursson (1982 and 1990). A sixth paper, Gabrielsen *et al.* (1992) applies statistical models to the data given by Gottlieb *et al.* (1987). Some of these papers provide descriptions of the entire set of subjects, over all the years studied, and so could also be classed as descriptive studies.

Boscredon-Noé *et al.* (1997) say that the number of mentally disordered homicide offenders hospitalised within a particular part of Southern France has remained constant since 1838. However, this does not necessarily reflect changes in the number of homicides committed per year, either overall or by those deemed to be mentally ill. Furthermore it is not clear how changes in definition, medical or criminal practice catchment areas for the particular psychiatric hospital chosen and the size of the hospital itself have affected trends. Boscredon-Noé *et al.* (1997) claim that the number hospitalised for mentally disordered homicide offending, compared to the current catchment population, has remained constant over 150 years at 0.23 to 0.30 per hundred thousand.

Gottlieb *et al.* (1987) and Gabrielsen *et al.* (1992) study the 251 defendants of homicide referred for psychiatric evaluation in Copenhagen between 1959 and 1983. Gottlieb and Gabrielsen (1991) update the 1987 paper by including an extra 25 defendants tried between 1984 and 1989. The number of such defendants was around 1.1 per million each year in the 1960's, but rose to around 2.5 per million per year thereafter. The change was mainly due to an increase amongst men. In the 1980's rates were stable, although the female rate rose (albeit, with small numbers: only 13% of defendants were women). Homicides committed by schizophrenic persons increased by a factor of five from 1959 – 1983, but thereafter remained constant at 1-2 per year. Overall 21% of defendants were psychotic.

Gudjónsson and Pétursson (1982) look at trends in all homicide in Iceland, 1900-1979. They find that rates increased over time: up to 1940 the annual homicide rate per hundred thousand was 0.05 rising to 0.72 in 1940–1979. In 1970–1979 the rate was as high as 0.97, very similar to the rate of 0.91 in England and Wales for the same period. 94% of homicide offenders were men; almost a third were psychotic and near to two-thirds had some mental illness; 57% had a previous criminal conviction; one fifth had personality disorder and 13% had alcohol/drug dependence.

Gudjónnson and Pétursson (1990) compare total homicide rates in six Nordic countries. Although homicide rates were universally increasing, they found great variation between the countries studied: for example, in 1985 the homicide rate was over 23 per hundred thousand in Greenland compared to 0.6 in Iceland. The authors opine that the number of large cities may be a contributory factor, but there is no hard evidence for this assertion. The paper reviews the evidence in earlier papers and makes the observation that personality disorder, schizophrenia and (especially) alcohol/drug abuse were common amongst homicide offenders.

6.4 Comparative studies of homicide offenders

Two North American studies compare mentally disordered homicide offenders to other homicide offenders: Beaudoin *et al.* (1993) in Canada, and Nestor and Haycock (1997) in Massachusetts. A third North American study by Steury and Choinski (1995) has a similar aim, although it concerned violent criminals (only 38% of whom were charged with homicide). This third study is strictly outside the scope of this chapter, but is included because violent crime could lead to homicide under certain circumstances. Unfortunately all three papers have small sample sizes.

Beaudoin *et al.* (1993) compare three groups of prisoners convicted of homicide: schizophrenics found guilty, schizophrenics found not guilty by virtue of insanity, and those with no mental illness (See Table 6.2). The convicted schizophrenics were similar to the non-mentally ill except (not surprisingly) in terms of mental health. They had similar mental health to those found not guilty, but began committing crimes rather earlier. This suggests that it is an early criminal offence that prevents insanity being found a sufficiently mitigating factor during trial.

Nestor and Haycock (1997) find those found not guilty by reason of insanity to be similar to convicted murderers in their two-group comparison. The murderers were much more likely to have killed a 'significant other' although less likely to kill a blood relative. As in the study of Beaudoin *et al.* (1993), murderers were more likely to abuse alcohol or drugs.

Steury and Choinski (1995) use an interesting study design based on victim-defendant dyads (pairs). Again this is a two-group comparison, one group has defendants who are mentally disordered, the other has defendants who are not. They use discriminant analysis to show that the four most powerful factors for distinguishing the two groups are: presence of a 'normal' motive, an argument, a knife and alcohol/drugs. Mentally disordered offenders are more likely than others to have no motive (16% *vs* 7%) or to have hallucination or delusion as the motive (16% *vs* 1%). Their crime is more likely to involve an argument (58% *vs* 49%) and less likely to involve alcohol or drugs (37% *vs* 43%). Relationship to the victim was not a powerful discriminator, nor was the place of the offence. (See Table 6.3)

Table 6.2 : Comparison of three groups of murderers.

	Schizophrenics		Non-mentally
	Convicted	Not guilty-insanity	disordered
n	14	12	15
Participation	86%	83%	21%
Drug/alcohol abuse	17%	36%	60%
Intoxication at time of murder	67%	13%	73%
First aggressive behaviour aged < 17 years	67%	71%	73%
Mean age at first conviction for aggressive incident	23 years	32 years	23 years
Mean age at first homicide	30 years	34 years	29 years
Number of aggressive incidents	4.7	8.1	5.9
Number of criminal convictions for aggression	2.0	1.2	1.9
Minor wounding during aggressive incidents	54%	64%	58%
Chosen victim	73%	77%	91%
Murderer known to victim	54%	75%	55%
Victim identified prior to aggression	25%	9%	21%

Source: Beaudoin *et al.* (1993)

Table 6.3: Percentage of defendants (of two different types) with particular incident characteristics.

Characteristic	Mentally disordered (n = 32)	Others (n = 82)
Relationship: offender to victim		
Friend or family	44	39
Passing acquaintance	41	32
Stranger	16	26
No history of trouble	63	31
Argued with victim at time	58	49
Victim initiated interaction	16	10
Offence occurred in home	53	39
Motive		
Money (greed/debt)	6	13
Trivial dispute	44	42
Pride, jealousy, revenge	9	22
Accident, unintended	3	5
Hallucination, delusion	16	1
No apparent motive	16	7
Planning		
Ten minutes or less	67	46
More than 2 hours	6	7
No alcohol or drugs present	63	57
Intent		
To kill	9	26
To harm, but not to kill	72	51
No apparent intent	9	10

Source: Steury and Choinski (1995)

6.5 Comparative studies of prisoners

Three studies (Côté and Hodgins 1992, Raine 1993, and Langevin *et al*. 1982) are broadly similar to those in the last section except that they study all prisoners, making a comparison of mental health rather than pre-selecting groups according to mental status. In all three cases, homicide offenders are compared with other prisoners.

Côté and Hodgins (1992) sampled men from prisons in Quebec. 35% of the 87 homicide offenders, compared to 21% of other offenders had a major mental disorder. This difference is mainly attributed to schizophrenia (13% *vs* 5%). The data suggests that a major depression in combination with anti-social personality disorder or alcohol/drug problems is more common amongst homicide offenders.

Raine (1993) sampled 37 Caucasian male prisoners in a top-security prison in England. He compared murderers with violent offenders and non-violent offenders. Murderers were more likely to have borderline personality, but no more likely to be schizophrenic in this small, non-random sample.
Langevin *et al.* (1982) compare killers, non-violent offenders and community controls, all recruited in Toronto. However, the controls were only used when comparing psychiatric health; furthermore they

were very much a non-random selection since all subjects in the study were retrospectively sampled having already been referred to a forensic psychiatric service. Hence this study cannot be used to make comparisons with the general population, but rather with the general population of people referred to the forensic psychiatric service. The authors find that only 44% of the killers, but 71% of the non-violent offenders had received previous psychiatric care; killers had a lower IQ and more were considered to be mentally ill at the time of their crime (35% *vs* 10%) compared to non-violent offenders. Killers also had a lower IQ than the controls. They conclude that, in studies of criminals, psychiatric diagnosis may not be a significant factor in identifying those who are killers.

6.6 Comparative studies including general populations

Five papers compare homicide or mentally disordered homicide offenders with the general population: Eronen (1995), Eronon *et al.* (1996a and 1996c), Tiihonen (1995), and Yarvis (1990).

The three papers with Eronen as first author and that by Tiihonen can be taken together, as they all use subsets of the same data and the same methodology. These data arise from all homicide offenders referred for psychiatric evaluation in Finland from 1980 to 1993. The Finnish population is a good setting for the type of study envisaged since there is a high detection rate (97%), most homicide offenders are examined by a psychiatrist, and retrospective linking of data sources is relatively easy. Tiihonen (1995) includes some results reproduced from other sources, but these do not add anything significant to this discussion.

Unfortunately the authors use incorrect statistical procedures to make comparisons with the general population, compounded by including a detailed description of the method used within Eronen *et al.* (1996a). Technically, the authors use methods designed for use with binomial data when they really have Poisson data. Consequently they quote odds ratios when they really have relative rates and their confidence intervals are inaccurate (See Breslow and Day 1987). Nevertheless, their descriptions of the mentally disordered offenders and relative rates, comparing to the general population, are potentially useful. Unfortunately, in all four papers the general population used as a control group was a North American one rather than one necessarily similar to that which gave rise to the homicides studied (i.e. North American psychiatric health is not necessarily similar to Finnish). Despite their faults, these studies show that homicides are rarely committed by women (only 8% were) and that schizophrenia, personality disorder and alcoholism are all important risk factors for homicide.

Yarvis (1990) presents a descriptive study of 100 men charged with homicide who were referred for psychiatric evaluation, but includes some comparisons with the general population. Few psychiatric diagnoses were required to classify the murderers: substance use disorder (35%) and schizophrenia (21%) anti-social personality disorder (38%) and borderline Axis II (18%) being the leading diagnoses. The prevalence of these diagnoses was much higher than in the general population. Anti-social personality disorder has the highest relative risk of homicide (estimated to be between 18 and 63). Yarvis also looked at different types of murder (e.g. with robbery), but found no particular differences in diagnoses between murder types (possibly due to the small numbers involved).

6.7 Studies of homicide of relatives

Three publications studied homicide, or attempted homicide, of specific relatives. Two of these, Clark (1993) and Millaud *et al.* (1996) were purely descriptive; the third (Bourget and Bradford 1990) compared parental killers with other homicide offenders. All had very small numbers to study.

Clark (1993) studied matricide offenders in Scotland. Over a 31-year period he identified 26 cases of matricide, 23 being committed by men. Most of the offenders were single (76%) and had a history of psychiatric treatment (60%). Psychiatric illness was common: 38% were psychotic, 15% had alcohol dependence and 19% had personality disorder.

Millaud *et al.* (1996) studied mentally disordered homicide offenders who killed their own parents in Quebec. They identified 12 such people who were admitted to the Pinel Institute for therapy. Schizophrenia and alcohol/drug abuse were each diagnosed in 5 patients; 8 had persecutory delusions; 9 had personal psychiatric history; 9 had family psychiatric history; 6 had personal history of violence; 6 had family history of violence. These were the most common factors amongst this group of offenders.

Bourget and Bradford (1990) compared 13 homicide offenders who killed their own children to 48 other homicide offenders, all of whom had been sent for psychiatric evaluation. They found the two groups to be similar in terms of psychiatric health, with the exception that only the offspring killer group had any subjects with a major depression (4 subjects). There did not appear to be any common link between the offspring killers.

6.8 Follow-up studies of homicide offenders after release

One paper, by Gottlieb and Gabrielsen (1990), describes a follow-up study of homicide offenders who have served their sentence and been released. This uses a retrospective cohort design. Unfortunately the analysis is not ideal: no allowance is made for differing lengths of follow-up or censoring. Furthermore the way results are presented leaves a lot to be desired. According to the paper, after allowing for potential confounding factors, the odds of a subsequent criminal offence rise by a factor of 2 for every year spent in prison and by 0.8 for every extra year of age (i.e. younger people are more likely to re-offend). The odds of a violent crime rise by a factor of 2.9 for every extra year in prison and, again, by 0.8 for every extra year of age. Additionally, violent crime seems to be predicted by lack of suicidal behaviour before the homicide (odds ratio of 7 comparing lack of presence of suicidal behaviour). However, the age and stay variables are likely to be confounded with the length of follow-up, which is not accounted for. All other variables, including suicidal behaviour, depend upon complete records being available, an inherent problem with the study design used. Hence the results from this paper need to be used with caution.

6.9 Studies of homicide recidivists

Two papers, Eronen *et al.* (1996b) and Tiihonen and Hakola (1994), study homicide recidivists in Finland. In fact, the later of these two papers is an updated version of the other: the earlier paper is essentially a set of case descriptions, of which no more will be said.

Eronen *et al.* (1996b) identified 36 homicide recidivists from the same source as the other papers by this group referred to already in this chapter. As with these other papers, the statistical analysis performed is incorrect, but at least an appropriate control population is now used: data from all homicides in Finland. From the numbers given in the paper it appears that 2% of homicide offenders were recidivists. Of the 36 recidivists, 15 committed their second homicide within a year of release from prison and 3 committed their second homicide before the sentence for their first homicide was completed. The majority (24 men) were alcoholics, 23 men had personality disorder and 21 had both disorders. Four had schizophrenia and one had major depression. Only one recidivist failed to be given a DSM-III-R diagnosis, and even he was under the influence of alcohol during his subsequent homicide offence. The authors calculate that those men with a prior homicide offence are 10 times as likely to commit homicide, rising to 13 times if the man has alcoholism and 26 times if the man is schizophrenic.

6.10 Discussion

From an epidemiological point of view, the batch of studies reviewed is generally weak in terms of both methodology and analysis. The most useful data are the Finnish set reported by Eronen, Hakola and Tiihonen. Assuming that no problems of bias are caused by only looking at homicide offenders referred to psychiatric services, these data could be exploited to provide very useful results. An appropriate statistical analysis would be necessary and a better control group would need to be found: probably use of the Scandinavian cohort populations discussed in Chapter 3.

Future research on this topic should concentrate on three areas:

- A cross-sectional study of homicide offenders *vs* non-homicide offenders (drawn from the general population) to compare psychiatric health, controlling for demographic variables such as age and sex.
- A case-control study of mentally disordered homicide offenders *vs* non-homicide offenders (drawn from the general population) to compare risk factors; this could be nested within the first study.
- A cohort study of homicide offenders after release, using the national population as a control group in certain analyses.

These studies would each answer, in quantitative terms, one of the following key epidemiological questions:

- ‘How does the mental health of a murderer differ from other people?’
- ‘What are the special characteristics of mentally disordered homicide offenders?’
- ‘What factors lead to homicide recidivism?’

None of the current studies answers these questions adequately.

6.11 Conclusions

The major findings of the studies reviewed are that homicide offenders tend to be young men, are often schizophrenic, alcohol/drug abusers and/or have anti-social personality disorder. There is, however, no all-inclusive recipe to identify either a homicide offender or a mentally disordered homicide offender. Several, but by no means all, will have been seen by criminal justice and/or psychiatric services before. Even specific types of homicides do not appear to have particular distinguishing characteristics. Male homicide offenders seem to be about ten times as likely to commit future homicides compared to other men.

Table 6.4: Studies Omitted from Consideration

Author Identifier	Location	Reason for Omission
Buteau *et al.* (1993)	Quebec	Only homicide followed by suicide studied.
Grant (1995)	USA	Biased sample (n = 13).
Laubichler and Ruby (1991)	Austria	Only considers correlations with time of day (note: does say that there is no correlation of mentally disordered homicides with alcoholism).
Marzuk *et al.* (1992)	Review	Only homicide followed by suicide studied.
Sakuta (1995)	Japan	Only homicide followed by suicide studied.
Shore *et al.* (1988)	USA	Follows up a special group of identified mentally ill subjects. Homicide not distinguished as a separate crime.
Tiihonen *et al.* (1997)	Finland	Only considers correlation of all homicides with time of year.

CHAPTER 7 - STUDIES OF THE CRIMINAL JUSTICE SYSTEM POPULATION

7.1 Introduction

This chapter reviews studies in four areas of the criminal justice system: handling by the police, diversion from custody schemes, remand prisoners and sentenced prisoners. The chapter ends with an indication of broad conclusions that can be drawn for research needs in this area.

7.2 Mentally Disordered People and the Police

7.2.1 Results of the search

The search identified 17 articles which conformed to the basic inclusion criteria (with the exception of criteria regarding offending behaviour) and which concerned the direct handling of mentally disordered people by the police in the UK. The criteria for offending behaviour were not applied here, since it seemed useful to include studies of any contact with mentally disordered people by the police at this crucial time of initial contact with the criminal justice system, as explained under 'Background' (7.2.2) below.

Table 7.1 gives summary information about each of the 17 articles, including commentary on the quality and usefulness of each study in the context of this review

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Table 7.1: Summary of the 17 articles identified

Article	Aim	Sample	Results	Comment on quality/usefulness
Berry, R. (1996)	To study police contact with mentally disordered people in one police force area.	All logged incidents over a 9-week period in 1994 (n=238).	Large majority of incidents were of a non-crime nature (nearly 90%). These incidents involved 20% more man-hours than domestic burglary.	Gives data on extent of police contact, but no detail on offences or on status of mentally disordered person involved (e.g. offender or victim). Crime/non-crime distinction not defined.
Dunn, J. and Fahy, T. (1990)	To compare the characteristics of Black and white people admitted to a psychiatric hospital under Section 136.	All patients admitted to a South London psychiatric hospital under Section 136 in a 27-month period, 1983-1985 (n=268).	Black patients - 33% of sample. Patients from New Commonwealth and Pakistan were over-represented (22% vs. 15% in local general population). Black men were significantly younger than other groups. Rate of previous psychiatric admissions was high (from 67% for Black men to 92% for Black women), but no significant difference between Black patients and white. More diagnoses of schizophrenia amongst Black patients (47% vs. 22% for white patients). Less diagnoses of personality disorder amongst Black patients (0% vs. 13% for white patients). Less diagnoses of drug/alcohol misuse amongst Black patients (1% vs. 13% for white patients). Violent behaviour as reason for referral: Black men - 58%; white men - 49% Black women - 31%; white women - 40%	Information from hospital and police records. Diagnosis by psychiatrists. Behaviour leading to referral taken from police records. Complete sample from one hospital from over 2 years admissions. Data given on ethnicity by age, diagnosis and behaviour on referral. Statistical analysis of comparisons between ethnic groups.

Table 7.1 cont'd

Article	Aim	Sample	Results	Comment on quality/usefulness
Fahy, T., Bermingham, D. and Dunn, J. (1987)	To examine characteristics of admissions under Section 136 to two psychiatric hospitals with contrasting catchment areas (urban and rural).	All patients admitted under Section 136 in a 2-year period 1984-1985 (n=240 in urban hospital; 135 in rural). Also comparison with 91 consecutive admissions to the urban hospital under Section 4 (civil equivalent to Section 136).	**Urban Rural** Admissions under Section 136 7% 4% (national rate for England and Wales=1%) Male 70% 56% UK origin 53% 84% African-Caribbean 27% 1% Schizophrenia 27% 32% Manic-depressive psychosis 17% 18% Personality disorder 17% 17% Mental impairment 6% 4% (indicates similar spread of diagnoses between the two hospitals) **Urban Rural Section 4** Further Section applied 28% 19% 59% Discharged before 72 hrs. 38% 38% 4% (indicates less treatment offered for Section 136 cases)	Data from hospital records. No data on reasons for referral. Compares urban and rural catchment areas. Gives data on gender, ethnicity, diagnoses and follow-up.

Table 7.1 cont'd

Article	Aim	Sample	Results	Comment on quality/usefulness
Gudjonsson, G., Clare, I., Rutter, S. and Pearse, J. (1994)	To investigate the psychological characteristics of adult suspects prior to being interviewed by the police.	156 subjects at two Metropolitan police stations over a 3-month period.	7% diagnosed as having mental illness 3% diagnosed as having learning difficulties 5% judged to be illiterate or to have language problems Estimated that 15-20% needed an Appropriate Adult; in only 4% was Appropriate Adult made available.	No data on sampling method. No data on offences. Diagnoses made by clinical psychologists. Article illustrates low use of Appropriate Adult support.
Laing, J. (1995)				Review article; no primary data.
Lyall, I., Holland, A. and Collins, S. (1995)	To identify the proportion of people suspected of criminal offences who have learning difficulties.	25% sample of people arrested at Cambridge City police station in a 2-month period (n=251).	38 (15%) identified as having learning difficulties.	Reliability of data is questionable, since assessment was by self-report of attendance at special school or having reading and writing difficulties.
Mokhtar, A. and Hogbin, P. (1993)	To compare Section 136 admissions with 'difficult-to-manage' Section 2 and 4 (compulsory civil admission) patients in a psychiatric unit.	All Section 136 and 'difficult-to-manage' Section 2 and 4 admissions to the unit in a one-year period. Section 136: n=39 Section 2 and 4: n=29	**Section 136** **Section 2 and 4** Black 13% 31% Unemployed 74% 62% Living alone 59% 38% Past convictions 28% 14% Previous admissions 33% 59% Married or cohabiting 23% 28% Homeless 23% 4% Schizophrenia 36% 49% Affective psychosis 23% 35% Drug-induced psychosis 8% 0% Paranoid state 8% 7% Depression 8% 0% Personality disorder 5% 3% Hallucinations/delusions 33% 27% Threats of violence 10% 6%	Prospective study. Demographic data and diagnoses given. Section 2 and 4 patients are non-representative, selected as 'difficult-to-manage'. Section 136 admissions were catchment area based and therefore likely to be more representative. Exact location of unit is not specified ('peri-London').

Table 7.1 cont'd

Article	Aim	Sample	Results	Comment on quality/usefulness
Nemitz, T. (1996)	To examine the use of Appropriate Adults to support vulnerable suspects in police stations.	Custody records at 4 police stations for a 12-month period, 1992. Total no. of records studied = 20,805.	Use of Appropriate Adult was recorded in 38 cases (0.2%). Need for an Appropriate Adult was identified but not acted on in a further 446 cases (2.2%).	Method of sampling of police stations and records is not described. No data given on offences, diagnoses or criteria for identifying need for Appropriate Adult (but see Nemitz and Bean 1994, below). This paper describes a larger and more complete sample than Nemitz and Bean (1994) - see below.
Nemitz, T. and Bean, P. (1994)	To examine the use of Appropriate Adults to support vulnerable suspects in police stations.	Sample of custody records at 2 police stations over a 12-month period, 1992. No. of records searched =13,200 out of estimated total no. available of 24,000.	Potential need for Appropriate Adult identified in 258 records (2.0%). Appropriate Adult actually used in 21 cases (0.2%).	Method of selection of police stations and records is not described. No data given on offences or diagnoses. Criteria *are* specified for identifying potential need for Appropriate Adult.
Norfolk, G. (1996)	To examine attitudes of police surgeons towards assessment of need for Appropriate Adults.	Questionnaire to all members of the Association of Police Surgeons (n=818). Replies from 546 (67%). Estimated total no. of police surgeons in England and Wales is between 1500 and 2000.	26% were unwilling to assess for fitness to interview. 20% were unwilling to be involved in decisions about need for Appropriate Adult. 50% expressed confusion over the meaning of 'fitness to be interviewed'. 23% stated that police in their area had difficulty finding Appropriate Adults.	Illustrates confusion over the role of police surgeons in determining fitness for interview and need for Appropriate Adult. (This is important as custody officers will often rely on police surgeon opinion in order to take this decision.)
Palmer, C. (1996)	To examine the effectiveness of PACE (Police and Criminal Evidence Act) Codes of Practice for mentally disordered suspects.	Interviews with 44 custody officers, police surgeons and others.		Data reported anecdotally rather than systematically with figures. More a review article than an analysis of primary data. Confirms that few police surgeons are psychiatrists or have adequate training in psychiatric diagnosis.

Table 7.1 cont'd

Article	Aim	Sample	Results	Comment on quality/usefulness
Robertson, G., Pearson, R. and Gibb, R. (1996a)	To examine factors associated with the entry of mentally disordered people into the criminal justice system.	All detainees at 7 Metropolitan police stations over a 6-month period in 1993 (n=2721).	1.2% showed definite signs of serious mental disorder (n=37). Schizophrenia - 66% Affective disorder - 16% Brain damage - 14% Drug-induced psychosis - 3% A further 1.4% had a previous history of psychotic illness or appeared mentally unwell. Offences of violence, breach of the peace or public order offences were more likely among mentally disordered detainees.	The study illustrates that a proportion of people with serious mental disorder are detained by the police rather than being dealt with under Section 136 of the Mental Health Act. Data are given on diagnosis and offence patterns of such people. Diagnosis was made by researchers; the basis of diagnosis is not specified.
Robertson, G., Pearson, R. and Gibb, R. (1996b)	To examine factors associated with the entry of mentally disordered people into the criminal justice system.	All detainees at 7 Metropolitan police stations over a 6-month period in 1993 (n=2721).	An Appropriate Adult was in attendance at 15% of all interviews; however 85% of these were cases of juveniles (age under 17). Appropriate Adults were used in only 2% of interviews of adults (amounting to only 4 per year per police station). Most people considered mentally disordered by the researchers were not interviewed before further action was taken.	This paper illustrates low use of Appropriate Adults for vulnerable adult detainees, but also a low rate of formal interviewing of seriously mentally disordered people.
Rogers, A. (1990)	To study the use by police of Section 136.	Exact nature of the study is unspecified. It included interviews with 160 police officers in the North-East Metropolitan police area about individual cases they had dealt with. (These appear to be cases where arrests were made under Section 136 or which could have involved Section 136.)	There was a lower proportion of women referred through Section 136 than through compulsory civil admission (50% vs. 59%). There were more referrals of African-Caribbean people than expected from the composition of the local population (39% vs. 18%). African-Caribbean referrals were significantly younger than other groups (exact figures not stated). Only 5% of those referred were deemed 'not mentally ill' (illustrating the accuracy of police diagnoses of mental disorder in the context of Section 136).	Sampling method not stated. The paper is mainly an analysis of police action and the circumstances of that action, rather than of the characteristics of the mentally disordered people involved.

Table 7.1 cont'd

Article	Aim	Sample	Results	Comment on quality/usefulness
Rogers, A. (1993)	To study police-psychiatrist relations in the use of Section 136.	Interviews with 61 police officers and 38 psychiatrists in the North-East Metropolitan police area in 1986-1987.		Documents problems that frequently occur in police-psychiatrist interactions in relation to Section 136 referrals. No relevant primary data.
Spence, S. and McPhillips, M. (1995)	To examine the psychiatric diagnoses of those referred by police under Section 136 of the Mental Health Act.	All those detained under Section 136 in Westminster, London, over a 6-month period in 1991 (n=65, plus 5 with insufficient data for inclusion).	Population of Westminster is 28,000, so rate of Section 136 referrals is 0.5% per year. Male - 68% Unmarried - 82% Age under 40 - 55% Unemployed - 88% White - 83% African-Caribbean - 15% Homeless - 19% Previous psychiatric history - 82% Schizophrenia - 39% Personality disorder - 37% Behaviour leading to referral: 'Bizarre behaviour' - 68% Threatened self-harm - 26% Violence - 5% Those with personality disorder were less likely to be admitted to or detained in hospital for more than 72 hours, but more likely to re-present under Section 136 at a future date.	Information from hospital and police records. Diagnosis by psychiatrists. Complete 6-month sample for one London district. Data given on demographic characteristics, diagnoses and behaviour on referral. Follow-up data are given for duration of study (6 months).

Table 7.1 cont'd

Article	Aim	Sample	Results	Comment on quality/usefulness
Turner, T., Ness, M. and Imison, C. (1992)	To study Section 136 referrals in an inner-city Health District.	All Section 136 referrals to the psychiatric unit of the City and Hackney Health District of London over 2 years, November 1985 to October 1987 (n=163).	48% of referrals were of African-Caribbean people (compared with 22% in the local general population). 35% were African-Caribbean men, who were younger than other groups. 62% were single, divorced or separated. 38% lived alone. Only 4% were in employment. Reasons for referral: Causing disturbance - 36% Violent to persons - 18% Violent to property - 17% Threats - 13% Self-harm/suicide - 11% Sexual behaviour - 9% 23% had previously been in prison. Only 4% were diagnosed 'no mental illness' (illustrating accuracy of police recognition of mental disorder in the context of Section 136). Diagnoses: Schizophrenia - 46% Mania - 15% Personality disorder - 13% Psychosis - 9% Organic - 10% Other/not known - 13% No mental illness - 4% (these are not mutually exclusive; about 20% of patients had a dual diagnosis)	Retrospective study. Information from hospital case-notes. Complete admission cohort to one unit over 2 years. Data given on demographic characteristics, diagnoses and reasons for referral.

7.2.2 Background

The epidemiology of mentally disordered offenders - i.e. the study of the incidence or prevalence of different kinds of mental disorder in combination with different kinds of offending behaviour, and the circumstances associated with that incidence or prevalence and variations in it - cannot be carried out in isolation from a study of the administrative operation of agencies of social control, support or treatment. This is demonstrated clearly in the case of involvement of the police.

The police are a major agency in terms of contact with mentally disordered people in the community, some - but not all - of which contact will be in the context of crime. They constitute a 24-hour service, immediately and quickly available, for the handling of any incident of unusual or difficult behaviour by people in the community. Berry (1996), in a study of police responses to incidents involving mentally disordered people in Northumberland, found that such incidents took up 20% more police time than domestic burglaries. However, Berry found that almost 90% of these incidents were 'non-crime-related', and even in crime-related incidents the mentally disordered person might be victim or witness rather than perpetrator.

The police have formal powers even when no crime has been committed. Under Section 136 of the Mental Health Act 1983, the police may, when an officer thinks it necessary in the interests of the person or for the protection of others, take a person found in a public place, who appears to have a mental disorder and is 'in immediate need of care or control', to a 'place of safety' where they may be detained for assessment for up to 72 hours. A 'place of safety' may be anywhere willing to receive the person, but in practice is either a psychiatric hospital or unit or a police station. Some people detained under Section 136 will have committed crimes and some will not.

Section 136 is one of the interfaces between the criminal justice system and the psychiatric services. Its use, and the characteristics of people to whom it is applied, are useful data therefore for the planning of services that cross the boundaries of criminal justice and psychiatric care and treatment. Concern has been expressed about the reception of Section 136 cases into ordinary psychiatric wards (Fahy *et al.* 1987) and sometimes special units are established for this purpose (Mokhtar and Hogbin 1993).

It appears that in the London area it has been standard practice to regard the 'place of safety' always as a psychiatric hospital or unit (Spence and McPhillips 1995; Mokhtar and Hogbin 1993), though in some districts people may be taken to a police station first for automatic referral to a hospital (Dunn and Fahy 1990). Studies have taken place of the characteristics of Section 136 referrals in the London area which identify all such cases admitted to psychiatric services in a particular district, with an assumption that coverage of all uses of Section 136 is thereby achieved. Outside London, it appears to be more common practice for the 'place of safety' to be regarded as a police station, where a person can be assessed for subsequent admission to hospital if necessary (Rogers 1990); thus, at least some Section 136 cases will not be assessed in or referred to a hospital. Several studies (e.g. Spence and McPhillips 1995; Turner *et al.* 1992) quote an apparent finding that 90% of all Section 136 admissions to hospital take place in the four Health Regions serving London and the surrounding area. Rogers (1990) considers this an artefact of the way figures are compiled by the Department of Health.

Thus, admissions to hospital under Section 136 may reflect local practice regarding 'place of safety' as much as patient need. Furthermore, use of Section 136 in particular districts is likely to be influenced by relationships between the police and psychiatric services, as discussed by Rogers (1990, 1993).

However, a number of recent studies do show a measure of agreement on the characteristics of mentally disordered people referred to psychiatric services by the police under Section 136, and they are reviewed here. All relate to the London area. It should be remembered that these people are defined by an administrative action by the criminal justice system utilising mental health legislation, not necessarily by commission of any offence.

One finding from some studies of the operation of Section 136 is that the police show a reasonably high degree of accuracy in their recognition of mental disorder in the individuals they deal with in the context of Section 136 (Rogers 1990; Turner *et al.* 1992), though as can be seen from studies of other parts of the criminal justice system many people with mental disorder are not identified and diverted to hospital by the police in this way.

When a mentally disordered person is suspected by police of having committed a crime, Section 136 may be invoked or the person may be arrested under other police powers and taken to a police station. At the police station it may be decided that the person should be formally interviewed, though interviews are not always required either for a decision to charge the person or for a decision not to. Under the Codes of Practice of the Police and Criminal Evidence Act (PACE), police should consider two questions if an interview is desired with a vulnerable person (this includes juveniles, mentally disordered people and others who may have communication or other relevant difficulties): is the person fit for interview, and if so, should the person have an Appropriate Adult to support them during the interview? The custody officer at the police station has the power to make these decisions, but often in the case of potentially mentally disordered people a police surgeon is called to assess these needs. Norfolk (1996) documents widespread variation in police surgeons' willingness to do this, widespread confusion over the meaning of 'fitness for interview', and widespread difficulty in obtaining Appropriate Adults. Also, few police surgeons are psychiatrists or have adequate training in psychiatric diagnosis (Palmer 1996).

The actual treatment of mentally disordered suspects in police stations, including the extent of use of Appropriate Adults during interviews, is therefore likely to depend on local circumstances and relationships as much as on individual need.

7.2.3 The characteristics of people detained under section 136

Six articles describe studies of cohorts or samples of people detained under Section 136, which gives power to the police to remove to a 'place of safety' a person found apparently suffering from a mental disorder in a public place:

Dunn and Fahy (1990)
Fahy *et al.* (1987)
Mokhtar and Hogbin (1993)
Rogers (1990)
Spence and McPhillips (1995)
Turner *et al.* (1992)

These all relate to the London area where psychiatric hospitals or units are designated as the 'place of safety'. This means that all the people dealt with under Section 136 can be defined by their admission to hospital under that Section. Following this clear means of definition, people can be identified on admission and followed prospectively, or they can be identified from hospital records and studied retrospectively. Similar studies elsewhere in the country would require clear records by the police of Section 136 detentions, and more complex follow-up or tracing of people following their assessment. There appear to be no such studies of the situation outside London.

7.2.3.1 Incidence

Only one study (Spence and McPhillips 1995) gives data on the size of the general population of the base area for the study. The greatly differing compositions of the populations of districts of London from each other and from parts of the country outside London, as well as the considerations discussed under 'Background' (7.2.2) above, would suggest that rates of use of Section 136 will vary considerably from place to place. An 'incidence' figure is therefore only likely to be meaningful in a local context. The one example is the finding of Spence and McPhillips that there were 75 Section 136 cases in Westminster in a six-month period in 1991, from a population of 28,000. This gives an 'incidence' rate of 0.5% per year - i.e. 1 in 200 people each year are detained under Section 136 in Westminster. Such an area of London is likely to have a high proportion of vulnerable people, and one would predict the rate elsewhere to be much less than this.

Fahy *et al.* (1987) compare the proportion of total admissions to psychiatric facilities which are under Section 136 in a London urban hospital and a near-London rural hospital; they also quote a national figure. In the London urban hospital Section 136 admissions constituted 7% of admissions, in the near-London rural hospital it was 4%, and the national figure is given as 1%. The considerations already discussed make it very difficult to interpret such figures.

7.2.3.2 Gender

Spence and McPhillips (1995) found that 68% of Section 136 referrals in Westminster were male. Fahy *et al.* (1987) found 70% of Section 136 admissions to an urban hospital to be male, and 56% of such admissions to a rural hospital. Rogers (1990) gives a figure of 50% male, a larger proportion than amongst comparable civil admissions (41%). These findings, though varied, indicate a higher risk to men than to women of admission under Section 136, both in real terms and in comparison with admission through other routes.

7.2.3.3 Ethnicity

Apart from diagnosis, ethnicity is the only characteristic covered by all six of the studies. In the City and Hackney Health District in the mid 1980s, Turner *et al.* (1992) found 48% of Section 136 referrals to be of African-Caribbean people, of whom 73% were men. The proportion of African-Caribbean people in the local population was 22%. Dunn and Fahy (1990) found 33% of patients admitted under Section 136 to a South London hospital to be Black, again an over-representation compared to the local general population (15% Black). Rogers (1990) found 39% of referrals to be of African-Caribbean people, compared to 18% of the local population, in the North-East Metropolitan police area. Fahy *et al.* (1987) give figures of 47% non-UK origin (27% African-Caribbean) for referrals to a London urban hospital, and 16% non-UK origin (1% African-Caribbean) for a near-London rural hospital. Spence and McPhillips (1995) found 17% of referrals in Westminster to be of non-white people (15% African-Caribbean). Mokhtar and Hogbin (1993) found 13% of Section 136 referrals to be of Black people in a 'peri-London' psychiatric unit, but this was a lower proportion than amongst a comparison group of 'difficult-to-manage' civil admissions (31% Black).

There is clearly a lot of variation depending on the composition of the local population, but the data indicate over-representation of Black people, especially African-Caribbean men, amongst Section 136 referrals, as there is in the psychiatric services population generally.

7.2.3.4 Age

Spence and McPhillips (1995) state that 55% of their sample were aged under 40. Three studies report that African-Caribbean men were significantly younger than other groups (Turner *et al.* 1992; Dunn and Fahy 1990; Rogers 1990). Dunn and Fahy (1990) give mean ages for Black men of 27 years; white men 35 years; Black women 32 years; and white women 36 years. The youngest person was aged 18 and the oldest 85 (both white men).

7.2.3.5 Marital status

Turner *et al.* (1992) report 62% of referrals as being single, divorced or separated. In the Spence and McPhillips (1995) cohort, 82% were unmarried. Mokhtar and Hogbin (1993) found 77% of Section 136 referrals to be unmarried and not cohabiting; they compare this with 72% of 'difficult-to-manage' civil admissions.

These figures indicate that not being in a marital or cohabiting relationship is a strong risk factor for Section 136 referral, possibly even more so than it is for other routes of referral to psychiatric services.

7.2.3.6 Home situation

Mokhtar and Hogbin (1993) found 23% of the Section 136 referrals they studied to be homeless, compared with only 4% of the civil admissions in their sample. Spence and McPhillips (1995) found 19% of Section 136 referrals to be homeless. Turner *et al.* (1992) report that 38% of their cohort lived alone.

Being homeless or living alone are indicated as risk factors in themselves for Section 136 referrals, but particularly in comparison with civil admissions which are more likely where there is a home-sharer who can be involved in the referral process.

7.2.3.7 Employment

Turner *et al.* (1992) report that only 4% of their 2-year sample of Section 136 referrals were employed. Spence and McPhillips (1995) give a figure of 88% unemployed. Mokhtar and Hogbin (1993) found that 74% of their Section 136 cohort was unemployed, compared with 62% of their civil admission sample.

Unemployment is thus indicated as a strong risk factor for Section 136 admission, possibly even more so than for other routes of referral.

7.2.3.8 Reasons for referral

Moktar and Hogbin (1993) state that 33% of Section 136 referrals showed hallucinations and delusions, and 10% exhibited threats of violence; these figures were only slightly higher than those for the comparison group of civil admissions (27% and 6%). Spence and McPhillips (1995) describe 68% of their cohort as exhibiting 'bizarre behaviour', 26% as threatening self-harm, and 5% as showing violence. Turner *et al.* (1992) give figures of: 36% causing disturbance; 18% showing violence to persons; 17% showing violence to property; 13% making threats; 11% indicating risk of self-harm or suicide; and 9% exhibiting unacceptable sexual behaviour (categories not mutually exclusive). Dunn and Fahy (1990) give a gender and ethnicity breakdown for the showing of violent behaviour: Black men 58%; white men 49%; Black women 31%; white women 40%.

These widely differing figures for particular descriptions of behaviour probably simply reflect differences in definition, and until such time as criteria to describe behaviour might be agreed and consistently applied by police, psychiatrists and researchers, such figures as are quoted in these studies remain difficult to integrate one with another.

7.2.3.9 History of criminal offences

Turner *et al.* (1992) found that 23% of people referred under Section 136 had previously been in prison. Mokhtar and Hogbin (1993) found that 28% of their Section 136 cohort had previous convictions, compared with 14% of their civil admissions sample.

7.2.3.10 History of use of psychiatric services

Mokhtar and Hogbin (1993) report 33% of Section 136 admissions as having previous admissions to psychiatric services, compared with 59% of their civil admissions sample. Spence and McPhillips (1995) describe 82% of their cohort as having a previous 'psychiatric history'. Dunn and Fahy (1990) give rates of previous psychiatric admissions by ethnicity and gender as follows: Black men 67%; white men 73%; Black women 92%; white women 87%.

7.2.3.11 Psychiatric diagnosis

All six studies give some indication of psychiatric diagnoses, primarily from hospital records. Table 7.2 summarises the findings. There appears to be some consistency in the diagnosis of schizophrenia, but marked variation in the diagnosis of personality disorder. As in other psychiatric service contexts, there is more diagnosis of schizophrenia amongst Black people than white. There is only a very small proportion of people diagnosed as not mentally disordered on referral, thus indicating accuracy on the part of the police in identifying mental disorder in the context of Section 136 (though many mentally disordered people are not so identified by the police and are not diverted from the criminal justice system via Section 136).

7.2.3.12 Treatment

Fahy *et al.* (1987) compared the rate of discharge before expiry of the 72-hours compulsory detention allowed, between Section 136 cases and equivalent civil admissions under Section 4 of the Mental Health Act 1983. 38% of Section 136 cases were discharged compared with only 4% of civil admissions. This may indicate that treatment is offered less often by psychiatric services to Section 136 admissions than to comparable civil admissions.

Spence and McPhillips (1995) report that those with a diagnosis of personality disorder were more likely to be discharged before 72 hours than those with other diagnoses. Subsequently they were more likely than other groups to be re-referred under Section 136. It seems that there is less effective management through Section 136 of people diagnosed with personality disorder than of other groups, though as reviewed above under Psychiatric Diagnosis (7.2.3.11) there is large variation in the making of this diagnosis.

Table 7.2: Diagnoses of Section 136 referrals

	Spence and McPhillips (1995)	Mokhtar and Hogbin (1993)	Dunn and Fahy (1990)	Fahy *et al.* (1987)	Turner *et al.* (1992)	Rogers (1990)
Schizophrenia	39%	36% (Civil group 49%)	Black patients 47% White patients 22%	Urban unit 27% Rural unit 32%	46%	
Affective psychosis		23% (Civil group 35%)		Urban unit 17% Rural unit 18%	15%	
Drug-induced psychosis		8% (Civil group 0%)				
Paranoid state		8% (Civil group 7%)				
Other psychosis					9%	
Depression		8% (Civil group 0%)				
Personality disorder	37%	5% (Civil group 3%)	Black patients 0% White patients 13%	Urban unit 17% Rural unit 17%	13%	
Organic					10%	
Mental impairment				Urban unit 6% Rural unit 4%		
Drug/alcohol misuse			Black patients 1% White patients 13%			
Other/not known					13%	
'Not mentally ill'					4%	5%
Conclusion/comment			More diagnosis of schizophrenia amongst Black patients, but less diagnosis of personality disorder and drug/alcohol misuse.	Similar distribution in urban and rural settings	Categories not mutually exclusive (20% of patients had a dual diagnosis). Police identification of mental illness is accurate.	Police identification of mental illness is accurate

7.2.4 The characteristics of police station detainees

Robertson *et al.* (1996a) studied all detainees at 7 Metropolitan police stations over a six-month period. The researchers, one a psychologist and two psychiatrists, made their own diagnoses of mental disorder from direct observation. 1.2% of detainees (37 out of 2721) showed definite signs of serious mental disorder: of these, 66% were diagnosed as having schizophrenia; 16% affective disorder; 14% brain damage; and 3% drug-induced psychosis. A further 1.4% of all detainees had a previous history of psychotic illness or appeared mentally unwell. The study illustrates that a proportion of people with serious mental disorder are detained by the police rather than being dealt with under Section 136 of the Mental Health Act. Offences of violence, breach of the peace and public order offences were more likely amongst the mentally disordered detainees than amongst other detainees.Gudjonsson *et al.* (1994) studied 156 suspects detained at 2 Metropolitan police stations. Clinical psychologists made judgements on the presence of mental disorder. 7% were judged as having mental illness and 3% as having learning difficulties.

Lyall *et al.* (1995) asked a 25% sample of people arrested at Cambridge City police station whether they had attended a special school or experienced reading and writing difficulties. On the basis of these self-reports, they conclude that 15% of suspects had learning difficulties.

There are clearly major issues of definition of mental disorder in these last two studies. Gudjonsson and colleagues had an interest in use of Appropriate Adults and thus may have adopted broad criteria for presence of mental disorder in order to include all those felt to be vulnerable and potentially in need of special support. Lyall and colleagues use a particularly broad definition of learning difficulty, a diagnosis that is notoriously difficult to define in any case. Robertson *et al.* (1996) probably give a more meaningful picture of the extent of management of seriously mentally disordered people by the police through arrest under other powers than Section 136.

7.2.5 Use of appropriate adults

Nemitz (1996) and Nemitz and Bean (1994) studied custody records over a 12-month period at 4 police stations in Grantham, Skegness, Derby and Sheffield. They identified cases where there was a need for an Appropriate Adult (on criteria specified in Nemitz and Bean 1994) for people who had or may have had a mental disorder. Their estimate of the proportion of such cases is between 2.0% and 2.2% of the total number of people arrested. The proportion actually receiving support of an Appropriate Adult was less than 10% of cases where the need was identified.

As discussed under ‘Background’ (7.2.2) above, these figures are difficult to interpret since the proportions relate to all custody records whether or not there were intentions to formally interview suspects. Robertson *et al.* (1996b) looked more specifically at cases of formal interview at 7 Metropolitan police stations. Appropriate Adults were used in only 2% of interviews of adults, amounting to only 4 such uses per police station per year. The authors also report, however, that the extent of formal interviewing of suspects they identified as having serious mental disorder was low.

Gudjonsson *et al.* (1994) use broad criteria to estimate the proportion of adult suspects about to be formally interviewed who are in some way vulnerable or have special support needs. They arrive at a

figure of 15% to 20% of interviewed suspects who come into this category, but they report actual use of an Appropriate Adult in only 4% of cases.

The picture that emerges from these few studies is that many adult suspects at police stations have vulnerabilities or needs that would benefit from support of an Appropriate Adult, but such support is made available in only a minority of cases. Amongst such suspects is likely to be a small proportion who have clinically diagnosable serious mental disorder. Many of these will not be formally interviewed. Of those that are, an Appropriate Adult may or may not be made available (Robertson *et al.* 1996b).

7.2.6 Discussion

None of the studies gives detailed demographic data on the characteristics of the general population catchment area from which their cohorts or samples are drawn, apart from some data on proportions of ethnic groups. Only one study even gives the size of the base population. Calculations of general population incidence or prevalence, or identification of risk factors, are therefore not possible at this stage and await further research. The studies reviewed here are not useful for epidemiological purposes, except in identifying areas of probable risk factors that could be quantified through further study, such as gender, homelessness, living alone, unemployment, ethnic origin and marital status.

The studies are useful in identifying the complex factors that influence practice and in giving some picture of the extent and nature of police contact with mentally disordered people, and the characteristics of those people. There are wide variations in some of the facts and figures reported, indicating major influence of both local demography and local administrative circumstances, arrangements and practices. For planning purposes, therefore, there is a need for local surveys that document local situations.

Progress in understanding the 'epidemiology' of contact between mentally disordered people and the police will also depend on the development of standard categories for describing behaviour, diagnosis, vulnerability and demographic data. These all vary amongst the studies reviewed, severely reducing the comparability and usefulness of the data.

7.3 Diversion schemes at magistrates' courts

7.3.1 Introduction

A Home Office circular in 1990 entitled 'Provision for Mentally Disordered Offenders' encouraged the setting up of schemes to divert mentally disordered offenders from custody. Since that time schemes have been established in many parts of the country.

The need for such schemes is illustrated by Fennell (1991) who gives statistics on the use of various options by magistrates in dealing with potentially mentally disordered offenders before the establishment of diversion schemes. In 1988 there were 328 uses of section 35 of the Mental Health Act 1983 (remand to hospital for psychiatric report) and 34 uses of section 36 (remand to hospital for treatment), compared with 5866 uses of remand to prison for psychiatric report. There was also a

reduction during the 1980s in the use by courts, following conviction, of hospital orders (section 37 of the Mental Health Act) and probation orders conditional on hospital treatment. These figures are taken by Fennell (1991) to indicate low usage prior to 1990 of non-custodial options for the assessment or treatment of people appearing before magistrates' courts who may have had a mental disorder.

7.3.2 Results of the search

The systematic search identified 24 items from the academic literature, published between 1990 and 1997, that relate to diversion schemes at magistrates' courts in Britain.

Table 7.3 summarises the 18 items reviewed here. Detailed results of the studies are not included in the Table, but are given in the text.

Six items originally identified are not included in the Table as they are review or discussion articles containing no relevant or useable primary data:

Browne (1990)
Cooke and Ford (1992)
Joseph (1990)
Loy (1991)
NACRO (1993 and 1994)

Table 7.3: Summary of the 18 articles reviewed

Article	Aim	Sample	Method	Results given (see text for figures)	Comment on quality/usefulness
Brabbins, C. and Travers, R. (1994)	To study the characteristics of people detained in police custody to appear at Liverpool magistrates' court	140 people detained over a one-week period (136 consented to be interviewed)	Interview. Diagnoses by psychiatrists on basis of clinical interview.	Demographic data, offences, diagnoses. Outcomes for those with mental disorder.	Small but complete sample of people in police custody.
Blumenthal, S. and Wessely, S. (1992)	Overview of diversion schemes in England and Wales	Nationwide survey of: Chief Probation Officers (n=55, response rate 96%) Clerks to Justices (n=284, response rate 57%) Purchasers of mental health services (n=190, response rate 56%) Managers of mental health units (n=190, response rate 79%)	Postal survey	Number of schemes in operation and planned in 1992	Gives extent of diversion schemes in relation to number of Petty Sessional Divisions.
Burney, E. and Pearson, G. (1995)	To study the operation of a scheme involving daily availability of a community psychiatric nurse at a magistrates' court	101 referrals over one year	Data collected by the scheme	Some demographic data; data on offences; incomplete data on diagnoses; some data on outcomes.	Unsystematic and incomplete data on the sample. Includes study of Social Inquiry Reports by the probation service for indications of presence of mental disorder.
Evans, J. and Tomison, A. (1997)	To estimate the need for a psychiatric assessment service to a magistrates' court	Those in overnight custody over a 36-day period awaiting appearance at Bristol magistrates' court (n=302)	Questionnaire to magistrates, defence solicitors and bail information officers	Estimate of proportion of people in overnight custody who require an immediate psychiatric assessment	Based on opinion and incomplete response rate. Gives figures for proportion judged to require immediate psychiatric assessment for sample and for all court appearances.

Table 7.3 cont'd

Article	Aim	Sample	Method	Results given (see text for figures)	Comment on quality/usefulness
Exworthy, T. and Parrott, J. (1993)	To evaluate a diversion scheme serving four magistrates' courts in London	The first 150 referrals to the scheme	Data collected by the scheme, of which the authors were part. Diagnoses by psychiatrists.	Offences, diagnoses and outcome; some demographic data	Complete sequential cohort, but time interval of study not given.
Exworthy, T. and Parrott, J. (1997)	To compare characteristics of, and outcomes for, mentally disordered defendants before and after establishment of a diversion scheme	Extends the sample in Exworthy and Parrott (1993) to 280 over an 18-month period. Gives comparative data for 285 cases of people referred for psychiatric reports before establishment of the scheme.	Data collected by the scheme, of which the authors were part. Comparative data from case records.	Offences, diagnoses, outcomes, previous histories and demographic data on both samples	A valuable comparison of a complete cohort of referrals for diversion with a sample of cases before the scheme was established.
Fennell, P. (1991)					Review article, but includes statistics on various options used by magistrates in dealing with potentially mentally disordered offenders.
Greenhalgh, N., Wylie, K., Rix, K. and Tamlyn, D. (1996)	To investigate the need for a psychiatric assessment service to magistrates courts in Leeds	Referred cases over a 3-month period (n=61)	Data collected by the scheme, of which the authors were part. Diagnoses by interview by psychiatrists.	Demographic data, offences and diagnoses	Includes comparison with London (from Joseph and Potter 1993a) and Manchester (from Holloway and Shaw 1992)
Holloway, J. and Shaw, I. (1992)	To study the extent of referrals to a diversion scheme in Manchester	Referrals over a six-week period (n=44)	Police and medical records and interviews with people referred. Diagnoses from clinical interview by psychiatrists.	Demographic data, offences and diagnoses, and immediate outcomes	Complete cohort, but over short time scale.

Table 7.3 cont'd

Article	Aim	Sample	Method	Results given (see text for figures)	Comment on quality/usefulness
Hudson, D., James, D. and Harlow, P. (1995)	To study the operation of the diversion scheme at Horseferry Road magistrates' court in London, taking referrals from four other magistrates' courts covering 3 London Boroughs.	All referrals over a 12-month period (n=264)	Data collected by the scheme, of which the authors were part. Diagnoses by psychiatrists.	Comprehensive data on referral patterns, demographic characteristics, offences, diagnoses, previous histories, recommendations and initial outcomes.	One of the most comprehensive studies available of a diversion scheme, in the form of a lengthy report. Outcome data only cover initial rather than final outcomes.
James, D. and Hamilton, L. (1992)	To study the operation of the diversion scheme at Clerkenwell magistrates' court, London, over a 20-month period	All referrals during the time period (n=200)	Data collected by the scheme, of which the authors were part.	Outcome in terms of hospital admissions	Little primary data. Mainly discussion of issues in the operation of a diversion scheme
Joseph, P. and Potter, M. (1990)	To study referrals to a diversion scheme for homeless defendants at two Inner London magistrates' courts over a 9-month period	All referrals during the time interval (n=80)	Data collected by the scheme, of which the authors were part.	Demographic data, offences, diagnoses and recommendations	The sample is subsumed in Joseph and Potter (1993a) which describes referrals over 18-months
Joseph, P. and Potter, M. (1993a)	To study referrals to a diversion service at two Inner London magistrates' courts over an 18-month period	All referrals during the time interval (n=201)	Data collected by the scheme, of which the authors were part. Diagnoses by interview by psychiatrists, using rating scales.	Demographic data, offences and diagnoses. Data on outcome following referral	Enables pathways to be described, with proportions of cases, though this requires recalculation from data given
Joseph, P. and Potter, M. (1993b)	To study those admitted to psychiatric hospital from two Inner London magistrates' courts over an 18-month period	All cases during the time interval (n=65)	Hospital records	Data on outcome following hospital admission	Enables outcomes to be described, with proportions of cases, with some recalculation from data given
Kennedy, M., Truman, C., Keyes, S. and Cameron, A. (1997)	To study the need for psychiatric bail provision amongst mentally vulnerable people appearing before magistrates' courts	People identified from records as having 'mental vulnerability' appearing before Inner London magistrates' courts over a	Court and probation records, plus interviews with probation and court staff. Diagnoses taken from records.	Demographic data and psychiatric diagnoses	Identifies group at present remanded in custody who could be bailed to psychiatric provision

		6-month period (n=495)			

Table 7.3 cont'd

Article	Aim	Sample	Method	Results given (see text for figures)	Comment on quality/usefulness
Purchase, N., McCallum, A. and Kennedy, H. (1996)	To study the characteristics of, and outcomes for, those referred to a court diversion scheme	People referred to the diversion scheme at Tottenham magistrates' court, London, over an 18-month period (total referred = 104; study is of 89 considered to be local people)	Data collected by the scheme, of which the authors were part. Diagnoses by psychiatrists.	Demographic data, offences, diagnoses and outcomes of referral	Comprehensive data on cohort of people referred. Follow-up limited to immediate post-referral.
Robertson, G., Pearson, R. and Gibb, R. (1996)	To study the characteristics of people identified as psychotic by court liaison psychiatrists	93 cases over a 10-month period identified as psychotic by court liaison psychiatrists in London	Data from police records. Diagnosis of psychosis by psychiatrists.	Demographic data and data on offences	Part of a wider study of people detained by the police. Study is of people with severe mental disorder only. Comparisons are given between those detained by police and those who eventually appear in court.
Rowlands, R., Inch, H., Rodger, W. and Soliman, A. (1996)	To study the first year of operation of the diversion scheme in Rotherham	All those initially identified as mentally disordered (n=82)	Data collected by the scheme, of which the authors were part. Diagnoses by psychiatrists.	Demographic data, diagnoses, offences and outcomes	Complete cohort of referrals over one year. This is one of the few studies of a scheme outside London.

7.3.3 Diversion schemes

Diversion schemes usually consist of a psychiatric service to a magistrates' court, taking referrals of people who may have a mental disorder and making recommendations to the court.

As always, definitions plague this study. When the authors of a paper talk about "a magistrates' court", it is often not clear exactly what is meant. The administrative structure of magistrates' courts is as follows: There are "commission of peace" areas, usually corresponding to counties, which are responsible for the setting up of magistrates' court services in the area. Within each area are Magistrates' Court Committees which manage the courts in the area; there may be one or several such committees in a particular area. Each committee administers one or more "petty sessional divisions", which are groups of magistrates' courts in local areas. Such a division will have a number of separate courts, either in one central court building or on dispersed sites. Day-to-day administration of the courts rests with Clerks to the Justices, usually based at petty sessional division level. This structure of magistrates' courts is slightly different in London.

Thus, when a diversion service is described as attached to "a magistrates' court", this may mean all the courts under a particular magistrates' courts committee, or all the courts in a particular petty sessional division, or the court or courts in a particular court building.

In practice, as explained below, diversion schemes are likely to focus on the detention centre for a group of courts - i.e. the place where people are kept in police detention before appearance at one or a group of local courts.

Blumenthal and Wessely (1992) found that there were 48 schemes in operation and a further 31 under development, for the 284 Petty Sessional Divisions (local groups of magistrates' courts) in England and Wales. Many more are likely to have been established since that time.

The purpose of most schemes is to avoid people with mental disorder being sent to prison. The most common form of imprisonment for such people is a remand in custody for medical reports. Psychiatric assessment and/or initiation of treatment from custodial remand facilities is often a lengthy process and involves a level of security not necessarily required by many of the people remanded. Diversion schemes seek to offer immediate psychiatric assessment for those at risk of remand in custody; they often concentrate therefore on people already in police custody, especially those detained overnight prior to appearance before the magistrates. More options are opened up by this process, including the case being discontinued, the person being remanded or bailed to hospital, the person receiving an immediate hospital order, or the person's mental disorder being taken into account in dismissal of the case or in sentencing.

When a person is diverted to psychiatric hospital, this may be by informal admission, by application of civil sections of the Mental Health Act (sections 2, 3 or 4), or by application of the criminal sections of the Act (mainly section 37). Admission could be to secure psychiatric facilities, but is most often to ordinary open psychiatric hospital provision.

7.3.4 Pathways

Tracking the pathways of people through the criminal justice and psychiatric systems following their referral to diversion schemes is not easy. Different studies give different kinds of data. For example, Joseph and Potter (1993a and b) give data on the final outcome following all court appearances on a particular charge. Rowlands *et al.* (1996) give data on initial outcome of referral for diversion, final legal outcome and psychiatric outcome, but they give no means of relating these three to each other. Hudson *et al.* (1995) give data relating the recommendation of the psychiatric liaison team to the court to the initial outcome, but since 38% of their sample could potentially return to court at a later date the final outcome is not known.

The picture of the pathways and outcomes for people referred to diversion schemes derived from data given by Joseph and Potter (1993a and b) is shown in Table 7.4. The data given in the papers has been re-combined and re-calculated in Table 7.4 so as to give the proportions of people moving through different pathways as a result of referral for diversion. Table 7.5 gives the proportions for whom different outcomes are obtained as a result of hospital admission following diversion.

It can be seen from Table 7.5 that there is a high rate of absconding and unacceptable behaviour amongst those diverted to hospital, and almost a quarter of people do not gain benefit from the hospital admission. Joseph and Potter (1993b) suggest that admission to an open psychiatric ward is sometimes not satisfactory, and there are a few people who may ultimately have received more effective psychiatric help through treatment in custodial remand provision. They suggest there is a need for development of secure psychiatric provision to assess and treat some people diverted from the courts. Robertson *et al.* (1996) also argue for specialist provision for people who are diverted from the criminal justice system but do not necessarily as a result receive psychiatric care.

Table 7.4: Pathways through magistrates' court for people referred to a diversion scheme

Pathway	% of cases	
A) Case is discontinued at or before first appearance before magistrates:		
a) person is discharged to the community	12	C
b) person is admitted to hospital informally or under sections 2, 3 or 4 of the Mental Health Act	17	H
B) Person appears before magistrates, case is dismissed or person is given a non-custodial sentence, and person returns to community	18	C
C) At first appearance the person is released to the community on bail, and at subsequent appearance:		
a) case is dismissed or person is given a non-custodial sentence and returns to the community	17	C
b) person receives a custodial sentence	3	P
D) Person is admitted to hospital informally or under sections 2, 3 or 4 of the Mental Health Act as a condition of bail, and on subsequent appearance:		
a) case is dismissed or person is given a non-custodial sentence	2	H
b) person is sent to hospital under compulsory order, section 37 of the Mental Health Act	2	HO
E) Person is remanded to hospital for medical reports under section 35 of the Mental Health Act, and at a subsequent court appearance is sent to hospital under compulsory order, section 37	3	HO
F) On first appearance person is sent to hospital under an interim compulsory order (section 38) which is converted to a full compulsory hospital order (section 37) at subsequent appearance	1	HO
G) Person is remanded in custody for medical reports, and at a subsequent appearance:		
a) case is dismissed or person is given a non-custodial sentence	14	R
b) person is sent to hospital under compulsory order, section 37	7	R+HO
c) person is given a custodial sentence	3	R+P
H) First appearance before magistrates results in a custodial sentence	1	P

Data recalculated from Joseph and Potter (1993a and b)

C - released to the community without custody or hospital admission (47% of cases)
H - admitted to hospital informally or under sections 2, 3 or 4 of the MHA (19%)
R - remanded in custody (24%)
HO - admitted to hospital under compulsory order, section 37 of MHA (13%, includes 7% previously remanded in custody)
P - received prison sentence (7%, includes 3% previously remanded in custody)
Total experiencing hospital admission - 32%; Total experiencing custody - 28%

Table 7.5: Outcomes for hospital admissions from magistrates' court through diversion or court hospital order

Outcome		% of cases
A) Marked benefit: marked improvement in mental state, planned discharge, support available on discharge, attendance at follow-up (out-patient or day hospital)		45
B) Some benefit:		32
a) planned discharge and attendance at follow-up, but only some improvement in mental state	3	
b) absconded and then returned, eventual planned discharge and attendance at follow-up, but only some improvement in mental state	3	
c) absconded and then returned, eventual planned discharge, but no attendance at follow-up and only some improvement in mental state	12	
d) absconded after some improvement in mental state, discharged in absence	14	
C) No benefit:		23
a) absconded and discharged in absence, no improvement in mental state, many exhibited unacceptable behaviour in hospital (violence or drug/alcohol abuse)	17	
b) discharge for unacceptable behaviour in hospital	6	

Data recalculated from Joseph and Potter (1993b)

Some or marked benefit - 77%; no benefit - 23%
Did not abscond - 54%; absconded at some time during hospital stay - 46%
Planned eventual discharge - 63%; discharge through absconding or unacceptable behaviour - 37%

Rowlands *et al.* (1996) give the following proportions of people in categories of initial outcome, final legal outcome and psychiatric benefit:

Initial outcome:

Bail with outpatient assessment arranged		43%
Remanded to bail hostel with outpatient assessment arranged		15%
Unconditional bail or charge discontinued		12%
Admitted to hospital as bail condition		7%
Admitted to hospital under section of the Mental Health Act	6%	
Admitted to hospital informally		2%
Remanded in custody		15%

Final outcome:

Case discontinued	22%
Probation order	27%
Conditional discharge or nominal penalty	27%
Prison	6%
Hospital order	6%
Not guilty verdict or case not finalised	12%

Psychiatric benefit:

No benefit	38%
Short-term benefit only	24%
Some long-term benefit	20%
Substantial long-term benefit	18%

As is to be expected, the rate of psychiatric benefit is lower in this study, which is of all referrals, than in that of Joseph and Potter (1963a and b) which gives benefit data only on those admitted to hospital.

A further illustration of the complexity of pathways for people referred to diversion schemes is provided by Hudson *et al.* (1995). They give data relating the recommendation of the psychiatric liaison team to the magistrates' court to the actual initial outcome following the first court appearance. Table 7.6 summarises these data.

7.3.5 Rates of referral to diversion schemes

The number of people referred to diversion schemes is quite low. Robertson *et al.* (1996) identified 1.4% of those detained by the police as having serious mental disorder. About 40% of these were processed into the court system (the rest were cautioned or released without further action). This gives a figure of about 0.6% of all police detainees who have serious mental disorder and appear at court. There, they may or may not be referred to a diversion scheme. Robertson *et al.* (1996) also surveyed all court liaison psychiatrists in London over a ten month period and found that only 93 people with a psychotic illness had been referred to them in that time.

Evans and Tomison (1997) estimated that of those detained overnight to appear at magistrates' courts in Bristol, 4.9% required an immediate psychiatric opinion. This would represent an average of 2.5 people a week, less than 1% of all court appearances, even with cases of motoring offences excluded.

The study of five magistrates' courts in Leeds (one petty sessional division) over a 3-month period by Greenhalgh *et al.* (1996) found that 61 cases were referred, about one per week per court. Similarly, Purchase *et al.* (1996) found an average of 1.4 referrals per week at Tottenham magistrates' court in London over an 18-month period. Exworthy and Parrott (1997) found a rate of referral at four South-East London magistrates' courts, also over an 18-month period, of about one per court per week.

Joseph and Potter (1993a) studied two Inner London magistrates' courts, finding 201 referrals to the diversion scheme over 18 months, from a total number of court appearances in that time of some 30,000. This gives a figure of 0.7% of cases referred for possible diversion. Holloway and Shaw (1992) found 44 referrals in six weeks at Manchester magistrates' court (a complex of 16 individual court rooms) which handles 42,500 cases a year; this is a rate of 0.9%.

Table 7.6: Recommendation of the psychiatric liaison team compared with initial outcome

No.	Recommendation to the court	Immediate outcome	No.	
24	Section 2 (civil admission for assessment)	Bailed to hospital on Section 2	5	*
		Case discontinued, transferred to hospital on Section 2	15	
		Remand in custody, followed by later admission to hospital on Section 2	2	*
		Remand in custody, followed by later admission to hospital on Section 35	1	*
		Remand in custody to appear at Crown Court	1	*
11	Section 3 (civil admission for treatment)	Bailed to hospital on Section 3	4	*
		Case discontinued, transferred to hospital on Section 3	3	
		Conditional discharge, followed by transfer to hospital on Section 3	1	
		Probation order, followed by transfer to hospital on Section 3	1	
		Remand in custody, followed by Section 48 transfer to hospital from remand prison	1	*
		Case discontinued, no hospital admission	1	
2	Section 4 (emergency civil admission)	Immediate admission to hospital on Section 4	2	*
19	Section 35 (remand to hospital for psychiatric report)	Direct remand to hospital on Section 35	4	*
		Section 35 order made, but remand in custody because no hospital place immediately available	3	*
		Initial remand in custody, followed by Section 35 remand to hospital	4	*
		Remand in custody, followed by Section 48 transfer to hospital	3	*
		Remand in custody to appear at Crown Court	2	*
		Remand in custody, no hospital admission	1	*
		Unconditional bail, no hospital admission	2	*
88	Section 37 (court hospital order)	Section 37 order with direct admission to hospital		
		Section 37 order made, but person remanded in custody to await a place		
		Initial remand in custody, followed by Section 37 admission to hospital		
		Initial remand in custody, followed by Section 3 admission to hospital		
		Initial remand in custody, followed by Section 2 admission to hospital		
		Remand in custody to appear at Crown Court		
		Case discontinued and person admitted to hospital voluntarily		
		Remand in custody, followed by Section 48 transfer to hospital		
		Case discontinued and no hospital admission		
		Remand to hospital on Section 35		
		Custodial sentence, no hospital admission		
		Non-custodial sentence, no hospital admission		

Table 7.6 cont'd

No.	Recommendation to the court	Immediate outcome	No.	
30	Remand in custody followed by Section 48 transfer to hospital	Remand in custody followed by Section 48 transfer to hospital	18	*
		Remand in custody followed by Section 37 admission to hospital	2	
		Remand in custody followed by Section 35 admission to hospital	2	*
		Remand in custody followed by Section 3 admission to hospital	3	*
		Remand in custody, no hospital admission	3	*
		Case discontinued, no hospital admission	2	
15	Probation with condition of treatment	Probation order made	4	
		Person failed to appear at court, warrant issued	5	*
		Custodial sentence	5	
		Conditional discharge	1	
27	Outpatient treatment or referral to community agencies	Case discontinued	5	
		Custodial sentence	5	
		Probation order	4	
		Conditional discharge	6	
		Committed to Crown Court	3	*
		Non-custodial sentence	2	
		Failed to appear, warrant issued	2	*
26	No specific recommendation made	Committed to Crown Court	7	*
		Custodial sentence	6	
		Conditional discharge	3	
		Case discontinued	2	
		Suspended sentence	1	
		Non-custodial sentence	1	
		Failed to attend, warrant issued	1	*
		Other/unknown	5	*
6	No mental disorder found	(no data)	6	
16	(no data)	(no data)	16	
264			**264**	

Data combined into this table from Hudson, James and Harlow (1995)

Outcome refers to immediate outcome following psychiatric assessment for diversion

* = cases potentially involving later return to court for trial (38% of cases of mental disorder where data are given)

A rather higher rate was found by James and Hamilton (1992) at Clerkenwell magistrates' court in London. There were 200 referrals in 20 months, from about 11,700 cases: a rate of 1.7%.

Typically, it seems that schemes can expect around 1% of all cases appearing before the magistrates to be referred for assessment or advice, representing perhaps 5% of those detained in custody before appearance. The schemes reviewed here see between one and seven referrals a week, depending on the size of court population served.

As might be expected, where schemes involve a broad screening process and a daily presence of psychiatric personnel at court, the rates of referral are higher. In the scheme in London described by Burney and Pearson (1995), 101 referrals were seen in a year from the one court (2 per week). A similar scheme at Rotherham described by Rowlands *et al.* (1996) identified 7% of those detained overnight in custody before court appearance as having a mental disorder. Both these schemes involved daily presence of a community psychiatric nurse for screening detainees.

Most studies do not relate the figures to the size of general population served. Exceptions are Rowlands *et al.* (1996), Exworthy and Parrott (1993, 1997) and Hudson *et al.* (1995). Respectively, these give figures of 82 referrals in a year from a population of 250,000, 187 in a year from a population of 750,000, and 264 in a year from a population of 500,000. The rate is one in 2,000 to 4,000, or between 0.03% and 0.05%.

Hudson *et al.* (1995) found considerable variation between different Central London courts in the rate of referral, from 0.3% to 2.3% of first-time charges. They relate this to the characteristics of the courts' catchment areas, pointing to differences in extent of council housing, shopping areas, transport termini and gathering points for homeless people. They attribute the relatively high rate of referral at one magistrates' court (Horseferry Road) to its area acting 'as a magnet to some psychotics'.

All the studies above looked at those actually referred or likely to be referred by police, court officials or others concerned with the legal process. Referral in this way does not necessarily identify all cases of mental disorder that could be referred. Brabbins and Travers (1994) interviewed a complete cohort of people detained in police custody to appear in court. They found 0.7% to have a psychosis; 4.5% to have depression or neurosis; 2.9% to have personality disorder; and 0.7% to have learning difficulty. 16% were considered to have a drug abuse disorder, and 7% an alcohol abuse disorder. In a study of Social Inquiry Reports prepared by the probation service on people attending court, Burney and Pearson (1995) found that 12% mentioned some kind of mental health problem. It seems likely that referrals to diversion schemes miss a good many people who might have a mental disorder, especially a drug- or alcohol-related disorder.

7.3.6 Demographic characteristics of those referred

Table 7.7 summarises demographic data given about referrals to diversion schemes in eleven studies. A comparison is provided with data on a complete cohort of people in police custody to appear in court, from Brabbins and Travers (1994).

The high proportion of Black people in the Robertson *et al.* (1996) sample is likely to be related to the fact that the sample is only of people with severe mental illness, and Black people may be over-represented amongst those with this degree of illness appearing in court.

The high proportion of homeless people in the Joseph and Potter (1993a) sample is due to the fact that the diversion scheme studied placed special emphasis on seeing homeless people who were appearing in court (see Joseph and Potter 1990).

The demographic characteristics of people referred to diversion schemes seem similar to those of people who are or may be mentally disordered offenders at other points in the psychiatric or criminal justice systems: predominantly male, unemployed, age mostly in the late 20s or early 30s, a rather higher proportion Black than in the general population, a large proportion single and unattached, and many homeless. Compared with the Brabbins and Travers (1994) cohort of people in police detention awaiting court appearance, those referred to diversion schemes were slightly older, less likely to be married or cohabiting, and more likely to be homeless.

7.3.7 Offences

Table 7.8 shows the proportions of people referred to diversion who are charged with particular types of offence (it should be remembered that the people have not yet been found guilty of these offences in court), from ten studies that give these data. Again, data from Brabbins and Travers (1994) provide a comparison with a complete cohort of people in police detention awaiting court appearance.

Compared with others awaiting court appearance, those referred for diversion are charged with more violent offences and more public order offences. A picture emerges of two kinds of offence pattern which are associated with police not diverting people with mental disorders to psychiatric services at an earlier stage, but referring them to court: offences involving violence, and persistent minor public order offences. For illustration and discussion of this phenomenon see Robertson *et al.* (1996) particularly.

7.3.8 Diagnoses

Table 7.9 summarises data on diagnoses from the nine studies reviewed here which give these data. Different studies have a different basis for the proportions given: three studies give proportions of those with a diagnosis while six studies give proportions of the whole referred sample. One study excludes drug or alcohol dependence or abuse as a primary diagnosis while eight studies include it. Different studies also use slightly different categories for describing diagnoses. Table 7.10 attempts to make the data more comparable by excluding those not diagnosed as mentally disordered and those with a primary diagnosis of alcohol or drug abuse or dependence, and combining categories of diagnosis.

It can be seen that there are wide differences between different studies, probably reflecting the different bases for referral in different schemes. In so far as it is possible to paint an overall picture, a typical diversion scheme might expect around 80% of those referred to have a mental disorder, around half of them a psychotic illness.

There is a need for standardisation of categories of diagnosis given in studies if they are to be useful for epidemiological purposes.

Table 7.7: Demographic characteristics of referrals to diversion schemes

	Brabbins and Travers (1994) Comparison cohort of people in police detention awaiting court appearance	Burney and Pearson (1995)	Rowlands *et al.* (1996)	Exworthy and Parrott (1993)	Exworthy and Parrott (1997)	Hudson *et al.* (1995)	Purchase *et al.* (1996)	Robertson *et al.* (1996)	Holloway and Shaw (1992)	Kennedy *et al.* (1997)	Joseph and Potter (1993a)	Greenhalgh *et al.* (1996)
Gender	88% male	84% male	84% male	87% male	85% male	87% male	90% male	91% male	84% male	86% male	84% male	89% male
Age	mean age 26	66% 21-35	mean age 30 range 16-73	mean age 31 range 17-64	mean age 31	mean age 32; 70% aged <36	mean age 33	mean age 33	8% <21 50% 21-30 26% 31-40 16% >40	men: mean age 32; women: mean age 30	9% <21 48% 21-30 25% 31-40 18%>40 mean age 32	28% <21 30% 21-30 21% 31-40 21% >40
Ethnicity	90% white	33% Black	99% white			53% white 25% African-Caribbean 10% mixed		47% Black			66% white	
Marital status	30% in stable relationship					14% married or cohabiting			82% single 8% married or cohabiting		84% single only 3% married and living with spouse	53% single 19% married or cohabiting
Employ-ment	84% un-employed		81% un-employed	83% un-employed more than 6 months	81% un-employed	89% un-employed			95% un-employed		88% un-employed	82% un-employed
Housing	8% homeless		17% homeless			41% homeless	18% home-less				67% homeless	

Table 7.8: Offences with which those referred to diversion schemes are charged

	Brabbins and Travers (1994)	Rowlands *et al.* (1996)	Exworthy and Parrott (1993)	Exworthy and Parrott (1997)	Hudson *et al.* (1995)	Burney and Pearson (1995)	Purchase *et al.* (1996)	Robertson *et al.* (1996)	Holloway and Shaw (1992)	Joseph and Potter (1993a)	Greenhalgh *et al.* (1996)
	Comparison cohort of people in police detention awaiting court appearance										
Violence	15%	62%	33%	30%	25%	48%	29%	46%	23%	18%	38%
Sexual assault	1%	9%	5%	5%	4%		14%	12%			
Arson			7%				9%				2%
Theft	21%	2%	21%	26%	28%	26%	23%		21%	31%	35%
Criminal damage	2%	17%	12%	17%	17%	19%				9%	7%
Alcohol/drug offences	19%				3%						12%
Public order			17%	15%	19%		23%		25%	28%	4%
Driving	7%								11%		2%
Other	34%		5%	7%	3%	7%			20%	14%	

Table 7.9: Diagnoses of referrals to diversion schemes

	Rowlands *et al.* (1996) Includes only those with a diagnosis	Exworthy and Parrott (1993)	Exworthy and Parrott (1997)	Hudson *et al.* (1995)	Purchase *et al.* (1996) Does not treat alcohol or drug dependence or abuse as a primary diagnosis	Kennedy *et al.* (1997) Includes only those with a diagnosis	Holloway and Shaw (1992) Includes only those with a diagnosis	Joseph and Potter (1993a)	Greenhalgh *et al.* (1996)
No mental disorder		5%	17%	2%	17%			12%	23%
Schizophrenia	12%	28%	31%	61%	33%		19%	39%	7%
Schizophrenia and other psychoses						55%			
Manic-depressive psychosis	6%			9%				11%	7%
Other psychoses	5%	9%	11%				2%	10%	
Affective disorders		4%			25%		5%		
Neuroses	23%	8%	6%	5%	9%	7%	7%		
Personality disorder	20%	8%	9%	7%		8%	23%		
Neuroses or personality disorder								15%	12%

Table 7.9 cont'd

	Rowlands *et al.* (1996) Includes only those with a diagnosis	Exworthy and Parrott (1993)	Exworthy and Parrott (1997)	Hudson *et al.* (1995)	Purchase *et al.* (1996) Does not treat alcohol or drug dependence or abuse as a primary diagnosis	Kennedy *et al.* (1997) Includes only those with a diagnosis	Holloway and Shaw (1992) Includes only those with a diagnosis	Joseph and Potter (1993a)	Greenhalgh *et al.* (1996)
Alcohol or drug dependence	34%	19%	14%	8%		13%	30%	11%	25%
Non-dependent alcohol or drug abuse									23%
Organic					15%				
Learning difficulties		5%	5%	3%	2%		7%	2%	4%
Other (undefined)		14%	8%	4%		18%	7%		

Table 7.10: Diagnoses of referrals to diversion schemes (combined categories, including only those with a diagnosis, excluding drug or alcohol dependence or abuse)

	Rowlands *et al.* (1996)	Exworthy and Parrott (1993)	Exworthy and Parrott (1997)	Hudson *et al.* (1995)	Purchase *et al.* (1996)	Kennedy *et al.* (1997)	Holloway and Shaw (1992)	Joseph and Potter (1993a)	Greenhalgh *et al.* (1996)
Numbers in sample with diagnosis	54	114	186	236	74	158	33	177	44
Psychosis	35% [22%,48%]	54% [45%,63%]	61% [54%,68%]	78% [73%,83%]	70% [60%,80%]	63% [55%,71%]	37% [21%,53%]	78% [72%,84%]	46% [31%,61%]
Neuroses or personality disorder	65% [52%,78%]	21% [14%,28%]	22% [16%,28%]	13% [9%,17%]	11% [4%,18%]	17% [11%,23%]	43% [26%,60%]	19% [13%,25%]	40% [26%,54%]
Organic, learning difficulty or other		25% [17%,33%]	19% [13%,25%]	8% [5%,11%]	20% [11%,29%]	21% [15%,27%]	20% [6%,34%]	3% [0%,6%]	13% [3%,23%]

Figures in parentheses represent 95% confidence intervals

7.3.9 Previous history

Several studies give information about the past histories of those referred to diversion schemes. Joseph and Potter (1993a) found that 70% of their sample had had previous in-patient psychiatric hospital treatment; 77% had previous convictions (average number of convictions, 9); 52% had previously received a custodial sentence; 67% had had a previous remand for medical reports; 31% had a history of drug abuse; and 16% had a history of alcohol abuse.

Hudson *et al.* (1995) found that 77% of their sample admitted to having previously seen a psychiatrist, and 64% to having been in psychiatric hospital. 81% had at least one previous conviction, 40% for a violent offence.

Holloway and Shaw (1992) found that over 90% of their sample had a previous criminal record; 16% had previously been referred to psychiatric services following conviction for an offence.

Purchase *et al.* (1996) found that 79% of their sample were already known to psychiatric services; 48% had a previous history of violence and 69% had previous convictions.

Robertson *et al.* (1996) found that of their sample of people found to have a psychotic illness on referral, over 90% had a history of previous psychiatric treatment.

People referred to diversion schemes are thus largely people already well-known to both psychiatric services and the criminal justice system.

7.3.10 Outcome of diversion referral

As can be seen from Table 7.9, a proportion of people referred to diversion schemes are found not to have a mental disorder. Purchase *et al.*(1996) found 17% of referrals to come into this category; Joseph and Potter (1993a) found 12%; and Greenhalgh *et al.* (1996) found 23%. Hudson *et al.* (1995) found only 2%.

For those found to have a mental disorder, a wide range of outcomes are possible, as illustrated by the data from Joseph and Potter (1993a and b), Rowlands *et al.* (1996) and Hudson *et al.* (1995) recounted in the section on 'Pathways' above.

Kennedy *et al.* (1997) identified people appearing before magistrates, whom they categorise as 'mentally vulnerable', defined as anyone who, from their records, appeared to have 'multiple social and emotional problems' and about whom there was 'some concern about their mental health'. 20% of this group had the set of characteristics that they had been remanded in custody, had no permanent housing, had been charged with a non-serious offence and had no previous history of serious offences. The authors argue that this group of people particularly could be bailed to psychiatric provision instead of being remanded to custody. They estimate the annual number of such cases to be around 230 from the magistrates' courts serving 13 Inner London Boroughs.

The complexities of outcome following referral for possible diversion are further illustrated by Greenhalgh *et al.* (1996) who describe the outcome for seven people for whom the diversion scheme psychiatrists recommended immediate hospital admission. Two were admitted to hospital as recommended, one informally and one under section 2 of the Mental Health Act. One was admitted to hospital as a condition of bail but absconded, was re-arrested and then remanded in custody. Three people were referred to secure psychiatric provision but no beds were available; two were later transferred to secure psychiatric provision from prison under section 48 of the Mental Health Act, and one was sent to a regional secure unit on conviction under a court hospital order (section 38 of the Act). The seventh person could have been admitted to psychiatric hospital, but that recommendation was not accepted by the magistrates who considered that, in relation to his offence, he needed a greater level of security than the hospital could provide; he later committed suicide in prison.

Outcomes described by Holloway and Shaw (1992) for 23 cases where a recommendation was made to the court by the diversion service were:

- 5 people remanded to hospital for assessment under section 35 of the Mental Health Act, two to a regional secure unit and three to the local psychiatric hospital;
- 2 people bailed on condition they were admitted to the local hospital;
- one person voluntarily admitted to the local hospital;
- 5 people bailed on condition they received outpatient treatment, two from the forensic psychiatric service and three from the local hospital;
- 4 people voluntarily agreed to attend outpatient services;
- one person was referred to the social services mental illness team;
- one person was referred to the community alcohol team;
- one person was referred to the community psychiatric nursing team;
- 3 people were referred to psychiatric services outside the local health region.

Purchase *et al.* (1996) found that of those referred to the scheme they studied, 61% were admitted to hospital and a further 19% received outpatient appointments.

The scheme described by Burney and Pearson (1995) introduces a further complexity in that it consisted of a community psychiatric nurse (CPN) who would see referrals of people appearing at court who might have a mental disorder, and would then refer on to another diversion scheme those considered candidates for immediate diversion. Burney and Pearson (1995) identify three types of person referred to the CPN:

- A very small number with psychosis and pressing treatment needs; these were referred to the other diversion scheme and admitted to hospital through that route.
- A larger number of offenders with a history of mental disorder who were exhibiting mild psychotic behaviour not requiring hospitalisation; they tended to have committed petty offences and were discharged to the community.

- A still larger group of people with non-psychotic mental health problems combined with social difficulties; they were likely to end up under probation service supervision.

Exworthy and Parrott (1997) give data to illustrate that a diversion scheme can reduce the time from initial referral for psychiatric opinion to final disposal of the case (a mean of 47 days before establishment of the diversion scheme was reduced to a mean of 26 days after its establishment), as well as diverting people from custodial remand to psychiatric provision.

For those people admitted to hospital, as illustrated in Table 7.5, Joseph and Potter (1993b) found a variety of outcomes following the admission, some indicating no benefit to the patient. It is likely that some people will have a pattern of admissions to psychiatric services intermingled with encounters with the criminal justice system. Purchase *et al.* (1996) found that 67% of the people admitted to hospital from their sample had been discharged from local psychiatric services during the previous 12 months. They calculate that out of every 1000 discharges from psychiatric services, 12 people are likely to be re-admitted through court diversion or court hospital order during the following 12 months.

Thus, while it seems clear that many people do benefit from court diversion schemes, the processes involved are extremely complex. There is a certain rate of failure to achieve benefit, a small number of people may possibly have received better help through remand to custody (Joseph and Potter 1993b), and there is a need for the development of specialist provision for some people diverted from custody.

7.3.11 Summary

1) The pathways involved in diversion are complex.
2) There is evidence of benefit to some people in the success of the psychiatric help they get, and in a general speeding up of the process of assessment and disposal of cases.
3) However, a substantial proportion of cases receive little psychiatric benefit; to achieve more, some researchers have suggested a need for the development of specialist psychiatric provision for people diverted, including some secure provision.
4) Rates of referral to diversion schemes are low: about 1% of all cases appearing before magistrates and 5% of those detained in custody before appearance.
5) There is evidence of considerable variation in referral rates from different courts, possibly reflecting characteristics of the catchment areas served.
6) There is evidence that diversion schemes miss quite a high proportion of people with mental health problems appearing in court, especially those with a drug- or alcohol-related disorder. (Brabbins and Travers 1994, found that about 9% of those in custody to appear in court had a mental disorder, and at least 16% had a substance abuse disorder; these proportions are much higher than that referred to diversion schemes.)
7) Black people are overrepresented in referrals to diversion schemes, as in other parts of the criminal justice and psychiatric systems, especially amongst referrals with a severe degree of disorder.

8) Other risk factors for being referred to diversion schemes as a potentially mentally disordered person charged with an offence are: male gender, age in the early 30s, single and unattached, homeless, offence involving violence or persistent minor public order offences, and already well-known to both criminal justice and psychiatric agencies.
9) Typically, around 80% of people referred to diversion schemes are found to have a mental disorder, about half of them a psychotic illness.
10) Epidemiological research in this area is hampered by a lack of agreement and consistency in the use of categories of diagnosis.
11) Evaluative studies give different kinds of outcome data, e.g. initial disposal by the court or final outcome of the case; where several kinds of outcome data are given, it is often impossible to track cases between the outcomes. Long-term follow-up studies of people back into the community are rare, and this is a clear area where more research is needed.

7.4 Studies of remand prisoners

7.4.1 Results of the search

The search process identified 17 articles reporting studies of remand prisoners in Britain. Four of these were not included in the review, since the data on which they are based dates from before 1983:

Robertson, Taylor and Gunn (1987)
Coid (1988)
Taylor and Gunn (1984)
Taylor and Parrott (1988)

The 13 articles reviewed are summarised in Table 7.11.

Table 7.11: Summary of articles reviewed on remand prisoners

Article	Aim	Sample	Method	Results given (see text for more detail)	Comment on quality/usefulness
Banerjee, S., O'Neill-Byrne, K., Exworthy, T. and Parrott, J. (1995)	To study the transfer to hospital of remand prisoners assessed as having a mental disorder by a contracted-in NHS psychiatric service to one prison	A complete 6-month cohort of remand prisoners admitted to Belmarsh Prison (n=1229)	Prospective collection of data Screening for mental disorder by psychiatrists and prison doctors Full psychiatric assessment by psychiatrists using DSM-III criteria.	Ethnicity Offence Psychiatric history Diagnoses Outcome of assessment for hospital admission	Complete 6-month cohort of remands to one prison. Illustrates benefits of contracted-in psychiatric service to the prison.
Birmingham, L., Mason, D. and Grubin, D. (1996)	To study the extent and treatment needs of mentally disordered remand prisoners, and the recognition of mental disorder in prison.	528 men remanded to Durham prison over a 7-month period.	Semi-structured interview by psychiatrists.	Demographic data Diagnoses Judgements of treatment needs Extent of recognition of mental disorder by prison doctors	One prison only, but comprehensive sample. Documents low rate of recognition of mental disorder by prison doctors.
Brooke, D., Taylor, C., Gunn, J. and Maden, A. (1996)	To determine the prevalence of mental disorder amongst male unconvicted prisoners, and the treatment needs of this population.	Sample drawn from 13 prisons and 3 young offenders' institutions. Total sample was 750 men, constituting 9% of the total England and Wales male remand population and 10% of male young offenders.	Interviews by the researchers (psychiatrists). Diagnoses on ICD-10 criteria.	Diagnoses, with prevalence rates. Judgements of treatment needs.	The study combines data on men on remand with data on young offenders, so it is not possible to separate out data on remand prisoners. However, this is the largest cross-sectional sample of any recent study.
Davidson, M., Humphreys, M., Johnstone, E. and Owens, D. (1995)	To study the prevalence of mental disorder amongst remand prisoners in Scotland.	Approx. 40% sample of all remand prisoners at one point in time in Scottish prisons	Interviews by psychiatrists. Diagnoses by psychiatrists.	Data on demography, diagnoses and past history	Extensive sample. Provides data for Scotland to compare with those for England and Wales from other studies.

Table 7.11 cont'd

Article	Aim	Sample	Method	Results given (see text for more detail)	Comment on quality/usefulness
Dell, S., Robertson, G., James, K. and Grounds, A. (1993a)	To study referrals of women remand prisoners to psychiatrists and subsequent hospital transfers	95 women with diagnosis of psychosis (from referrals over 7-month period)	Diagnoses by prison psychiatrists Data from prison records and questionnaire to hospitals and courts	Demographic data Offences Previous history Data can be compared with non-psychotic group Information on hospital places requested and granted	Data relate to 1989, prior to widespread introduction of diversion schemes. Comparison given between psychotic and non-psychotic cases. Illustrates consequences of non-availability of hospital places.
Dell, S., Robertson, G., James, K. and Grounds, A. (1993b)	To study referrals of women remand prisoners to psychiatrists and subsequent hospital transfers	101 women with non-psychotic mental disorder (from referrals over 7-month period)	Diagnoses by prison psychiatrists Data from prison records and questionnaire to hospitals and courts	Demographic data Offences Previous history Data can be compared with psychotic group Information on hospital places requested and granted	Data relate to 1989. (See above)
Mason, D., Birmingham, L. and Grubin, D. (1997)	To study the prevalence and management of drug and alcohol use amongst newly remanded prisoners.	548 men remanded to Durham prison in a 7-month period	Screening by semi-structured interview by psychiatrists	Levels of drug and alcohol use before admission	Illustrates extent of substance use and quantifies need for detoxification measures in remand prisons.
Murphy, G., Harnett, H. and Holland, A. (1995)	To study the extent of intellectual disability amongst male remand prisoners	From all admissions over a 40-day period to one remand prison (n=157), 21 men who self-reported having learning difficulties were compared with 21 men who did not report that.	Testing by the researchers (psychologists) for IQ.	Comparative data on demography, drug use and offences. Comparative data on IQ.	Shows very low rate of clinically defined intellectual disability (IQ<70), but identifies a vulnerable group of remand prisoners who have less intellectual ability than others.
Robertson, G. (1988)	To study whether suspected offenders are more likely to be arrested if they have a mental disorder	91 male remand prisoners diagnosed as mentally ill, compared with 76 non-disordered remand prisoners	Diagnoses by prison doctors or psychiatrists. Interviews of the men about the circumstances of their arrest.	Comparative data on the time, place and circumstances of arrest. (Demographic data in this paper are not reviewed here because of the age of the study)	Data is 15 years old, but raises the possibility that over-representation of mentally disordered people amongst offenders may be partly due to greater likelihood of arrest.

Table 7.11 cont'd

Article	Aim	Sample	Method	Results given (see text for more detail)	Comment on quality/usefulness
Robertson, G., Dell, S., Grounds, A. and James, K. (1992)	To study process and outcome for remand prisoners referred for psychiatric assessment in 3 prisons - Holloway, Brixton and Risley.	952 people referred over a 6-month period.	Diagnoses by prison psychiatrists Data from prison records and questionnaire to hospitals and courts	Data on diagnoses and outcome	Data relate to 1989. Confirms picture given by Robertson *et al.* (1993a, 1993b) for a wider sample.
Robertson, G., Dell, S., James, K. and Grounds, A. (1994)	To study referrals of male remand prisoners to psychiatrists and subsequent hospital transfers	568 referrals for psychiatric assessment at Brixton Prison over a 5-month period. Offence data compared with a one-month cohort of all remand admissions (n=545)	Data from case notes and interview by psychiatrists	Comparative data on offences. Data on hospital places requested and granted for those with psychosis.	Data relate to 1989. Documents delays and refusals in referral process, and the consequences.
Watt, F., Tomison, A. and Torpy, D. (1993)	Pilot study to test the feasibility of a larger-scale survey of mental disorder among male remand prisoners in one prison.	31 subjects over 3 months (20% sample of new remand population in that period)	Interview by psychiatrists using various measures	Demographic data Offences Diagnoses Previous convictions	Small sample. Pilot study only. Study is of a provincial prison (Bristol).
Weaver, T., Taylor, F., Cunningham, B., Kavanagh, S., Maden, A., Rees, S. and Renton, A. (1997)	To study the effect of establishment of a regional psychiatric service to assess and facilitate hospital transfer for mentally disordered remand prisoners	Referrals from 5 prisons over a 5-month period after the service opened (n=158) compared with referrals from one of the prisons over a 5-month period before opening (n=30)	Retrospective study of records	Comparative data on rates of referral, rates of transfer to hospital, and length of time in prison.	Short time-scale. Illustrates benefits of NHS assessment service to remand prisoners

7.4.2 Background

Four papers by Dell, Robertson and colleagues present data from 1989, just before the Home Office circular that encouraged the widespread establishment of diversion schemes: Dell *et al.* (1993a and 1993b) and Robertson *et al.* (1992 and 1994). These describe the process and outcome of referrals to hospital of remand prisoners who are diagnosed as having a mental disorder. The studies - at three prisons, Holloway, Brixton and Risley - document delay in getting hospital admissions, and the fact that a proportion were refused hospital admission. The authors are critical of the use of prison remand for mentally disordered people.

Unfortunately, these studies give no figures to relate the numbers of mentally disordered remand prisoners to the total numbers of those on remand, so little epidemiologically useful data emerge.

7.4.3 Post-1990 studies

Brooke *et al.* (1993) surveyed a 9% sample of all remand prisoners in England and Wales at one point in time. Unfortunately, they combine the data with those for a similar sample of young offenders, so figures for adult remand prisoners cannot be extracted. They found 4.8% to have a psychosis. 58% had other psychiatric disorders. 55% were considered to need treatment. 9% required hospital admission, 4.5% to medium secure and 0.3% to maximum secure provision.

Watt *et al.* (1993) found 26% of a small sample of remand prisoners to have a mental disorder, 3% needing transfer to hospital. Birmingham *et al.* (1996) found a similar picture for a larger sample: 26% having a mental disorder, with 4% having acute psychosis and 3% needing immediate transfer to hospital. Banerjee *et al.* (1995) judged 4.3% of the remand prisoners they studied to require transfer to hospital.

Davidson *et al.*(1995) found 2.3% of a sample of remand prisoners in Scotland to have 'major psychiatric disorder'.

7.4.4 Effectiveness of psychiatric services to prisons

Birmingham *et al.* (1996) found that only a quarter of those found to have a mental disorder when assessed by visiting psychiatrists had been identified by prison medical officers. They suggest that this finding calls into question the accuracy of prison-generated statistics on the prevalence of mental disorder in prisons.

Banerjee *et al.* (1995) found that when a prison contracted in a psychiatric service from outside for assessment, there was an improvement in the acceptance by hospitals of transfer requests (100% acceptance was achieved by the scheme). Weaver *et al.* (1997) describe a regional psychiatric unit serving five prisons, specifically established to assess and transfer to NHS facilities those remand prisoners who may have a mental disorder. Data on the effect of the service in one prison show an increase in referrals for assessment (4% of remand prisoners before establishment of the unit and 8% afterwards), an increase in admissions to hospital (2% before *versus* 4% afterwards), and quicker transfer to NHS facilities - i.e. less time in prison (mean of 122 days before *versus* mean of 54 days afterwards).

7.4.5 Demographic data

Several studies give demographic data for their sample of all remand prisoners, but fail to give the same data for those identified as having a mental disorder. Possible risk factors cannot therefore be identified. Table 7.12 summarises the information available. Only Murphy *et al.* (1995) and Banerjee *et al.* (1995) give comparative data. Murphy and colleagues identify a group of remand prisoners (about 20%) of less intelligence than others; they are less likely to be Black and more likely to be unemployed than other remand prisoners. Banerjee and colleagues only give comparative data for ethnicity; those needing transfer to hospital are more likely to be Black than those not requiring transfer.

7.4.6 Offences

Banerjee *et al.* (1995), Murphy *et al.* (1995) and Robertson *et al.* (1994) give data comparing a sample who may have a mental disorder with a sample of all remand prisoners. There is some evidence of a greater frequency of violent offences and public order offences amongst those who may have a mental disorder, and a lower frequency of theft and alcohol/drug offences. The sample of those self-reporting learning difficulties studied by Murphy and colleagues were charged with more sexual and criminal damage offences than other remand prisoners, with slightly less violent and alcohol/drug offences.

The study with the largest sample of remand prisoners who may have a mental disorder is that of Robertson *et al.* (1994). If public order and alcohol/drug offence categories are combined, there is little difference shown in the offence patterns of that group and other remand prisoners.

7.4.7 Diagnoses

It is virtually impossible to summarise detailed figures for differential diagnoses of remand prisoners with mental disorder from the studies reviewed here. Different studies have completely different bases for the reporting of diagnoses. For example, Banerjee *et al.* (1995) report figures for those judged to need transfer to hospital; Birmingham *et al.* (1996) and Brooke *et al.* (1996) give figures for a complete sample of remand prisoners, but with non-mutually exclusive categories of diagnosis and with rather different categories of diagnosis from each other; Robertson *et al.* (1992) give figures for psychoses only and only for those referred for psychiatric assessment; Watt *et al.* (1993) report data from a very small sample from which reliable frequency estimates cannot be drawn.

Robertson *et al.* (1992), in a study dating from 1989, report that about half of those identified by prison doctors as mentally disordered were diagnosed as having a psychosis. Later studies give a much lower proportion of psychosis amongst those referred or diagnosed as mentally disordered. Taking into account the unreliability of prison doctors' diagnoses (Birmingham *et al.* 1996), and the increase in numbers of people diagnosed when psychiatrists are involved (Banerjee *et al.* 1995; Weaver *et al.* 1997), it seems possible that numbers of remand prisoners with psychosis have dropped since the expansion of diversion schemes since 1990.

Table 7.12: Demographic characteristics of remand prisoners

	Watt *et al.* (1993)	Birmingham *et al.* (1996)	Davidson *et al.* (1995)	Murphy *et al.* (1995)	Murphy *et al.* (1995)	Banerjee *et al.* (1995)	Banerjee *et al.* (1995)
	Sample of all remand prisoners	Sample of all remand prisoners	Sample of all remand prisoners	Sample of all remand prisoners	Sample self-reporting learning difficulties	Sample of remand prisoners not needing transfer to hospital	Sample needing transfer to hospital
Gender	All male sample	All male sample	95% men 5% women	All male sample	All male sample	All male sample	All male sample
Age	mean 28 range 20-65	mean 28 range 21-70	mean 26 range 16-72	mean 30	mean 31		
Ethnicity	91% white	95% white		60% white	72% white	67% white	42% white
Marital status	26% married or cohabiting						
Employment	45% unemployed	63% unemployed		71% unemployed	80% unemployed		

Table 7.13: Offences with which remand prisoners are charged

	Watt *et al.* (1993)	Banerjee *et al.* (1995)	Banerjee *et al.* (1995)	Murphy *et al.* (1995)	Murphy *et al.* (1995)	Robertson *et al.*. (1994)	Robertson *et al.*. (1994)
	Sample of all remand prisoners	Sample not needing hospital transfer	Sample needing hospital transfer	Sample of all remand prisoners	Sample self-reporting learning difficulties	Sample of all remand admissions	Sample of remand prisoners referred for psychiatric assessment
	(n=31)	(n=1040)	(n=53)	(n=157)	(n=21)	(n=545)	(n=568)
Violence	13%	23%	32%	28%	24%	22%	24%
Sexual offences/ sexual assault	7%	5%	8%	5%	10%	7%	8%
Arson	10%					2%	3%
Theft	42%	45%	17%	26%	29%	39%	34%
Criminal damage	3%			5%	10%		
Alcohol/drug offences		9%	4%	17%	14%	14%	3%
Public order						5%	20%
Driving	13%			5%	5%		
Other	13%	18%	40%	14%	10%	9%	8%

Murphy *et al.* (1995) assessed the IQ of remand prisoners who self-reported that they had learning difficulties compared with controls. They found that no people fell into a clinical category of learning disability (IQ<70), but 20% of the remand population constituted a vulnerable group of less intelligence than other prisoners.

7.4.8 Previous history

Watt *et al.* (1993) give figures for their sample of all remand prisoners of 71% with previous convictions and 50% with a history of substance abuse. Davidson *et al.* (1995) report illicit drug use by 73% of their sample of all remand prisoners; 53% had had previous contact with psychiatric services, with a higher proportion for women than for men. Both these studies do not give separate figures for those who had a mental disorder. Banerjee *et al.* (1995) do the reverse: they give figures for those judged to need transfer to hospital, but not for the whole remand population. Their figures show 77% of those judged to need a hospital place to have previously been psychiatric hospital in-patients.

Mason *et al.* (1997) studied substance abuse amongst remand prisoners, finding a high rate of use before imprisonment. 70% had engaged in illicit drug use at some time, 57% within the last year. 33% met clinical criteria for dependence. Mason and colleagues argue for more detoxification and treatment measures within prisons.

The picture that emerges is that a high proportion of all remand prisoners have a previous psychiatric history, and this is even more so for those with a severe degree of mental disorder who may require hospital treatment. Previous substance abuse amongst remand prisoners is very common.

7.4.9 Other comparative studies

Although dating from 1989, the study by Dell *et al.* (1993a and b) allows comparison between women remand prisoners with a diagnosis of psychosis and those with a diagnosed non-psychotic disorder. More of the psychotic group were Black (42% *versus* 21%), and they were older (mean age 34 *versus* 27). The psychotic group were charged with more criminal damage and public order offences and less theft than the non-psychotic group. There was little difference between the groups in marital status, homelessness, and combined offences of violence or arson.

7.4.10 Likelihood of arrest

Robertson (1988) provides data on the arrest history of remand prisoners. These show that mentally disordered people are more likely to be arrested for offences than others. The pattern for people diagnosed with schizophrenia or affective disorder, compared with those not mentally disordered, was:

Offence committed in public place

- Schizophrenia 38%
- Affective disorder 24%
- No mental disorder 18%

Offence committed alone

- Schizophrenia 95%
- Affective disorder 100%
- No mental disorder 38%

Arrested at location of offence

- Schizophrenia 75%
- Affective disorder 70%
- No mental disorder 32%

Arrested by uniformed officer

- Schizophrenia 87%
- Affective disorder 93%
- No mental disorder 39%

Gave self up to police

- Schizophrenia 28%
- Affective disorder 17%
- No mental disorder 12%

This may be part of the explanation for the higher rates of mental disorder amongst the prisoners than in the general population.

7.4.11 Conclusions

1) Even with increases in diversion schemes, people with mental disorder are still being remanded to prison.
2) The most recent surveys show between 2% and 4% of remanded prisoners to have a psychosis.
3) It is likely that there has been a fall in the proportion of mentally disordered people on remand with psychosis than before the expansion of diversion schemes.
4) Psychotic prisoners are more likely to be Black and older than other mentally disordered prisoners (at least amongst women).
5) Screening and assessment of remand prisoners by outside psychiatrists results in an increase in mentally disordered people identified.
6) A better rate of securing hospital admissions is achieved through specialist or contracted-in psychiatric services to remand prisons.
7) The greater likelihood of arrest of mentally disordered people may be part of the reason for their greater prevalence in prison than in the general population.
8) There is a proportion (possibly 20%) of remand prisoners who, while not clinically in the learning disability category, may be vulnerable because of low intelligence.
9) A high proportion of remand prisoners have a previous history of use of psychiatric services and of substance abuse and dependence.
10) Many studies fail to give comparative data between prisoners who are or are not mentally disordered, in areas such as demographic characteristics, offences or previous history, thus reducing their epidemiological usefulness.

7.5 Studies of mental disorder amongst sentenced prisoners

7.5.1 Results of the search

The systematic search identified 12 items from the academic literature, published between 1990 and 1997, that relate to mental disorder amongst sentenced prisoners in Britain. These included the study by Gunn, Maden and Swinton (1991b) published as a book by the Home Office. Other official statistical information published by the Home Office or the Department of Health was not included for two reasons: this review is of academic research studies rather than routine statistical data, and some doubt has been cast on the usefulness of official statistics in relation to mentally disordered offenders (e.g. Birmingham *et al.* 1996). However the data given here can be compared with available official statistics.

A major recent study of the sentenced prisoner population by Singleton *et al.* (1998) was not available in time for this review. For an updated picture of the prevalence of psychiatric disorder in this population, trends since the Gunn *et al.* (1991b) study, and risk factors for becoming a mentally disordered sentenced prisoner, reference should be made to this study.

Table 7.14 summarises the 12 items reviewed here. Detailed results of the studies are not included in the Table, but are given in the text.

7.5.2 The number, nature, quality and usefulness of the studies reviewed

The small number of recent research studies of mental disorder amongst the sentenced prison population in Britain (until the Singleton *et al.* 1998 study) was surprising. Eight of the 12 items identified relate to the study by Gunn, Maden and Swinton (1991b), presenting, summarising, supplementing or commenting on data from that study. One item (Institute of Psychiatry 1993) is a review article from which just one piece of information is used here. The remaining three items describe studies of single prisons or prisons wings: Dolan and Mitchell (1994) of the hospital wing of Holloway Prison; Mitchison *et al.* (1994) of Armley Prison, Leeds; and Swyer and Lart (1996) of Winchester Prison.

The Gunn, Maden and Swinton (1991b) study was a major piece of research, commissioned by the Home Office and covering the whole prison population of England and Wales. A possible factor in the paucity of other research on the extent of mental disorder amongst sentenced prisoners following the Gunn, Maden and Swinton (1991b) study is their recommendation (p.106) that the future research need is for study of remand and trial processes, and of the treatment needs of the 3% of sentenced prisoners who they judge to require transfer to hospital. They say, “there is no point in further surveys of the prevalence of psychiatric disorder in the sentenced prison population.”

This review is not concerned with studies of treatment, and this section covers only studies that include sentenced prisoners. The emphasis in recent research appears not to have been on further study of the prevalence and characteristics of mentally disordered people serving prison sentences.

Table 7.14: Summary of the 12 articles reviewed

Article	Aim	Sample	Method	Results given (see text for figures)	Comment on quality/usefulness
Dolan, B. and Mitchell, E. (1994)	To examine the prevalence of specific personality disorders in women admitted to the medical wing of Holloway Prison, and to compare the pattern of disorders with that of women in a specialist hospital for patients with personality disorders.	50 women out of 123 admitted to the psychiatric wing of Holloway Prison over a 5-month period. 75% were on remand 25% were sentenced Mean age - 29 White – 88% Previous convictions - 22% Comparison group: 100 consecutive referrals of women to the Henderson Hospital. Mean age - 26 White - 97% Previous convictions - 32%	Personality Disorder Questionnaire and other items in the form of a written questionnaire.	Marital status of Holloway sample. Medical officer's diagnoses for Holloway sample. Comparison between Holloway and Henderson samples on presence of specific personality disorders.	Low numbers render the comparative results unreliable. Data is from written self-report. Within these limitations, gives some insight into differences between women with similar histories who go to prison or to hospital.
Gunn, J. (1993)				Summarises results from Gunn, Maden & Swinton (1991b)	
Gunn, J., Maden, A. and Swinton, M. (1991a)				Summarises results from Gunn, Maden & Swinton (1991b)	

Table 7.14 cont'd

Article	Aim	Sample	Method	Results given (see text for figures)	Comment on quality/usefulness
Gunn, J., Maden, A. and Swinton, M. (1991b)	To describe the nature and extent of psychiatric disorder in the sentenced prison population in England and Wales.	5% of sentenced adult males (age 21+). 5% of sentenced male youths (age <21). 22% of sentenced women. Data collected between April 1988 and July 1989. Extensive data are given to show that the sample is well-matched to the total sentenced prisoner population.	Study of prison records and records of past medical history. Interviews with prison staff. Interviews with prisoners using a semi-structured interview which included a standardised Clinical Interview Schedule for identifying neurotic symptoms. Diagnoses allocated on ICD9 criteria by qualified psychiatrists.	Data given for adult males, male youths, and all females: - primary psychiatric diagnoses - all psychiatric diagnoses - ideal treatment by diagnoses - current treatment by diagnoses Data given for cases judged to require hospital treatment: - diagnoses - current offence by diagnoses - security need by diagnoses - past psychiatric history by diagnoses - current treatment by diagnoses Additional data given on proportion of hospital treatment cases whose mental disorder developed in prison (i.e. after their offence).	Very few comparisons of those in prison who have a mental disorder with those in prison without a mental disorder (only partial data on current offence). Very few comparisons of those in prison who have a mental disorder with the general population (only prevalence of schizophrenia). Therefore no risk factors can be identified. Recommendations for treatment are judgement-based. Assessment is by clinical interview rather than solely by standardised tests (see Maden & Gunn 1993, for the rationale for this).
Gunn, J., Maden, A. and Swinton, M. (1991c)				Summarises results from Gunn, Maden & Swinton (1991b)	
Institute of Psychiatry (1992)				Gives figures for the transfer of prisoners from prison to psychiatric hospitals under sections 47 and 48 of the Mental Health Act 1983.	Review article.

Table 7.14 cont'd

Article	Aim	Sample	Method	Results given (see text for figures)	Comment on quality/usefulness
Maden, A. and Gunn, J. (1993)				None.	Provides a detailed rationale for the use of clinical methods rather than standardised tests or questionnaires to diagnose psychiatric disorder. Also emphasises the role of studies in suggesting improved practice rather than in simple description of the characteristics of people.
Maden, A., Swinton, M. and Gunn, J. (1994a)	To report on the extent and nature of mental disorder amongst women sentenced prisoners in England and Wales, using supplemented data from the study by Gunn, Maden & Swinton (1991b).	The data in Gunn, Maden and Swinton (1991b) are supplemented by inclusion of an additional women's prison, bringing the sample to 25% of the female sentenced prison population. Women with an address outside the UK were excluded from some analyses.	See Gunn, Maden & Swinton (1991b)	Diagnoses, compared with those of sentenced male prisoners. Treatment recommendations. Women from overseas compared with women resident in UK.	See comments on Gunn, Maden & Swinton (1991b)
Maden, A., Swinton, M. and Gunn, J. (1994b)	To report data from the study by Gunn, Maden & Swinton (1991b) that relate to those considered to need therapeutic community treatment.	See Gunn, Maden & Swinton (1991b)	See Gunn, Maden & Swinton (1991b)	Diagnoses, offences and history of previous psychiatric treatment. These can be compared with other subgroups studied by Gunn, Maden & Swinton (1991b).	See comments on Gunn, Maden & Swinton (1991b)

Table 7.14 cont'd

Article	Aim	Sample	Method	Results given (see text for figures)	Comment on quality/usefulness
Mitchison, S., Rix, K., Renvoize, E. and Schweiger, M. (1994)	To examine the proportion of prisoners in one prison who had a psychiatric history.	864 men detained in Armley Prison, Leeds, on a particular day (date not stated). 35% on remand 58% sentenced 6% convicted, awaiting sentence	Review of self-screening questionnaire contained in prison medical records, plus interviews with 5% random sample of prisoners.	Results of self-screening. Comparison of self-screening with interview. Numbers in hospital wing for psychiatric difficulties. Diagnoses and transfer plans for these.	No distinctions drawn between remand and sentenced prisoners. This paper is mainly a study of the reliability of the screening procedure, which it finds to be unreliable. Data for whole sample is of past mental disorder, not present. Broadly illustrates extent of mental disorder (past combined with present) in the prison.
Swinton, M., Maden, A. and Gunn, J. (1994)	To report data from the study by Gunn, Maden & Swinton (1991b) that relate to life-sentence prisoners	See Gunn, Maden & Swinton (1991b)	See Gunn, Maden & Swinton (1991b)	Compares lifers and non-lifers on diagnoses and on previous psychiatric history.	See comments on Gunn, Maden & Swinton (1991b)
Swyer, B. and Lart, R. (1996)	To study the nature and extent of mental health problems in male prisoners at one prison.	Consecutive male admissions to Winchester prison in 1993-1994: 907 sentenced (over 1 year time-scale) 393 remanded (over 6 months time-scale)	Interview seeking self-report of mental health problems.	Gives self-reported diagnoses. Compares those reporting mental health problems with whole sample on ethnicity and homelessness.	Combines having and having had a mental disorder (i.e. past and present). Gives a picture of self-reported past and present mental disorder in one prison.

Until the recent Singleton *et al.* (1998) study, the most extensive and useful research data on the extent and nature of mental disorder amongst sentenced prisoners in Britain came from the Gunn, Maden and Swinton (1991b) study. From an epidemiological viewpoint, this study has its limitations. Although detailed demographic and other information is given about the general population of sentenced prisoners, and of the sample of people assessed during the study, this information is not given for those found to have a mental disorder. Comparisons of this group with the sample, or with the prison population as a whole, or with the general population outside prison, are not given, and therefore the study does not reveal the existence or significance of risk factors for being in prison and having a mental disorder. The study is wholly concerned with the prevalence of specific diagnoses of mental disorder in the sentenced prisoner population, and with estimates of the numbers and characteristics of those prisoners judged to have a need for treatment within prison, in a therapeutic community, or in a psychiatric hospital.

Maden and Gunn (1993) argue that the major function of identification of mental disorder in prison should be to identify treatment needs; its primary epidemiological use is to inform the development of appropriate services. They therefore provide a rationale for the use in the Gunn, Maden and Swinton (1991b) study of clinical methods of diagnosis rather than reliance wholly on standardised tests. The diagnoses and judgements about treatment need are, however, made by qualified psychiatrists according to ICD9 criteria following a diagnostic psychiatric interview.

This is not the case in other studies, and there can be little confidence that studies using different definitions of mental disorder can be compared with each other. Mitchison *et al.* (1994) report and review data from a three-item questionnaire that is routinely used to screen for past or present mental disorder amongst prison admissions. Swyer and Lart (1996) also give data from self-reports of mental health problems, past or present. Dolan and Mitchell (1994) and Mitchison *et al.* (1994) give data on professional diagnoses of prisoners, but confined to those already in the prison hospital wing for psychiatric reasons.

It can be noted that, in studies of the criminal justice system, from an epidemiological point of view data on mental disorder before or at the time of the offence is useful for studying risk factors and making predictions. However, from a treatment point of view data on current mental disorder amongst offenders is useful for planning appropriate services within, or involving diversion from, the criminal justice system. Ideal data would therefore record, and distinguish between, both previous psychiatric history and current mental health status. Gunn, Maden and Swinton (1991b) do make this distinction, but Swyer and Lart (1996) and Mitchison *et al.* (1994) do not. For one of their samples (those judged to require transfer to psychiatric hospital) Gunn, Maden and Swinton (1991b) quote a figure of 29% who developed mental illness or organic disorder after admission to prison (i.e. well after their offence).

The Gunn, Maden and Swinton (1991b) study concerned only sentenced prisoners. Swyer and Lart (1996) studied both sentenced and remand prisoners, but present data separately for these groups. Dolan and Mitchell (1994) and Mitchison *et al.* (1994) studied a mix of sentenced and remand prisoners, and make no distinction between these groups in presenting their data.

The Gunn, Maden and Swinton (1991b) study covers three groups of sentenced prisoners: male adults (age 21 or over), male youths (age under 21) and women. The data specific to male youths only will not be reviewed here.

The authors make the point that diagnosis is not the same as treatment need. So as well as making ICD9 diagnoses, the researchers made a judgement for each person about whether they needed no treatment, treatment in prison, treatment by residence in a therapeutic community environment, transfer to a psychiatric hospital, or further assessment. Data can therefore be presented for life-sentence prisoners, and for those judged to require therapeutic community treatment and psychiatric hospital treatment.

Maden, Swinton and Gunn (1994a) in reporting their data on female sentenced prisoners use a supplemented sample of women and compare diagnoses with the combined figures from Gunn, Maden and Swinton (1991b) for all men (adults and youths). This makes reconciliation of the results between the two reports somewhat difficult.

Statistical results from the studies reviewed are summarised below under the headings of: Men, Women, Life-sentence prisoners, Those judged to require a therapeutic community environment, and Those judged to require transfer to hospital.

7.5.3 Men

Table 7.15 shows the prevalence of particular diagnoses of mental disorder amongst adult male sentenced prisoners in the Gunn, Maden and Swinton (1991b) study. The prevalence of psychosis is small (2.4%), though the rate for schizophrenia (1.5%) is greater than that in the general population (between 0.2% and 0.5%, Gunn, Maden and Swinton 1991b, p.39). There is greater prevalence of neuroses (5.2%), personality disorders (7.3%) and alcohol or drug dependence or abuse (18.7%). A total of 39.6% of the adult male population had a mental disorder of some kind.

Table 7.16 shows the recommended treatment needed and the treatment actually being received for each category of diagnosis. Overall, 24% of the men were considered to need some form of treatment or further assessment, but only 7% were actually receiving treatment. 4% of men were considered to require transfer to psychiatric hospital.

Swyer and Lart (1996) interviewed men admitted to Winchester prison about their present or past mental health problems. 25% of sentenced men stated they had a history of mental health difficulties; 12% specifically reported depression, 2% a psychotic illness, and 2% a personality disorder. 3% of those reporting mental health problems were Black, compared with 4% amongst all sentenced men at the prison, and 2% in the local general population. 45% of those reporting mental health problems were homeless, compared with 40% amongst all sentenced men at the prison.

On admission to Armley Prison, Leeds, 23% of the men studied by Mitchison *et al.* (1994) stated that they had previously 'seen a psychiatrist'. A further 6% said they had not, but their notes indicated they had. On interview, a further 23% admitted to a previous psychiatric history which they had not

revealed. Thus, around 50% of men in this prison (a mix of sentenced and remanded prisoners) may have had previous contact with psychiatric services.

In the Gunn, Maden and Swinton (1991b) study, 2% of adult men were in a prison hospital for psychiatric reasons. Mitchison *et al.* (1994) found that 4% of the prisoners (all male) at Armley Prison were in the prison hospital for psychiatric reasons. Men with psychiatric problems made up 92% of those in the prison hospital. Ten men (1% of the prison population) were awaiting transfer to psychiatric hospitals, 7 to secure hospital provision and 3 to ordinary psychiatric hospitals. Specific diagnoses, made by prison medical officers, of the men with psychiatric problems in the prison hospital who had a known diagnosis, were: psychosis - 31%; personality disorder - 42%; depression/anxiety - 23%; substance misuse - 23%; organic disorder - 15%; mental handicap - 12%. (These diagnoses are not mutually exclusive, so percentages add to more than 100%.)

Table 7.15: Primary diagnoses amongst male adult sentenced prisoners

Diagnosis	% of total sample (n=1365)		% of those identified as having mental disorder (n=541)	
Psychoses		2.4		6.1
Schizophrenia	1.5		3.8	
Affective	0.5		1.3	
Paranoid	0.4		1.0	
Neuroses		5.2		13.1
Neurotic disorders	3.6		9.1	
Adjustment reaction	1.6		4.0	
Personality disorders		7.3		18.4
Sexual deviations		2.4		6.1
Dependence/abuse		20.1		50.8
Alcohol	8.6		21.8	
Drugs	10.1		25.5	
Pathological gambling	1.4		3.5	
Organic disorders		0.9		2.3
Epilepsy/organic	0.5		1.3	
Mental retardation	0.4		1.0	
Diagnosis uncertain		1.3		3.3
No diagnosis		60.4		-

Data from Gunn, Maden and Swinton (1991b)

Table 7.16: Treatment needed and received by diagnoses for male adult sentenced prisoners

Percentages of those in each particular diagnostic category

	Needing treatment					Total needing treatment	Total getting treatment	Current treatment		
Diagnosis	**None**	**Care in prison**	**Therapeutic community**	**Hospital**	**Further assessment**			**None**	**Prison outpatient**	**Prison hospital**
Psychoses	0	12	0	88	0	100	73	27	42	30
Neuroses	6	89	0	4	1	94	23	77	21	1
Personality disorders	25	19	31	4	20	75	23	77	18	5
Sexual deviations	12	18	27	27	15	88	21	79	18	3
Dependence/abuse	61	17	14	0	8	39	7	93	5	2
Organic disorders	33	0	17	25	25	67	17	83	8	8
Diagnosis uncertain	0	11	0	0	89	100	11	89	6	6
None	100							100		
Total sample	76	10	6	4	5	24	7	93	5	2

Data from Gunn, Maden and Swinton (1991b)

7.5.4 Women

Table 7.17 shows the prevalence of particular diagnoses of mental disorder amongst female sentenced prisoners in the Gunn, Maden and Swinton (1991b) study. As for men, the prevalence of psychosis is small (1.1%), though the rate for schizophrenia (1.1%) is also greater than that in the general population (between 0.2% and 0.5%, Gunn, Maden and Swinton 1991b, p.39). There is a larger prevalence of neuroses (13.2%) than amongst men, a roughly equal prevalence of personality disorders (8.4%) and a greater prevalence of alcohol or drug dependence or abuse (28.9%). A total of 56.0% of the female population had a mental disorder of some kind.

Because of the differences from the original Gunn, Maden and Swinton (1991b) study in their figures for both women (which relate to a supplemented sample and exclude women with a non-UK address) and men (which relate to the combined sample of adults and youth), the comparative data reported by Maden, Swinton and Gunn (1994a) are given in Table 7.18. The prevalence of personality disorder is higher than that for men in their data (18% for women vs. 10% for men), and the excess prevalence in relation to substance dependence/abuse occurs specifically in relation to drugs rather than alcohol.

Table 7.19 shows the recommended treatment needed and the treatment actually being received for each category of diagnosis, from Gunn, Maden and Swinton (1991b). Overall, 43% of the women were considered to need some form of treatment or further assessment, but only 15% were actually receiving treatment. A similar proportion to that for men (4%) were considered to require transfer to psychiatric hospital (this rises to 5% for the supplemented sample described by Maden, Swinton and Gunn 1994a).

Gunn, Maden and Swinton (1991b) found 4% of their sample of sentenced women to be in a prison hospital for psychiatric reasons. Dolan and Mitchell (1994) specifically studied women with psychiatric problems in the medical wing of Holloway Prison (75% on remand and 25% sentenced). Of those with a primary diagnosis, made by a prison medical officer, 18% had schizophrenia, 24% had non-psychotic mental illness, 53% had a personality disorder, and 6% had a conduct disorder. Through a written questionnaire which included a standardised test for specific personality disorders, the authors compared women in the Holloway hospital wing with similar women (including a similar history of offences) admitted to a psychiatric hospital.

Of 12 categories of specific personality disorder, all the women in both samples had at least one. The average number amongst the Holloway group was 4, and amongst the psychiatric hospital group 7. The Holloway sample showed more antisocial disorder than the psychiatric hospital group, while the hospital group showed more schizoid, avoidant, dependent, compulsive and passive-aggressive disorders than the Holloway women. This may indicate that, amongst women with mental disorder and a history of offending, an anti-social pattern of specific personality disorder may be related to entry to prison, whereas an avoidant, compulsive pattern may be more related to admission to psychiatric hospital.

Of the Dolan and Mitchell (1994) sample of women (mixed remand and sentenced) in the hospital wing at Holloway, 66% were single, 14% married and 18% divorced. Comparable figures for the

total sample of sentenced women in prison in the Gunn, Maden and Swinton (1991b) study were: 39% single, 35% married (or in stable relationship), 23% divorced. Being single may be indicated as a risk factor for women in prison to be admitted to the prison hospital for psychiatric reasons.

Table 7.17: Primary diagnoses amongst female sentenced prisoners

Diagnosis	% of total sample (n=273)		% of those identified as having mental disorder (n=153)	
Psychoses		1.1		2.0
Schizophrenia	1.1		2.0	
Affective	0		0	
Paranoid	0		0	
Neuroses		13.2		23.6
Neurotic disorders	7.7		13.7	
Adjustment reaction	5.5		9.8	
Personality disorders		8.4		15.0
Sexual deviations		0		0
Dependence/abuse		28.9		51.6
Alcohol	4.4		7.9	
Drugs	24.2		43.2	
Pathological gambling	0.4		0.7	
Organic disorders		2.6		4.6
Epilepsy/organic	0.4		0.7	
Mental retardation	2.2		3.9	
Diagnosis uncertain		1.8		3.2
No diagnosis		44.0		-

Data from Gunn, Maden and Swinton (1991b)

Table 7.18: Comparative prevalence of diagnoses from supplemented sample of women and combined sample of men

Primary diagnosis	Women (n=258)	Men (n=1751)
Psychosis	1.6%	1.9%
Neurosis	16%	6%
Personality disorder	18%	10%
Alcohol dependence/abuse	9%	12%
Drug dependence/abuse	26%	12%
Sexual disorders	0.4%	2.2%
Mental handicap	2.3%	0.6%

Data from Maden, Swinton and Gunn (1994a)

Table 7.19: Treatment needed and received by diagnoses for female sentenced prisoners

	Percentages of those in each particular diagnostic category									
	Needing treatment					**Total needing treatment**	**Total getting treatment**	**Current treatment**		
Diagnosis	**None**	**Care in prison**	**Therapeutic community**	**Hospital**	**Further assessment**			**None**	**Prison outpatient**	**Prison hospital**
Psychoses*	0	0	0	100	0	100	100	0	33	67
Neuroses	6	86	6	3	0	94	28	72	22	6
Personality disorders	4	43	9	13	30	96	39	61	30	9
Dependence/abuse	42	23	20	0	15	58	20	80	14	6
Organic disorders*	0	14	0	57	29	100	43	57	43	0
Diagnosis uncertain*	0	0	0	0	100	100	20	80	20	0
None	100							100		
Total sample	57	22	7	4	9	43	15	85	11	4

* - total numbers less than 10 in sample

Data from Gunn, Maden and Swinton (1991b)

7.5.5 Life-sentence prisoners (male)

Swinton, Maden and Gunn (1994) compare those men (adult and youth) in the original Gunn, Maden and Swinton (1991b) sample who are serving life sentences with those serving non-life sentences. 94% of the life-sentence prisoners had committed homicide. Table 7.20 shows the comparative prevalence rates of primary diagnoses. Overall, about the same proportion of each group were found to have a mental disorder (40.6% of 'lifers', 36.6% of 'non-lifers'). Numbers of 'lifers' in most categories are very small, but prevalence of personality disorder was significantly greater in the 'lifer' group, and drug dependency or abuse was significantly lower. The proportion of 'lifers' having had previous contact with psychiatric services as adults was the same as that of 'non-lifers' (18% and 19% respectively). 8% of the life-sentence prisoners were judged to require transfer to psychiatric hospital.

Table 7.20: Comparative prevalence of diagnoses amongst men serving life sentences and those serving non-life sentences

Primary diagnosis	**'Lifers' (n=170)**	**'Non-lifers' (n=1630)**
Psychosis*	3.5%	1.8%
Neurosis*	2.9%	5.2%
Personality disorder	18.2%	7.4%
Alcohol dependence/abuse	7.1%	8.7%
Drug dependence/abuse*	2.9%	9.7%
Pathological gambling*	1.2%	1.4%
Sexual disorders*	4.1%	1.7%
Mental handicap*	0.6%	0.8%
None	59.4%	63.4%

* - numbers less than ten in sample of 'lifers'

Data from Swinton, Maden and Gunn (1994)

7.5.6 Those judged to require a therapeutic community environment

Maden, Swinton and Gunn (1994b) give data on those in the Gunn, Maden and Swinton (1991b) study who were judged to require residence in a therapeutic community for treatment of their mental disorder. These were 5% to 6% of the total sentenced men prisoners and 7% to 8% of total sentenced women. The proportions of this group with particular diagnoses are: psychosis - none; neurosis - 7%; personality disorder - 47%; substance dependence/abuse - 77%; sexual disorder - 9%; learning difficulties - 2%. (These diagnoses are not mutually exclusive, so percentages add to more than 100%.) 52% had had previous contact with psychiatric services as adults.

7.5.7 Those judged to require transfer to psychiatric hospital

Overall (adult men, youths and women), Gunn, Maden and Swinton (1991b) judged 3% of the sentenced prison population to require transfer to psychiatric hospital. The characteristics of this group were:

Primary diagnoses:

psychosis - 52%; neurosis - 8%; personality disorder - 14%; sexual deviations - 14%; organic disorders - 11%.

Previous psychiatric treatment:

in-patient - 54%; out-patient - 17%; none (or child guidance only) - 29%.

Onset of mental disorder:

29% of those with mental illness or organic disorder had developed their mental disorder since admission to prison.

Current treatment in prison:

none - 32%; prison hospital - 21%; other treatment - 48%.

Table 7.21 compares the offences of the hospital cases with those of the prison population as a whole. Those judged to require transfer to hospital had committed a higher proportion of violent offences, sexual offences (including rape) and other offences (a category that included arson) than the general sentenced prisoner population. They had committed less acquisitive and drug offences.

Gunn, Maden and Swinton (1991b) also estimated the security needs of this group of prisoners, concluding that: 41% would require transfer to a general psychiatric hospital; 32% would require a secure unit; and 27% would require transfer to a special hospital. 8% of cases were prisoners with schizophrenia who had committed homicide; 60% of these had not come to the notice of prison doctors (though the numbers involved here are very small).

The Gunn, Maden and Swinton (1991b) judgements indicate that about 3% of sentenced prisoners require transfer to hospital, about 1% of them to special hospital. The Institute of Psychiatry (1992) gives figures for the actual transfer of prisoners to psychiatric hospital under sections 47 and 48 of the Mental Health Act 1983 as running in the late 1980s at less than 1% of prisoners per year, with only about 0.1% per year being transferred to special hospitals. Swinton, Maden and Gunn (1994) also quote a figure for transfer of life-sentence prisoners to psychiatric hospital in the late 1980s as around 1% per year.

Table 7.21: Offences of those judged to require transfer to hospital compared with offences of the samples of the whole prison population

Offence	Hospital cases	Whole prison population		
		adult men	women	male youths
Violence	35%	23%	14%	22%
Sexual	19%	9%	2%	3%
Acquisitive	29%	53%	48%	70%
Drugs	2%	10%	30%	2%
Other	16%	6%	6%	4%

Data from Gunn, Maden and Swinton (1991b)

7.5.8 Conclusions

An epidemiological approach can be used to make predictions and to identify risk factors, or it can be used to identify treatment needs in a particular population. These different purposes require different kinds of data to be collected.

The major study of mental disorder amongst sentenced prisoners in Britain by Gunn, Maden and Swinton (1991b) focussed on prevalence rates and treatment needs. Data from this are now ten years old. Their findings, with those of a few other studies of much less breadth and quality, include the following:

About 2% of the sentenced prisoner population has a psychosis, though the rate of schizophrenia is somewhat higher than in the general population outside prison. However, about 40% of men and over 50% of women sentenced prisoners have some form of identifiable mental disorder. Self-reporting methods of diagnosis are highly unreliable, but do confirm the large extent of present or past mental disorder amongst the prison population.

About 25% of sentenced men in prison, and over 40% of sentenced women, have been estimated by qualified psychiatrist researchers, using clinical criteria, to require psychiatric treatment or further assessment; only about one third of these are currently receiving treatment, and for some this treatment is inappropriate.

About 3% of the sentenced prisoner population requires transfer to psychiatric hospital. A third of these are not currently receiving any treatment. About 60% would need secure hospital provision.

This was the position ten years ago. A more recent survey has been carried out by the Office for National Statistics (Singleton *et al*. 1998). Unfortunately, this was not available in time for inclusion in this review. Broadly, the findings are of an even greater prevalence of mental disorder amongst prisoners than Gunn *et al*. (1991b) found. Risk factors are studied, but treatment needs are not specifically addressed.

7.6 General Conclusions on Research Needs

1) There is a need for detailed comparison of the results from the recent study by Singleton *et al.* (1998) with those of Gunn *et al.* (1991b) to identify trends in psychiatric disorder amongst the sentenced prisoner population. It would be helpful for the Gunn *et al.* focus on treatment needs to be replicated with the current prison population.

2) It is clear that there are people going through Court Diversion schemes who are well known to both the criminal justice and psychiatric systems. Tracking such people would provide a useful basis for planning community services to meet their needs.

3) To identify risk factors for being a 'mentally disordered offender' (however defined), it is necessary to have data on potential risk factors, particularly demographic variables, on the mentally disordered offender population being studied and also an underlying base population. Risk factors for having a mental disorder within a population of offenders will require data on the base offender population and on the sub-population of mentally disordered offenders. Risk factors for being a mentally disordered offender at a particular place in the justice or psychiatric service system within a general population area will require data on the general population from which the study group comes. Very few studies give such comparative data on the study population and the base population. Many more studies need to be encouraged to give this kind of comparative data.

4) Similarly, prevalence data depend on figures being given on the base population. Few studies give data on the size of general population from which a study sample comes. Some studies do not relate figures on mentally disordered offenders at a particular place in the justice or psychiatric system to the size of base population of offenders or mentally disordered people at that place. Studies should be encouraged wherever possible to state the size of base population within the part of the justice or psychiatric system being studied and the size of general population area from which the sample comes.

5) There are wide variations in some of the facts and figures reported, indicating major influence of both local demography and local administrative circumstances, arrangements and practices. For planning purposes, therefore, there is a need for local surveys that document local situations.

6) There is little standardisation in categories used for describing behaviour, diagnosis, vulnerability and demographic data. These all vary amongst the studies reviewed, severely reducing the comparability and usefulness of the data.

7) For purposes of identifying risk factors for disease processes that may underlie offending by mentally disordered people, specific and standardised diagnoses are necessary. Complete cohort studies, either of the general population or of people with a specific diagnosis, are likely to be required for this purpose. Studies located at particular places within the criminal justice or psychiatric system are likely to be more useful for administrative planning purposes, and for these purposes judgements of the treatment and security needs of people may be more useful than specific diagnoses. Studies should be encouraged to be clear about their purpose, and to provide data that best suits that purpose.

8) Studies of effectiveness of placements or interventions need to follow people systematically through systems and out into the community. For example, few studies track people clearly from an arrest process through charge and diversion or sentence to outcome of treatment or discharge to community. In the absence (perhaps for good civil liberties reasons) of comprehensive case registers linking convictions and psychiatric care, research studies are needed to map out the pathways followed by both those who are successes and those who are failures of current systems.

APPENDIX I: DATABASE SEARCHES

In view of the quantity of potentially relevant material, and a need for material to be up-to-date, a decision was taken to limit systematic database searching to items published in 1990 or after.

DialIndex (index of the contents of databases accessible through Dialog) was used to identify databases producing the most hits for the terms 'forensic psychiatry' and 'mentally disordered offenders'. The six databases producing most hits were:

Embase
Medline
Healthstar
Pascal
PsycInfo
Mental Health Abstracts

It was decided to exclude Pascal as it is a French database and it was likely that coverage of key French literature could be gained from other databases.

To gain more coverage of criminological and social science literature, it was decided to include also:

Assia (Applied Social Sciences Index and Abstracts)
Criminology, Penology and Police Science Abstracts

To check for any relevant reviews already carried out, the Cochrane and DARE databases were searched for the project by the Centre for Reviews and Dissemination at York University. Reviews identified were either of treatment, or were small-scale studies already identified as possible contributing material for our study.

To cover unpublished or unlisted work that might be relevant, searches were included of:

Sigle (grey literature database)
Dissertation Abstracts
Current Research in Britain
PapersFirst (database on papers delivered at conferences)

To cover relevant books, searches were included of:

WorldCat (worldwide catalogue of books)
COPAC (catalogue of British university research libraries)

Relevant search terms were generated in three fields: 'mental disorder', 'offending' and 'epidemiology'. Some search engines used were capable of full truncation of terms, but some could handle only limited truncation. Appendix II gives the search terms used, with their full and restricted truncations.

Some alternative or additional searches were made using the single terms or phrases 'mental', 'mentally disordered offenders', 'forensic psychiatry', 'epidemiologic catchment area' and 'insane criminal and dangerous', as described below under specific databases.

The following describes the search strategy for each database searched:

EMBASE

This was searched using the full truncated search terms over all fields for the years 1990-1997. Access was through Dialog at the Main Library, University of Reading.

MEDLINE

This was searched using the full truncated search terms for the years 1990-1997. Access was through PubMed on the Internet. It proved difficult to search all fields with all terms using this access vehicle, so 'offender' terms and 'epidemiology' terms were searched in MeSH terms, 'mental disorder' terms in all fields. This ensured that all psychiatry and psychology journals in the database were searched.

Medline was additionally searched with the single phrase 'forensic psychiatry' to identify relevant conceptual studies which could inform our interpretation of primary statistical studies.

A search was also made of Medline for all studies based on the major survey undertaken by the National Institute of Mental Health in the USA in the 1980s, known as the Epidemiologic Catchment Area Study (Robins and Regier 1991), which has been a major source of epidemiological data in this field.

HEALTHSTAR

This was searched using the full truncated search terms over all fields for the years 1990-1997. Access was through SilverPlatter on CDRom at Bulmershe Library, University of Reading.

PSYCLIT

This was searched using the full truncated search terms, excluding terms 'PSYCHOLOG*', over all fields. Because this is a psychology database, terms 'PSYCHOLOG*' simply tap into virtually the whole database, rendering these terms redundant. To limit the number of separate CDRoms searched, the dates of this search were limited to the CDRoms available for 1991-1997. Access was through SilverPlatter on CDRom at the Main Library, University of Reading.

MENTAL HEALTH ABSTRACTS

This was searched using the full truncated search terms over all fields for the years 1990-1997. Access was through Dialog at the Main Library, University of Reading.

ASSIA
This was searched using the full truncated search terms over all fields for the years 1990-1997. Access was through Bowker-Saur on CDRom at Bulmershe Library, University of Reading.

CRIMINOLOGY, PENOLOGY and POLICE SCIENCE ABSTRACTS (1992-1997)

CRIMINOLOGY and PENOLOGY ABSTRACTS (1990-1991)
These were available in book form at the Main Library, University of Reading, and were searched using the index terms 'mental' and 'psychiatry'.

SIGLE
This was searched using the full truncated search terms over all fields for the years 1990-1997. Access was arranged through the Main Library, University of Reading.

DISSERTATION ABSTRACTS
This was searched using the full truncated search terms over all field for the years 1994-1997. The search was limited to those dates, since it was expected that good studies before that date would have been incorporated into the published literature. Access was through ProQuest on CDRom at the Main Library, University of Reading.

CURRENT RESEARCH IN BRITAIN
This was available in book form at the Main Library, University of Reading. The 'Social Sciences' and 'Biological Sciences' volumes for 1997 were searched using the index term 'mental' (which includes 'mental illness', 'mental disorder', 'mental health' and 'mental retardation').

WORLDCAT
This was searched using the restricted truncation search terms over all fields for the years 1990-1997. Access was through FirstSearch on the Internet.

COPAC
This was searched using the two phrases 'forensic psychiatry' and 'insane criminal and dangerous', the latter being the primary cataloguing term used by libraries for books concerned with mentally disordered offenders. Direct access was gained to COPAC on the Internet.

COCHRANE DATABASES AND DARE
These were searched on behalf of the project by the Centre for Reviews and Dissemination, York University.

PAPERSFIRST
This was searched using the restricted truncation search terms over all fields for the years 1990-1997. Access was through FirstSearch on the Internet.

APPENDIX II SEARCH STRATEGY

Category	Search terms	Full truncation	Restricted truncation
A) 'Offender' terms	Secure Security Secure unit Secure units	SECUR*	SECURE SECURITY
	Special hospital Special hospitals	(SPECIAL HOSPITAL*)	(SPECIAL HOSPITAL*)
	Committed Commitment Committal	COMMIT*	COMMITTED COMMITMENT COMMITAL
	Incarceration Incarcerated	INCARCERAT*	INCARCERATION INCARCERATED
	Detained Detention	DETAINED DETENTION	DETAINED DETENTION
	Imprisoned Imprisonment	IMPRISON*	IMPRISONED IMPRISONMENT
	Prison Prisons Prisoner Prisoners	PRISON*	PRISON* PRISONER*
	Arson Arsonist Arsonists	ARSON*	ARSON ARSONIST*
	Assault Assaults Assaulted Assaultive Assaulter Assaulters	ASSAULT*	ASSAULT* ASSAULTED ASSAULTIVE ASSAULTER*
	Murder Murders Murderer Murderers	MURDER*	MURDER* MURDERER*
	Manslaughter	MANSLAUGHTER	MANSLAUGHTER
	Homicide Homicides Homicidal	HOMICID*	HOMICIDE* HOMICIDAL
	Violent Violence	VIOLEN*	VIOLENT VIOLENCE
	Court Courts	COURT*	COURT*
	Divert Diversion Diverted	DIVERT* DIVERSION	DIVERT DIVERSION DIVERTED
	Probation Probationer Probationers	PROBATION*	PROBATION PROBATIONER*

Category	Search terms	Full truncation	Restricted truncation
	Supervision Supervision register	SUPERVISION	SUPERVISION
	Appropriate adult Appropriate adults	(APPROPRIATE ADULT*)	(APPROPRIATE ADULT*)
	Crime Crimes Criminal Criminals Criminology Criminological	CRIM*	CRIME* CRIMINAL* CRIMINOLOGY CRIMINOLOGICAL
	Police Policing	POLICE POLICING	POLICE POLICING
	Offence Offences Offender Offenders Offending	OFFEN*	OFFENCE* OFFENDER* OFFENDING
	Forensic	FORENSIC	FORENSIC
B) 'Epidemiology' terms	Epidemiology Epidemiologic Epidemiological	EPIDEMIOL*⌖	EPIDEMIOLOGY EPIDEMIOLOGIC EPIDEMIOLOGICAL
	Classification	CLASSIFICATION	CLASSIFICATION
	Population Populations Population studies	POPULATION*	POPULATION*
	Cohort Cohorts Cohort studies	COHORT*	COHORT*
	Number Numbers Numeric Numerical	NUMBER* NUMERIC*	NUMBER* NUMERIC NUMERICAL
	Prevalence	PREVALENCE	PREVALENCE
	Incidence	INCIDENCE	INCIDENCE
	Survey Surveys	SURVEY*	SURVEY*
	Statistics Statistical	STATISTIC*	STATISTICS STATISTICAL

⌖ In PubMed access to Medline, the term 'epidemiology' appeared as 'epidemiolgy', i.e. misspellt; the truncation 'epidemiol*' rather than 'epidemiolog*' took this into account. This error in PubMed has now been corrected.

Category	Search terms	Full truncation	Restricted truncation
C) 'Mental disorder' terms	Mental Mentally Mental illness Mentally ill Mental disorder Mentally disordered Mental retardation Mentally retarded Mental handicap Mentally handicapped Mental impairment Mental state	MENTAL*	MENTAL MENTALLY
	Learning disability Learning disabled	(LEARNING DISAB*)	(LEARNING DISABILITY) (LEARNING DISABLED)
	Learning difficulty Learning difficulties	(LEARNING DIFFICULT*)	(LEARNING DIFFICULTY*)
	Psychopath Psychopaths Psychopathy Psychopathic disorder Psychosis Psychoses Psychotic Psychology Psychological Psychological disorder Psychological disorders	PSYCHO*	PSYCHOPATH* PSYCHOPATHY PSYCHOPATHIC PSYCHOSIS* PSYCHOTIC PSYCHOLOGY PSYCHOLOGICAL
	Personality disorder Personality disorders Personality disordered	(PERSONALITY DISORDER*)	(PERSONALITY DISORDER*) (PERSONALITY DISORDERED)
	Mood disorder Mood disorders Mood disordered	(MOOD DISORDER*)	(MOOD DISORDER*) (MOOD DISORDERED)
	Affective disorder Affective disorders	(AFFECTIVE DISORDER*)	(AFFECTIVE DISORDER*)
	Brain damage Brain damaged	(BRAIN DAMAGE*)	(BRAIN DAMAGE) (BRAIN DAMAGED)
	Brain injury Brain injured	(BRAIN INJUR*)	(BRAIN INJURY) (BRAIN INJURED)
	Psychiatry Psychiatric	PSYCHIATR*	PSYCHIATRY PSYCHIATRIC
	Schizophrenia Schizophrenic	SCHIZOPHRENI*	SCHIZOPHRENIA SCHIZOPHRENIC

Category	Search terms	Full truncation	Restricted truncation
D) Date of publication	1990	1990	1990
	1991	1991	1991
	1992	1992	1992
	1993	1993	1993
	1994	1994	1994
	1995	1995	1995
	1996	1996	1996
	1997	1997	1997

Search:

1) Truncated terms in section A are combined using OR
2) Truncated terms in section B are combined using OR
3) 1 and 2 are combined using AND
4) Truncated terms in section C are combined using OR
5) 3 and 4 are combined using AND
6) Dates in section D are combined using OR
7) 5 and 6 are combined using AND

#7 gives ‘Offender’ terms AND ‘Epidemiology’ terms AND
‘Mental disorder’ terms AND Date of publication 1990-1997

APPENDIX III: CONTACTS

A letter requesting advice and information (copy below) was circulated to 120 delegates at a national conference on Severe Personality Disorders, organised by the High Security Psychiatric Services Commissioning Board on 15th October 1997. A further 50 copies of the letter were sent by post to authors of key articles published in the last two years which had been identified by October 1997. In this way researchers in the following places or establishments were contacted:

1. British government and related organisations

Department of Health
NHS Executive, North-West, Trent and North Thames Regions
Medical Research Council
High Security Psychiatric Services Commissioning Board
Home Office, Prison Service
Prison Service HealthCare Directorate
Prison Inspectorate

2. Prisons

Durham
Grendon

3. Special Hospitals

Ashworth
Rampton
Broadmoor

4. Other hospitals and health services

Birmingham	- Reaside Clinic
Bridgend	- Glanrhyd Hospital
Bury	- Fairfield General Hospital
Devon	- South Devon HealthCare
Dundee	- The Scott Clinic
Edinburgh	- Royal Edinburgh Hospital
Leeds	- St. James's Hospital
London	- Brent and Harrow Health Authority
	- Chase Farm Hospital, Enfield
	- Hackney Hospital
	- Hammersmith Hospital
	- Henderson Hospital
	- Merton, Sutton and Wandsworth Health Authority
	- North London Forensic Psychiatry Service

- Royal Free Hospital
- St. Charles' Hospital

Manchester - Prestwich Hospital
Middlesborough - St. Luke's Hospital
Newcastle-upon-Tyne - St. Nicholas Hospital
Norfolk - Little Plumstead Hospital
Nottingham - Wells Road Centre
Preston - Whittingham Hospital
Shrewsbury - Shelton Hospital
Stockport - Cherry Tree Hospital
York - Stockton Hall Hospital

5. Universities, institutes and medical schools

Birmingham - University of Central England
Bristol - University of Bristol
Cambridge - Institute of Criminology
- University of Cambridge

Cardiff - University of Wales College of Medicine
Lancashire - University of Central Lancashire
Liverpool - University of Liverpool
London - Charing Cross and Westminster Medical School
- Imperial College
- Institute of Psychiatry
- London School of Economics
- London School of Hygiene
- St. George's Hospital Medical School

Loughborough - Loughborough University
Sheffield - Sheffield University
Staffordshire - Staffordshire University
York - University of York

6. Europe

Croatia - Vrapce Psychiatric Hospital, Zagreb
Finland - University of Kuopio
- University of Oulo
- Helsinki University

Germany - Department of Forensic Psychiatry, Munich
- Mental Health Services Research Unit, Mannheim

Holland - Meijers Institute, Utrecht
Norway - University of Oslo
Switzerland - Psychiatric University Hospital, Berne

7. North America

California	- University of San Francisco
	- West Los Angeles VA Medical Centre
Connecticut	- Whiting Forensic Institute
Hawaii	- University of Hawaii
Illinois	- Northwestern University, Chicago
Massachusetts	- Harvard Medical School
Michigan	- Centre for Forensic Psychiatry, Ann Arbor
New York	- Forensic Psychiatry Clinic, New York
	- University of Rochester
North Carolina	- Research Triangle Institute
Pennsylvania	- University of Pennsylvania
Utah	- Brigham Young University
Virginia	- University of Virginia
Wisconsin	- University of Wisconsin
Canada	- Simon Fraser University, British Columbia
	- Correctional Service, Ottawa, Ontario
	- University of Montreal, Quebec

8. Other worldwide

Australia	- Deakin University, Victoria
	- Monash University, Victoria
New Zealand	- Wellington Area Health Board, Wellington
South Africa	- University of Natal, Durban

The University of Reading

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4th November 1997

CALL FOR INFORMATION AND ADVICE

We are carrying out a systematic international literature review on the epidemiology of mentally disordered adult offenders and those with similar needs. This has been commissioned by the High Security Psychiatric Services Commissioning Board and is following the procedure for systematic reviews developed by the National Health Service Centre for Reviews and Dissemination at York University.

The review is ultimately to be drawn upon for planning rather than treatment purposes, so we are restricting it to studies of prevalence, incidence, trends and distribution of conditions, and the 'careers' of people through the system, rather than studies of causes or treatment.

Data is being collected on three populations:

1) The secure psychiatric provision population

This relates to those detained or accommodated in secure psychiatric facilities. We will include studies of the distribution of psychiatric diagnoses in this population, patterns of 'career' through this provision, and also studies of dangerousness and security needs amongst this population.

2) The criminal justice system population

This relates to those being managed or accommodated at any stage of the criminal justice process, from detention by the police to post-conviction management in prison or by probation services. We will include studies of the prevalence of mental disorder in this population at different points in the system, and patterns of movement of those with a psychiatric diagnosis through the criminal justice system and between the criminal justice system and psychiatric provision.

3) The general psychiatric services population

This relates to those in public health care, community mental health services, day hospitals and open psychiatric wards or units. We will include studies of the prevalence of violence towards others, arson, and offences resulting in criminal charge or conviction amongst this population.

Our review is international and will include assessment of the relevance of studies from all parts of the world to the planning of services in Britain.

This letter is to request your help and guidance as a contributor to study, literature and practice in this area. We are particularly seeking information in the following areas:

1) Relevant work that has been published within the last year which may not yet be on the main databases.

2) Relevant work that is in progress or not yet published.

3) Major studies that you would consider particularly influential or helpful in this field (in order for us to check that we have included them).

4) Any other people working in this field whom it would be helpful for us to contact.

We would greatly appreciate your help in filling any gaps in our current searches and ensuring that we cover up-to-date material.

Information can be sent:

a) by post to:
Paul Williams,
Department of Professional Education in Community Studies,
University of Reading,
Bulmershe Court,
Earley,
READING RG6 1HY.
U.K.

b) by fax to:
Paul Williams
No. from U.K.: 0118 931 6808
No. from outside U.K.: +44 118 931 6808

c) by e-mail to:
p.g.williams@reading.ac.uk

d) by telephone to:
Paul Williams or Doug Badger
No. from U.K.: 0118 931 8851
No. from outside U.K.: +44 118 931 8851

With many thanks,

Yours sincerely,

Professor Jean Nursten Mr. Doug Badger Mr. Paul Williams

APPENDIX IV: TABLES

A: Studies of incidence/prevalence

Article: Author Year Title Source Country of study population	Design: Prospective/retrospective Study population size, random or complete cohort Timescale	Additional data on study population: Demographic data	Data on classification of mental disorder: Diagnoses used Method and tools of diagnosis, and by whom	Data on classification of offence or risk: Classes used Indicators of seriousness or danger Source of classification	Results: Incidence or prevalence Breakdown by diagnosis, offence and demographic data	Comments: Evaluation of the quality of the study and reliability of results

1 General population studies

Studies of general population samples that give figures on the prevalence or incidence of mental disorder in combination with offending and which reliably classify mental disorder by diagnosis, and offence by seriousness.

2 Secure psychiatric provision population

Studies of samples of people in secure psychiatric provision that give figures on the prevalence or incidence of reliably classified diagnoses of mental disorder combined with indicators of seriousness of offence (including offences committed within the psychiatric provision).

3 Criminal justice system population

a) Sentenced prisoners
b) Remand prisoners
c) Other points in the CJS (police stations, courts, probation, etc.)
d) Diverted from custody
e) Committers of specific offences (e.g. murder, arson, child abuse)

Studies of samples of people in these categories that give figures on the prevalence or incidence of reliably classified diagnoses of mental disorder combined with indicators of seriousness of offence.

4 General psychiatric services population

a) Studies of people receiving non-secure psychiatric services
b) General studies of people with specific psychiatric diagnoses

Studies of samples of people in these categories that give figures on the prevalence or incidence of reliably classified diagnoses of mental disorder combined with indicators of seriousness of offence (including serious offences committed within psychiatric provision).

B: Studies of natural history, 'career' and risk of danger

Article: Author Year Title Source Country of study population	Design: Prospective/retrospective Study population size, random or complete cohort Timescale Aspects of 'career' or risk studied, and methods	Additional data on study population: Demograph-ic data	Data on classification of mental disorder: Diagnoses used Method and tools of diagnosis, and by whom	Data on classification of offence or risk: Classes used Indicators of seriousness or danger Source of classification	Results: Findings Breakdown by diagnosis, offence and demographic data	Comments: Evaluation of the quality of the study and reliability of results

1 General population studies

Studies in this category that relate to general population samples will in fact be studies of subsamples that have a diagnosis of mental disorder and have committed offences; they can therefore be subsumed under populations 2), 3) or 4) below.

2 Secure psychiatric provision population

Studies of 'career', prognosis or risk of danger (future serious offending) amongst present or former populations of secure psychiatric provision, that reliably classify diagnosis of mental disorder and indicate seriousness of offence.

3 Criminal Justice System Population

a) Those dealt with entirely within the CJS

b) Those diverted or transferred from CJS to psychiatric services

Studies of 'career pathways', prognosis of mental disorder, or risk of future serious offending amongst those in these categories. Reliable classification of diagnoses of mental disorder and indication of seriousness of offending will be expected.

4 General Psychiatric Services Population

a) Those served by general psychiatric services

b) Those with specific psychiatric diagnoses

Studies of the 'career', prognosis or risk of danger amongst serious offenders in these categories. Reliable classification of diagnoses of mental disorder and indication of seriousness of offending will be expected.

APPENDIX V: ASSESSMENT OF STUDIES - PART I

Inclusion/Exclusion

To be completed on all studies which have been received. If the decision is to exclude, only this part should be completed and filed with the study. If the decision is to include, then proceed to Part II - Evaluation, and data extraction to tables.

Author(s)	
Year of Publication	
Title	
Journal	
Vol., pages	
Publisher (if book)	

Please tick the criteria which have been met

1 Offending behaviour

		MET
i)	Persons have been convicted of a specified criminal offence	❒
ii)	Persons have been charged with a specified criminal offence	❒
iii)	Offending behaviour has involved either violence towards others or arson	❒

2 Mental disorder

i)	Diagnosis is in relation to ICD or DSM criteria using reliable, validated research instruments	❒
ii)	Diagnosis using clearly stated criteria made by medical practitioners/prison doctors/psychiatrists	❒

3 Sample size and study design

i) Sample is more than 10 people ❒

ii) Sampling method is stated and systematic ❒

4 Risk factors

i) Diagnosis, offence and demographic data included ❒

5 For studies of sexual deviance/drug and alcohol dependence only

i) Results include co-morbidity of sexual deviance with some other form of mental disorder ❒

ii) Results include co-morbidity of alcohol/drug dependence with some other form of mental disorder ❒

6. For studies of brain damage only

i) Study is of acquired brain damage ❒

ii) Study is not only of dementia or Alzheimer's disease ❒

Decision

There must be at least one tick for each section (except 5 & 6) for a study to be included.

Comment

Name:

Date:

APPENDIX VI: ASSESSMENT OF STUDIES - PART II

Evaluation

Please score each study which meets inclusion criteria in Part I. Circle the figure in each section. The lower the score the better the study.

Generalisability

1. Unrestricted
2. Wide, but with restrictions
3. Restricted to specific sub-types
4. Very restricted
5. Not stated

Comment on demographic data included, e.g. age, sex, ethnicity, geography

Precision

1. More than 1,000
2. 100 - 999
3. 50 - 99
4. 10 - 50

Comment on sample size; note subgroup analysis sizes

Validity

a. Representativeness

1. Random sample
2. Non random, but ‘fair’
3. Systematic
4. Not stated

Comment

b. Drop-out rate

1. Less than 10%
2. 11 - 25%
3. 25 - 50%
4. More than 50%
5. Not stated

Comment

c. Diagnostic criteria

1. Objective
2. Subjective, but using a standard
3. Subjective, no standard
4. Not stated

Comment

d. Internal Checking

1. K > 0.75 excellent agreement
2. 0.4 < K < 0.75 good agreement
3. K < 0.4 poor agreement
4. Other checking (please state)
5. Not stated

Where K is Cohen's Kappa (Cohen, 1968, Fleiss, 1981)

Comment

Recommendation (Please tick)

Exclude	
Include for study of 'flow' and/or determinants only	
Include for incidence and prevalence rates	

Total Score

Name:

Date:

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